

Run your global workloads on AWS with AWS global networks and AWS Cloud WAN

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Amazon Web Services



Agenda

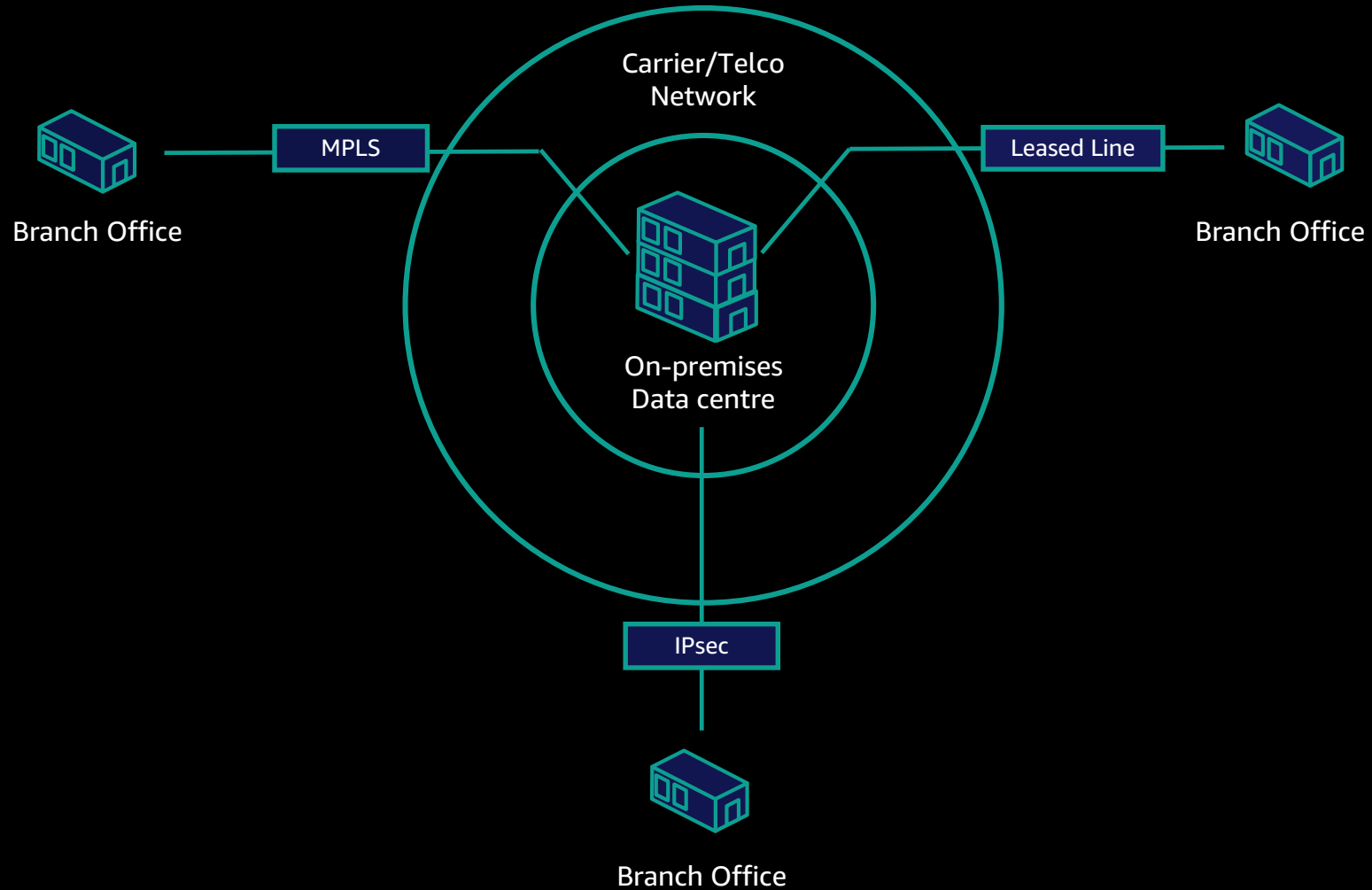
- Modern networks and their challenges
- AWS global infrastructure
- AWS Cloud WAN
- AWS Direct Connect SiteLink
- Summary

