Amazon VPC-3

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# Table of Contents

- VPC Endpoint

- VPC Peering
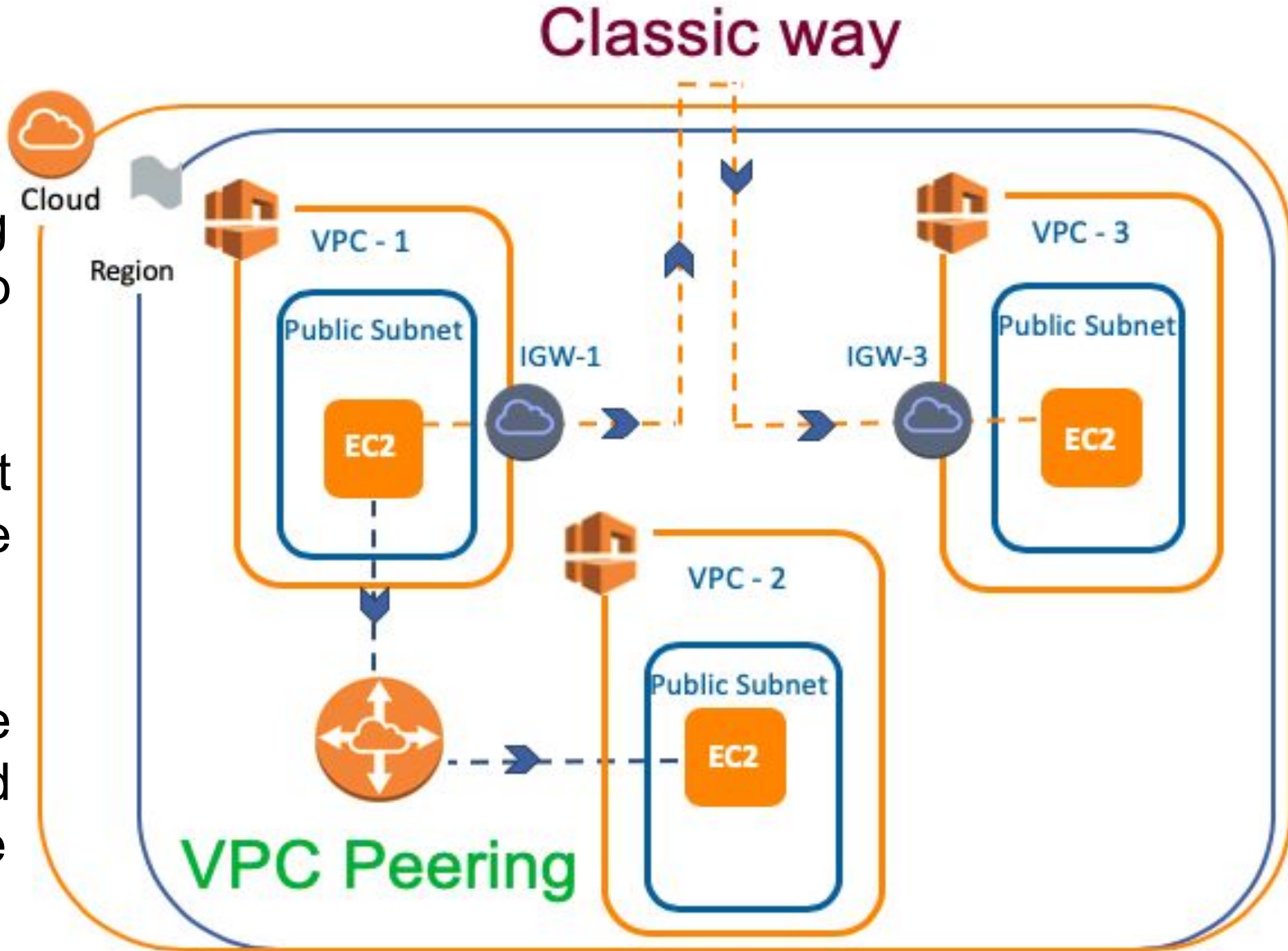
- VPN & Direct Connect

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# VPC Endpoint

- The VPC Endpoint is a component that allows you to privately connect your VPC to AWS services such as S3. In other words, it a shortcut.