What to expect - level

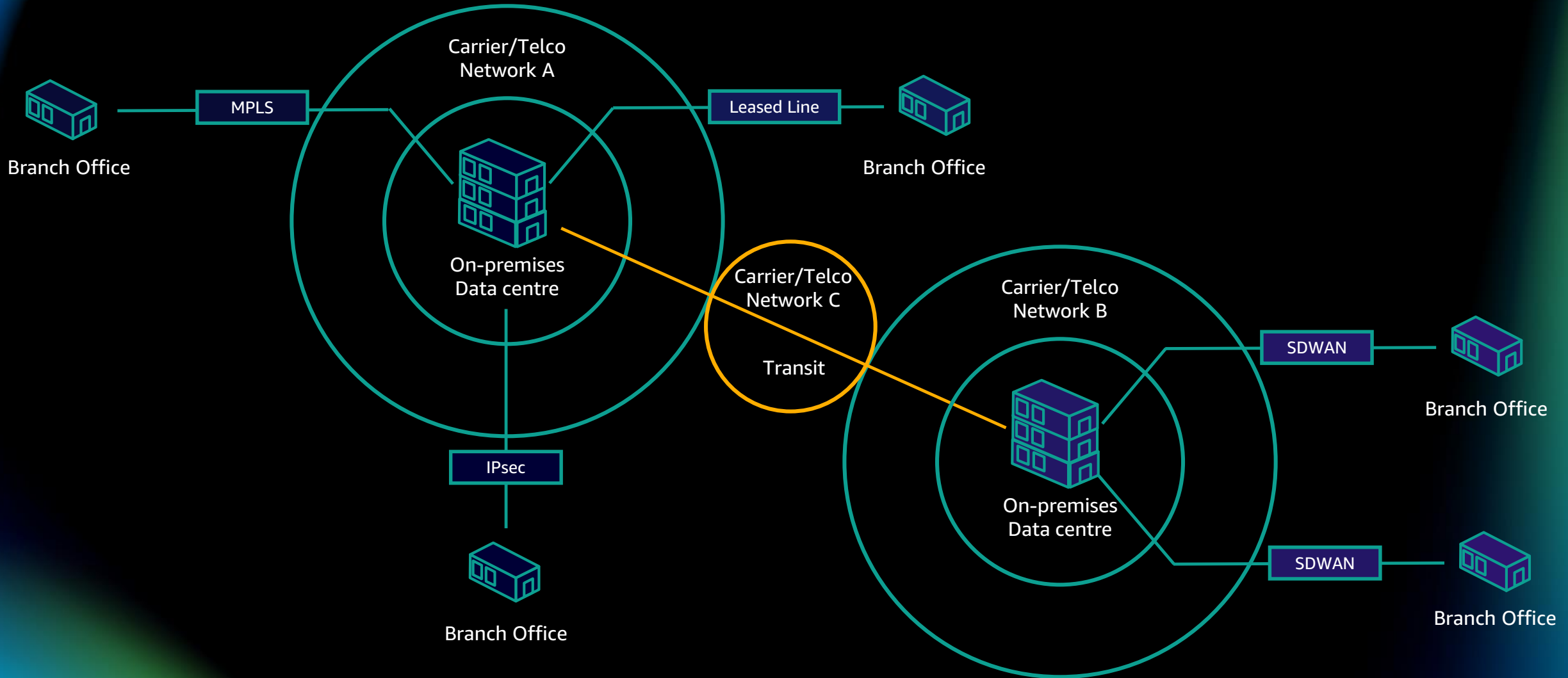


Modern networks

Modern network



Modern global network



Modern global network challenges



Long term carrier
connectivity commitments



Complex mix of technologies
and outsourcing



Careful interoperability
considerations

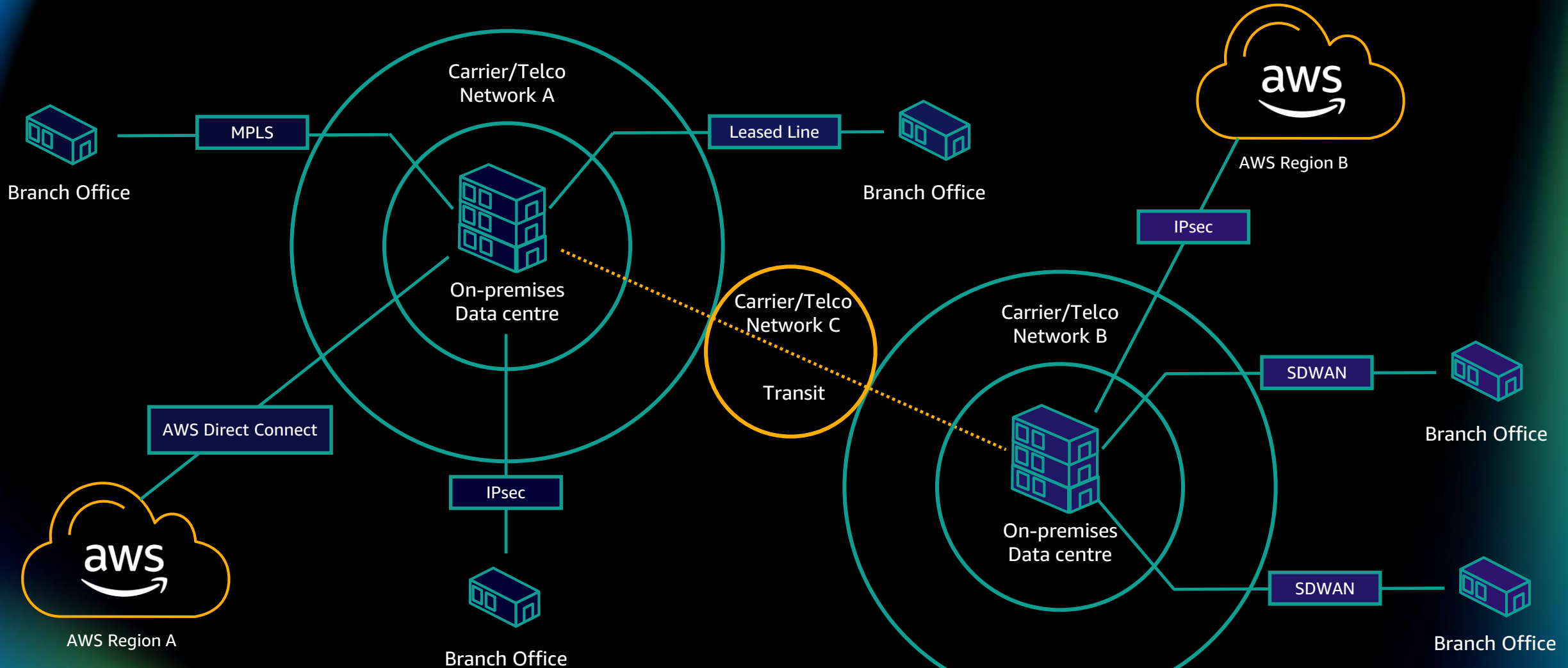


Specialized domain knowledge

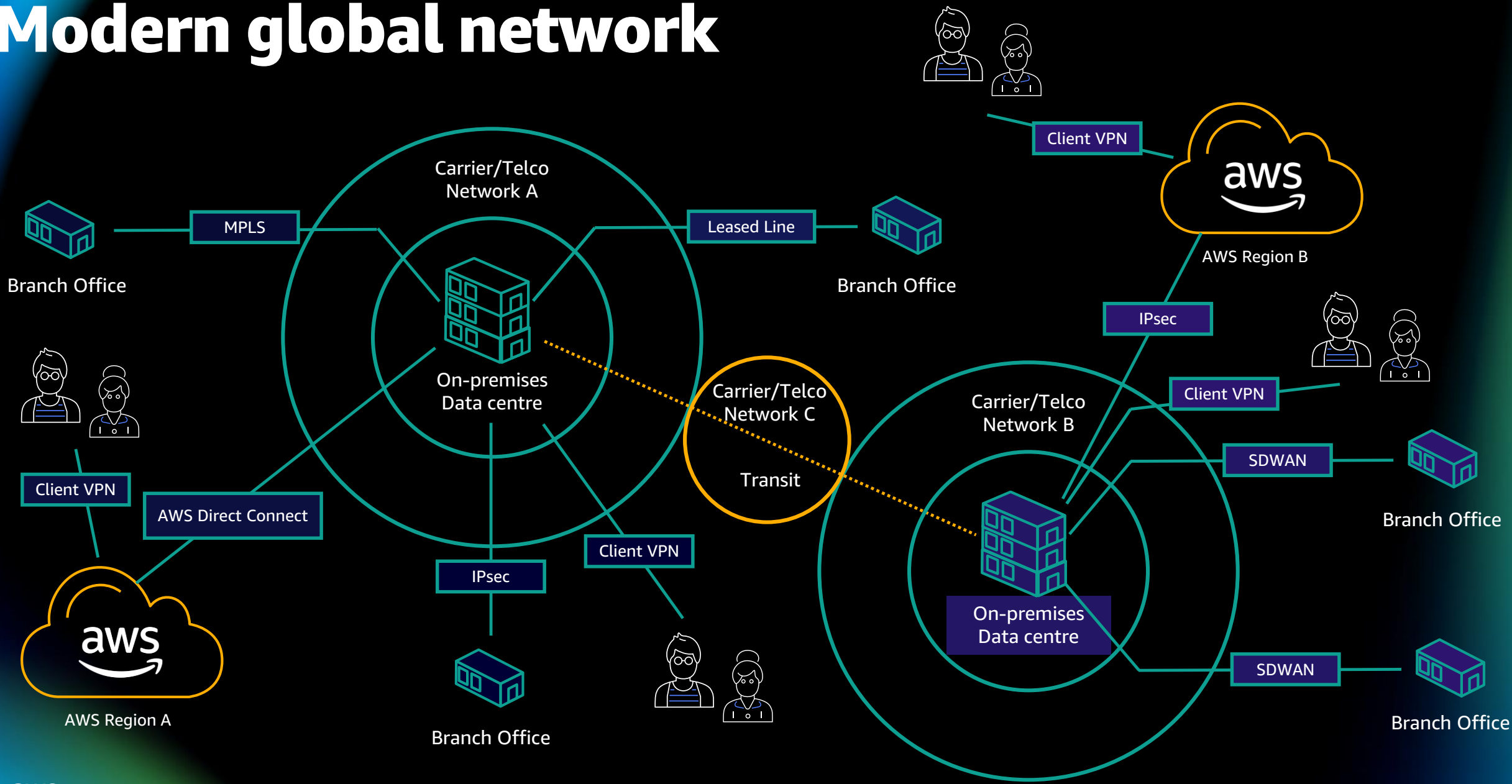


High operational/maintenance
overheads

Modern global network



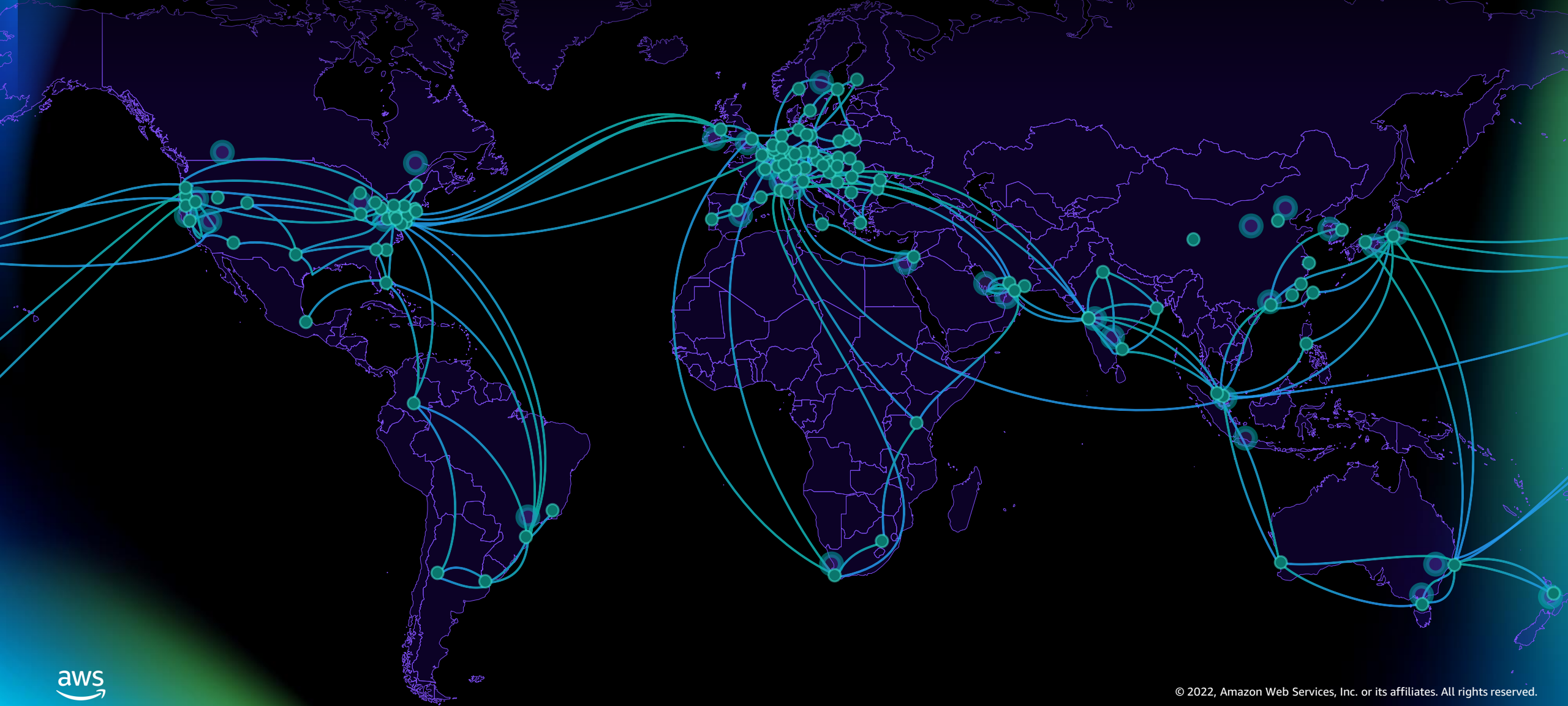
Modern global network



**Global networks can be hard,
and if you feel this way, you are
not alone**

AWS global infrastructure

AWS REGIONS, EDGE LOCATIONS, AND THE GLOBAL BACKBONE