- Thus, an instance in VPC can no longer be required to use Internet Gateway or NAT Instance. It allows you to make the connection via the private network of AWS, not through the public internet.

- VPC endpoint enables creation of a private connection between VPC to supported AWS services and VPC endpoint services powered by PrivateLink using its private IP address.

- Traffic between your VPC and the other service does not leave the Amazon network.



Classic Way

VPC Endpoint

AWS

Internet Gateway

S3

NAT Gateway

Public Subnet

Private Subnet

Internet Gateway

EC2

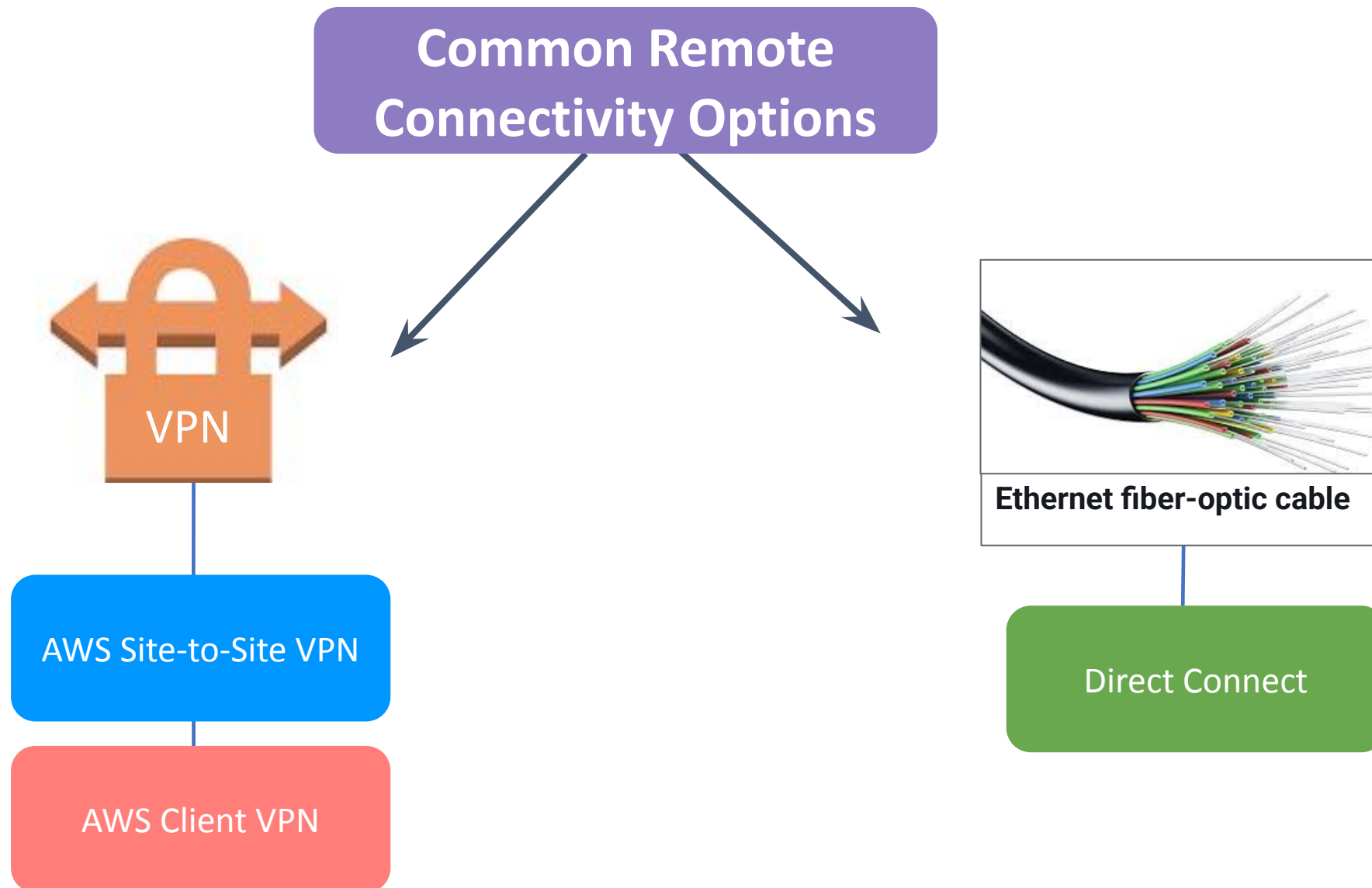Public Subnet

* Endpoint

Private Subnet
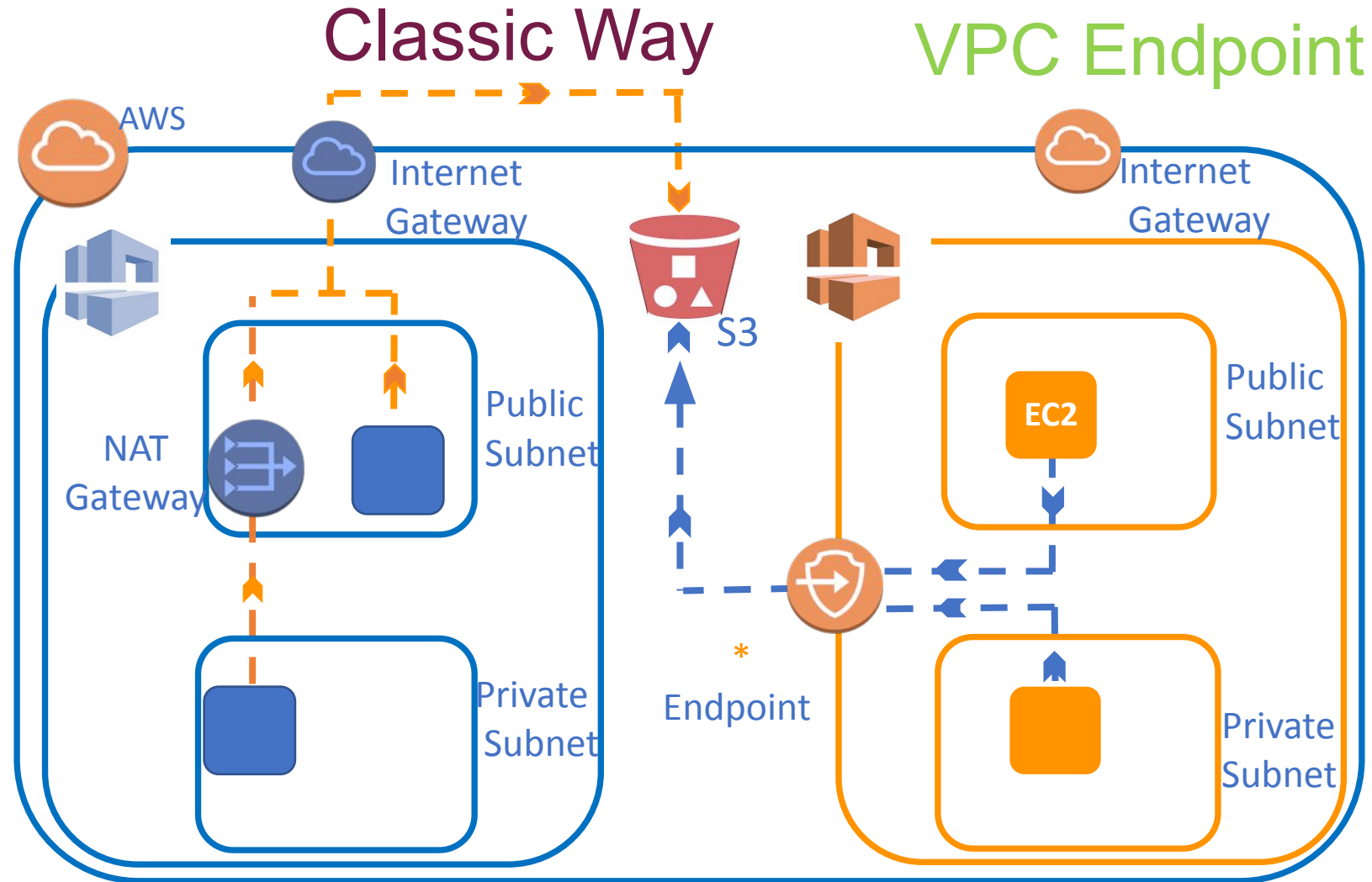
# VPC Peering

- A VPC peering is a networking connection between two VPCs.

- It enables you to provide direct connection between the instance in different VPC.