**More and more customers are
using the **AWS Global
Backbone** for inter-branch
and site connectivity**

Global networks on AWS



Flexibility to adapt to requirements



Software defined network



Broad ecosystem of network partners



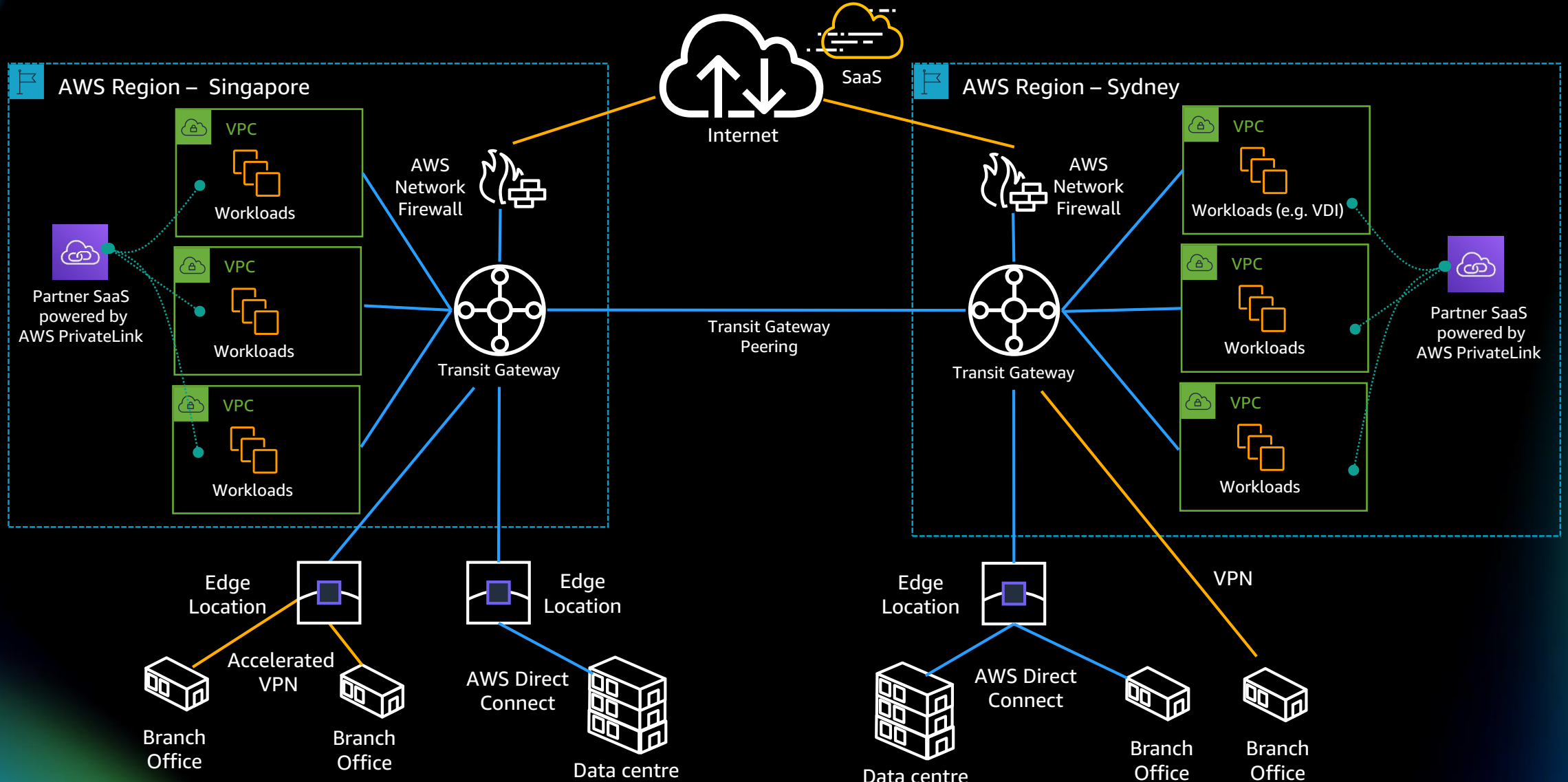
Cost saving with usage-based economies of scale