- VPC peering does not use public network connection and uses AWS infrastructure private network



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# VPN & Direct Connect

**Common Remote Connectivity Options**



VPN

AWS Site-to-Site VPN

AWS Client VPN

Ethernet fiber-optic cable

Direct Connect

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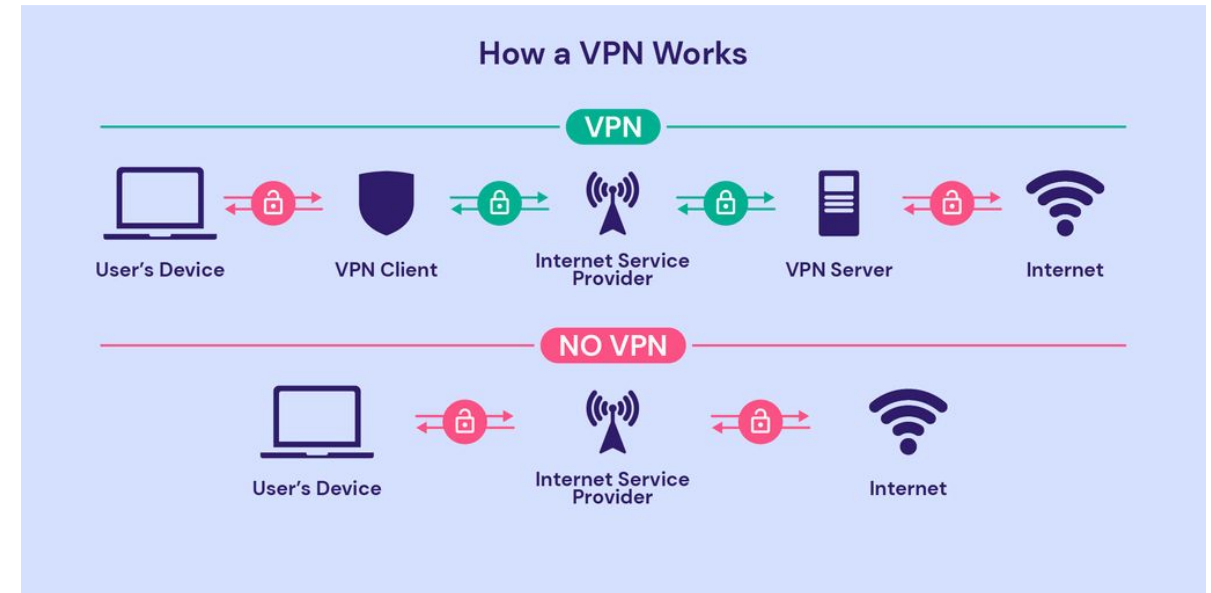WAY TO REINVENT YOURSELF

# VPN & Direct Connect

## What is VPN?

A VPN, which stands for ***virtual private network***, establishes a digital connection between your computer and a remote server owned by a VPN provider, creating a point-to-point tunnel that encrypts your personal data, masks your IP address, and lets you sidestep website blocks and firewalls on the internet. This ensures that your online experiences are private, protected, and more secure.

By its very definition, a VPN connection is:

- **Virtual** because no physical cables are involved in the connection process.

- **Private** because through this connection, no one else can see your data or browsing activity.