Consistent security and observability

**I'm clear on the benefits,
but how do I get started?**

AWS networking services

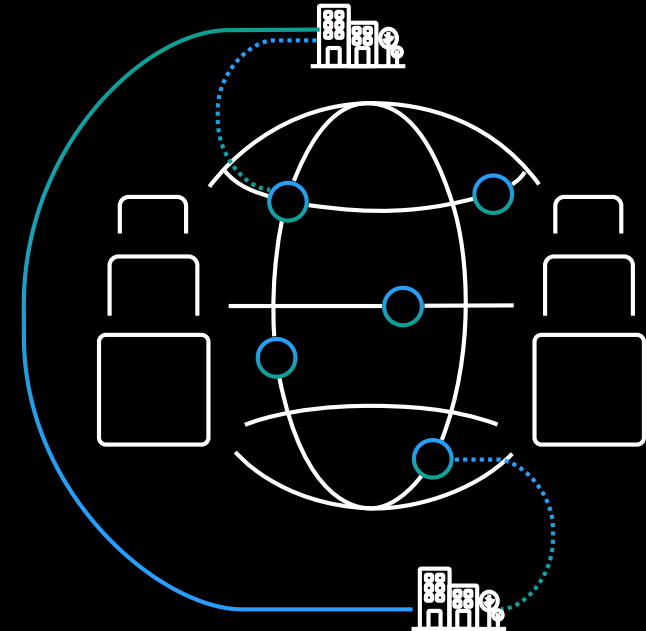


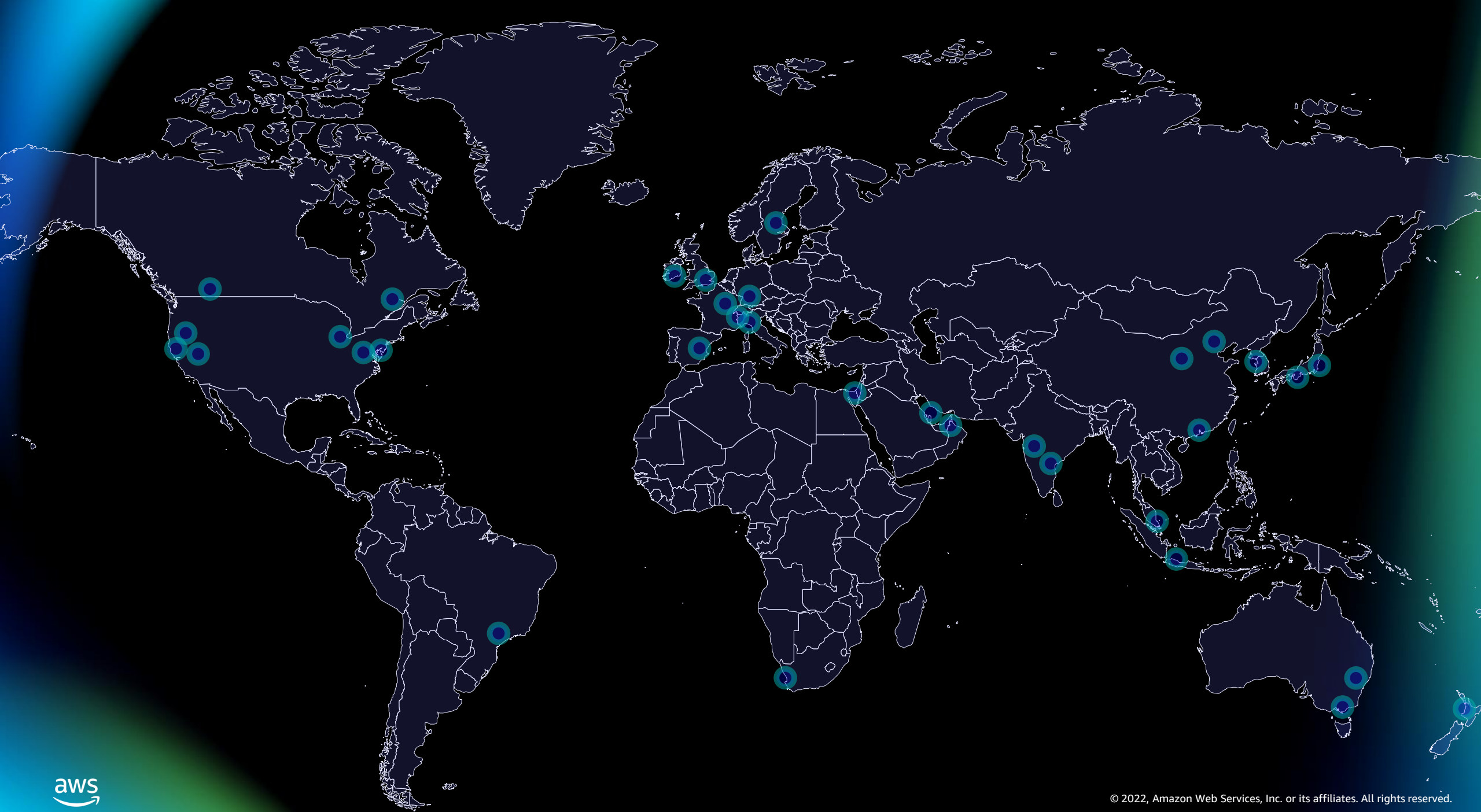
AWS Cloud WAN

BUILD, MANAGE, AND MONITOR GLOBAL WIDE AREA NETWORKS