- **Network**ed because multiple devices—your computer and the VPN server—work together to maintain an established link.
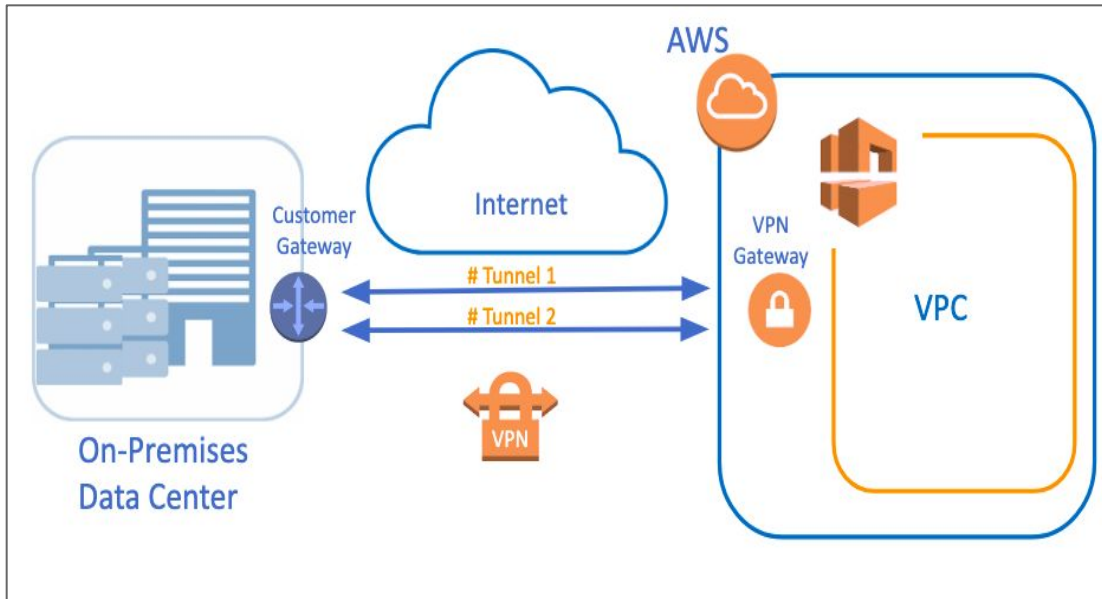
## What is a VPN Tunnel?

A VPN tunnel is a secure, encrypted connection between a user's device and the internet through a virtual private network.
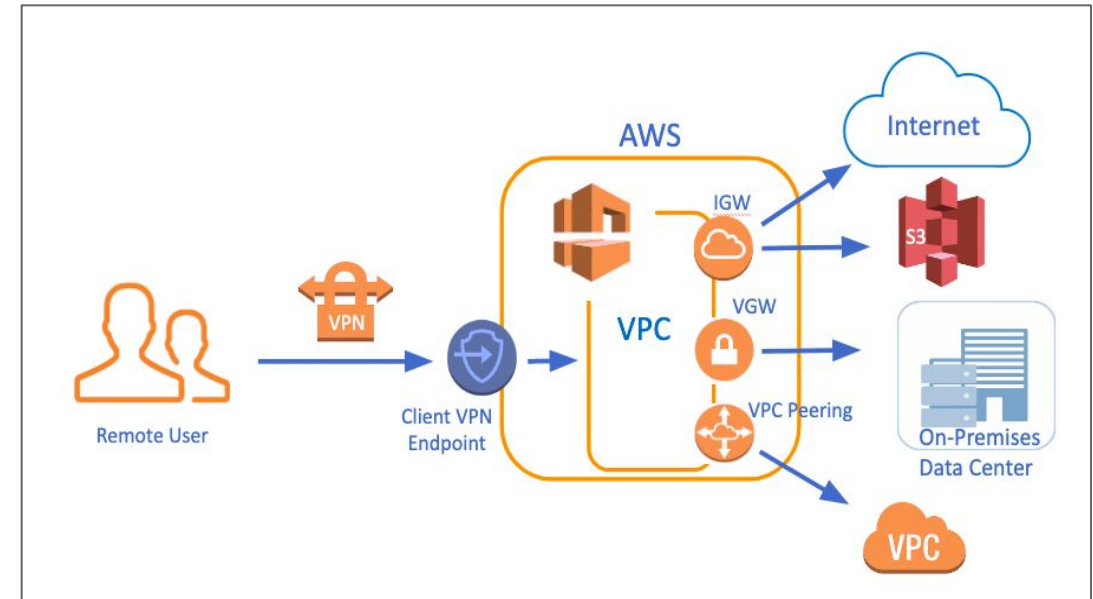


**How a VPN Works**

VPN

User's Device — VPN Client — Internet Service Provider — VPN Server — Internet

NO VPN

User's Device — Internet Service Provider — Internet
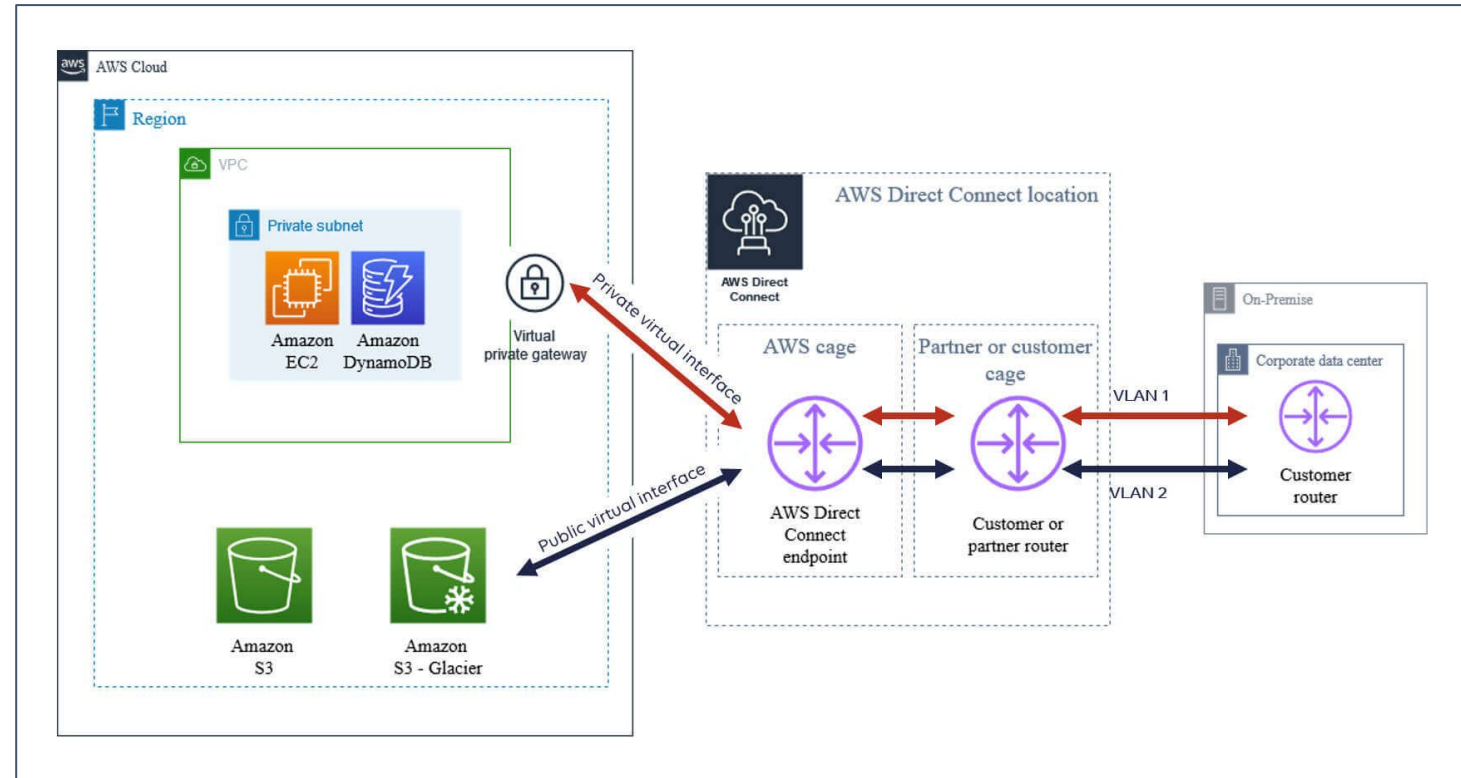
# VPN & Direct Connect

## VPN Connections



- **VPN** lets you establish a secure and private tunnel from your network or device to the AWS Cloud. You can extend your existing on-premises network into a VPC, or connect to other AWS resources.
- Enables you to create an encrypted connection between Amazon VPC and your private IT infrastructure over the public Internet