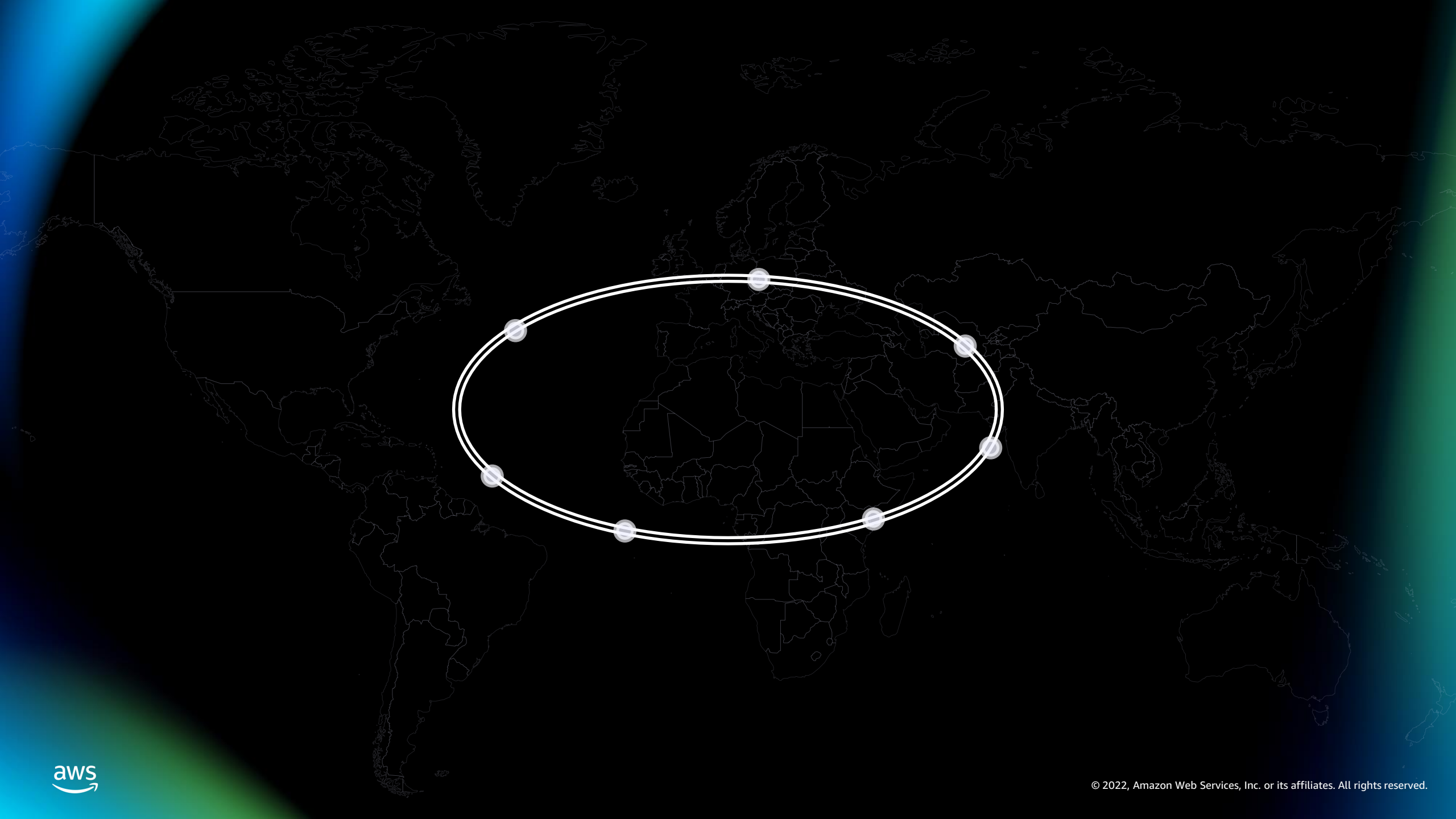
In preview

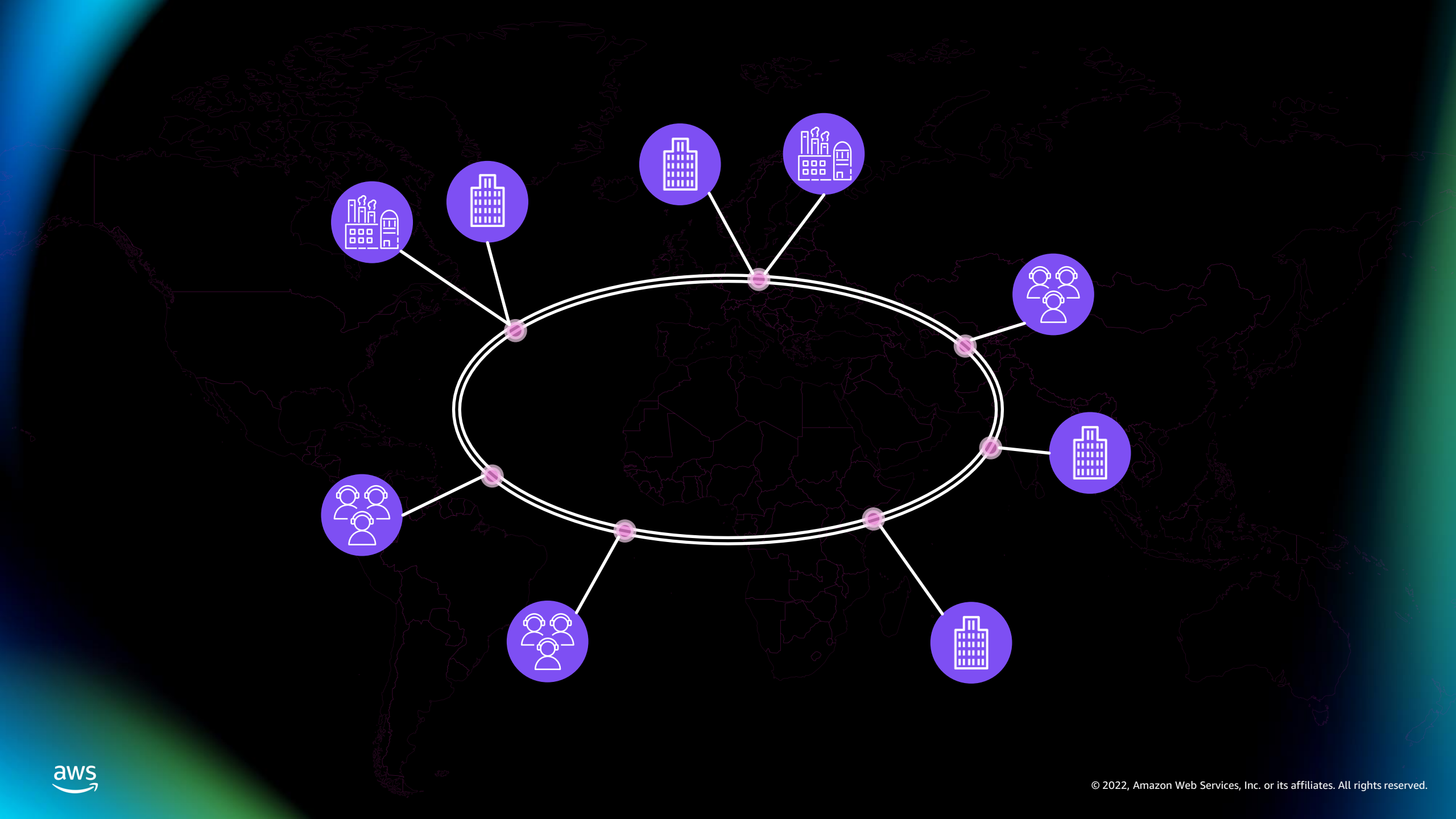
- Unify your cloud and on-premises networks to reduce complexity
- Increase security with built-in network segmentation
- Visualize and monitor your global network in a single dashboard