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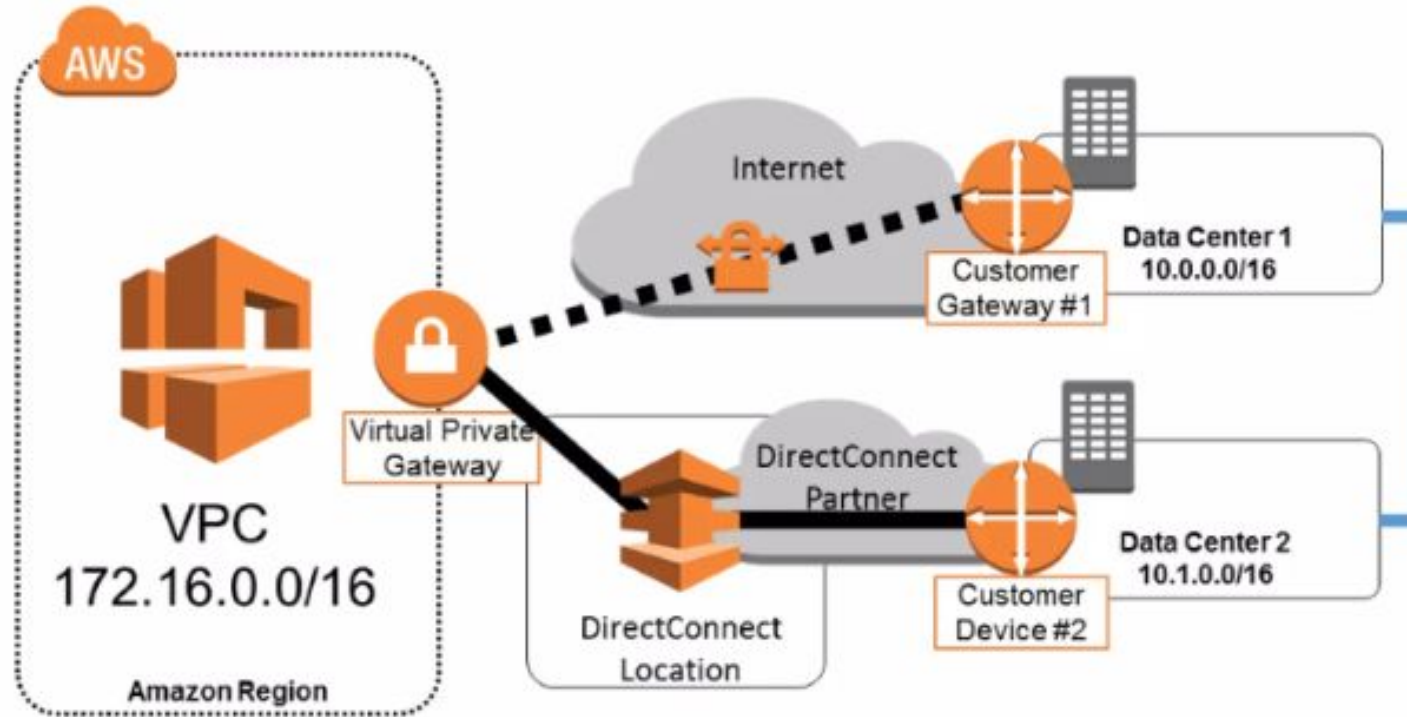
# VPN & Direct Connect
## Direct Connect

- Direct Connect provides a secure and closed-circuit connection between your on-premises and AWS VPC via Direct Connect partner.

- AWS Direct Connect links your internal network to an AWS Direct Connect location over a standard Ethernet fiber-optic cable. One end of the cable is connected to your router, the other to an AWS Direct Connect router.

- With this connection, you can create virtual interfaces directly to public AWS services (for example, to Amazon S3) or to Amazon VPC, bypassing internet service providers in your network path.

- A public virtual interface enables access to public services, such as Amazon S3. A private virtual interface enables access to your VPC.

# VPN & Direct Connect

**VPN**



**Direct Connect**

# VPN & Direct Connect

| | AWS Site-to-Site VPN | AWS Direct Connect |
|---|---|---|
| Network | Can reach 4 Gbps or less.<br><br>Connected with shared and public networks, so the bandwidth and latency fluctuate. | Starts from 50 Mbps and expands to 100 Gbps.<br><br>Network is not fluctuating and provides a consistent experience. |
| Time to establish | It is relatively easy to set up and faster to install than AWS Direct Connect. | Installation requires an experienced team, and setup is not as easy as AWS VPN. |
| Pricing | $0.05 per connection hour. $0.09 per GB of data transfer out(DTO). | $0.02 to $0.19 per GB of data transfer out(DTO). Port hour fees varies based on port speed. |
| Security | In AWS Site-to-Site VPN, the connection is encrypted via IPSec. | AWS Direct Connect does not encrypt your traffic in transit by default. |

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# THANKS!

## Any questions?

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