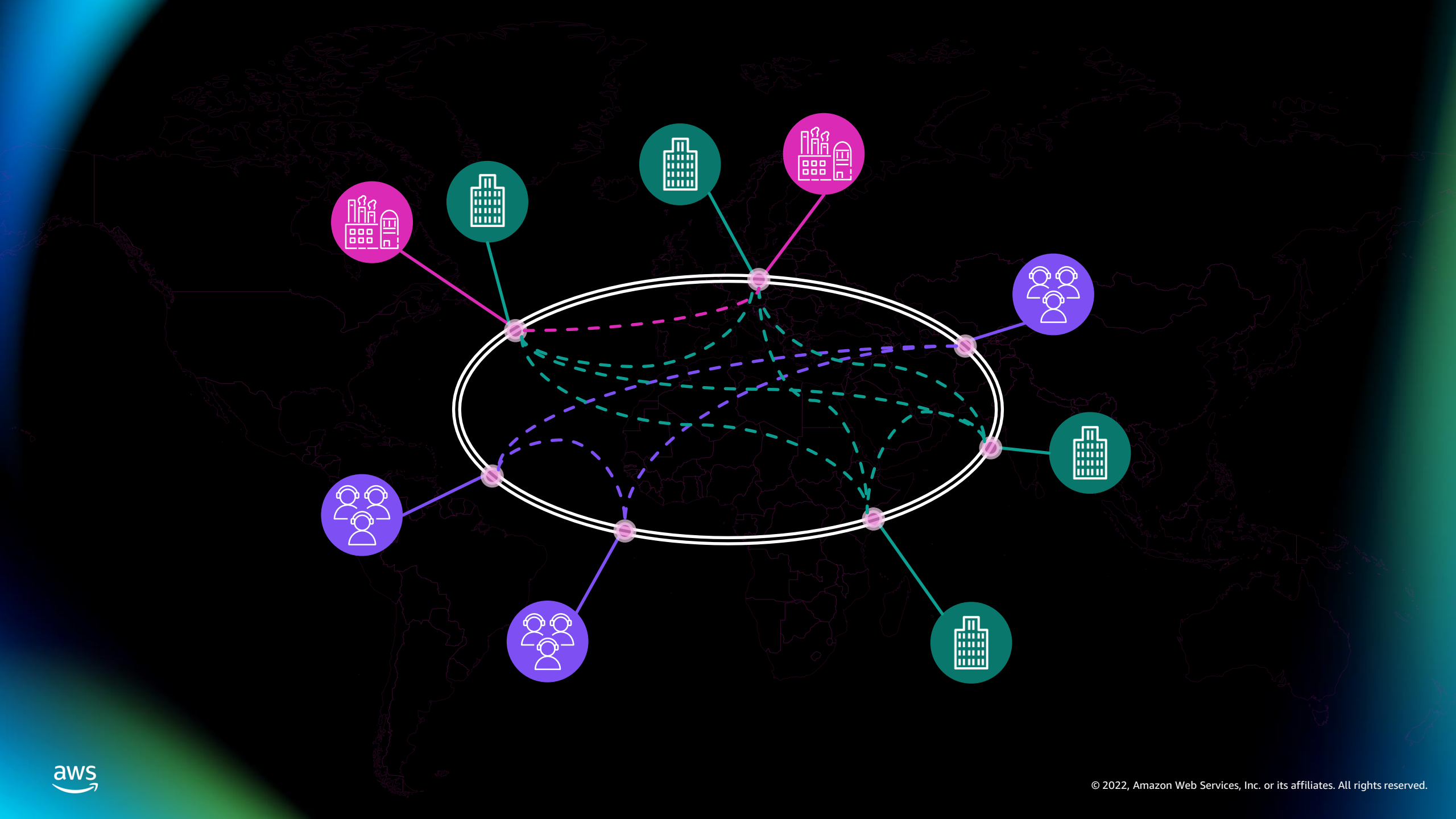


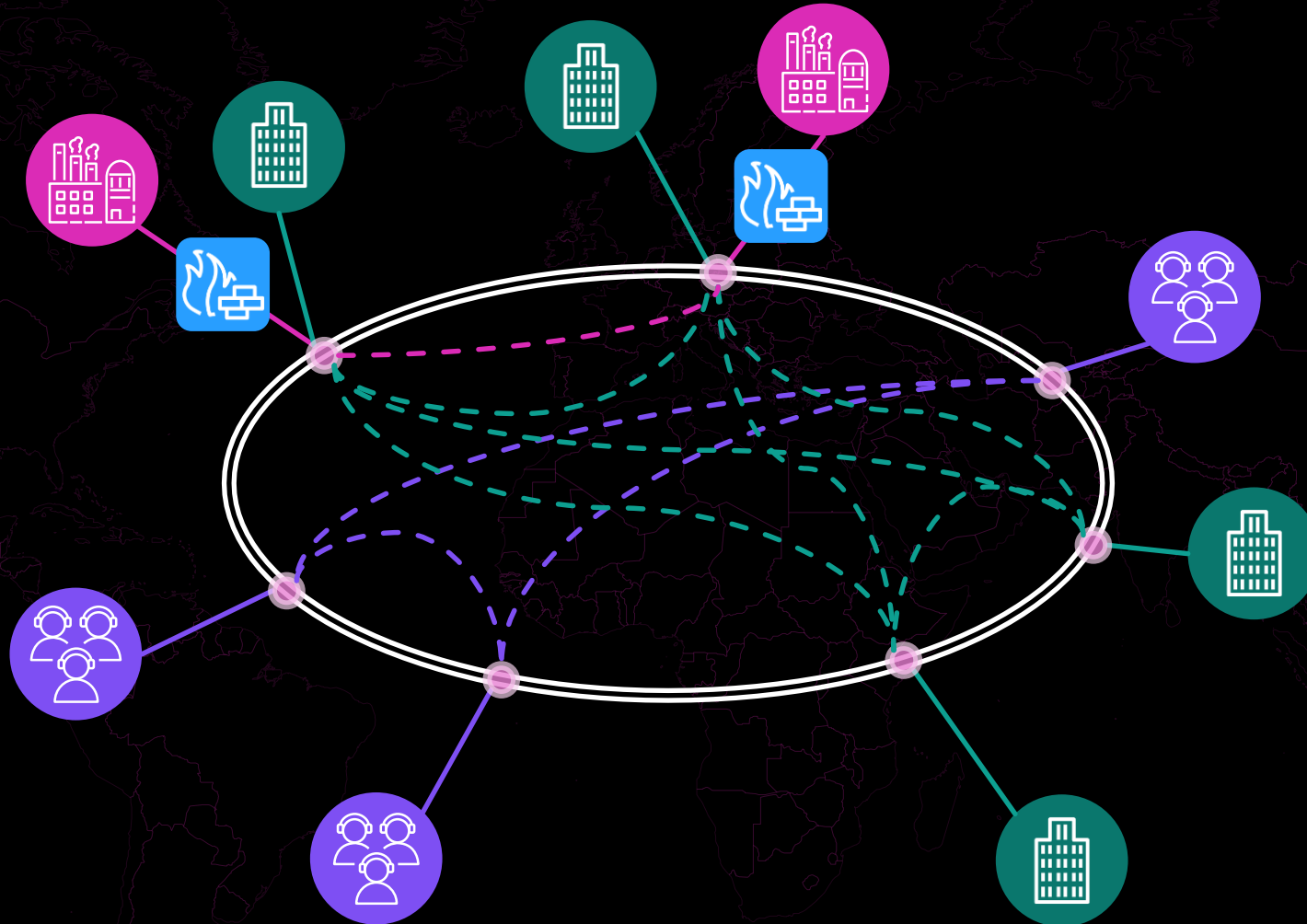
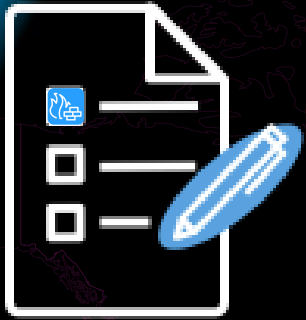


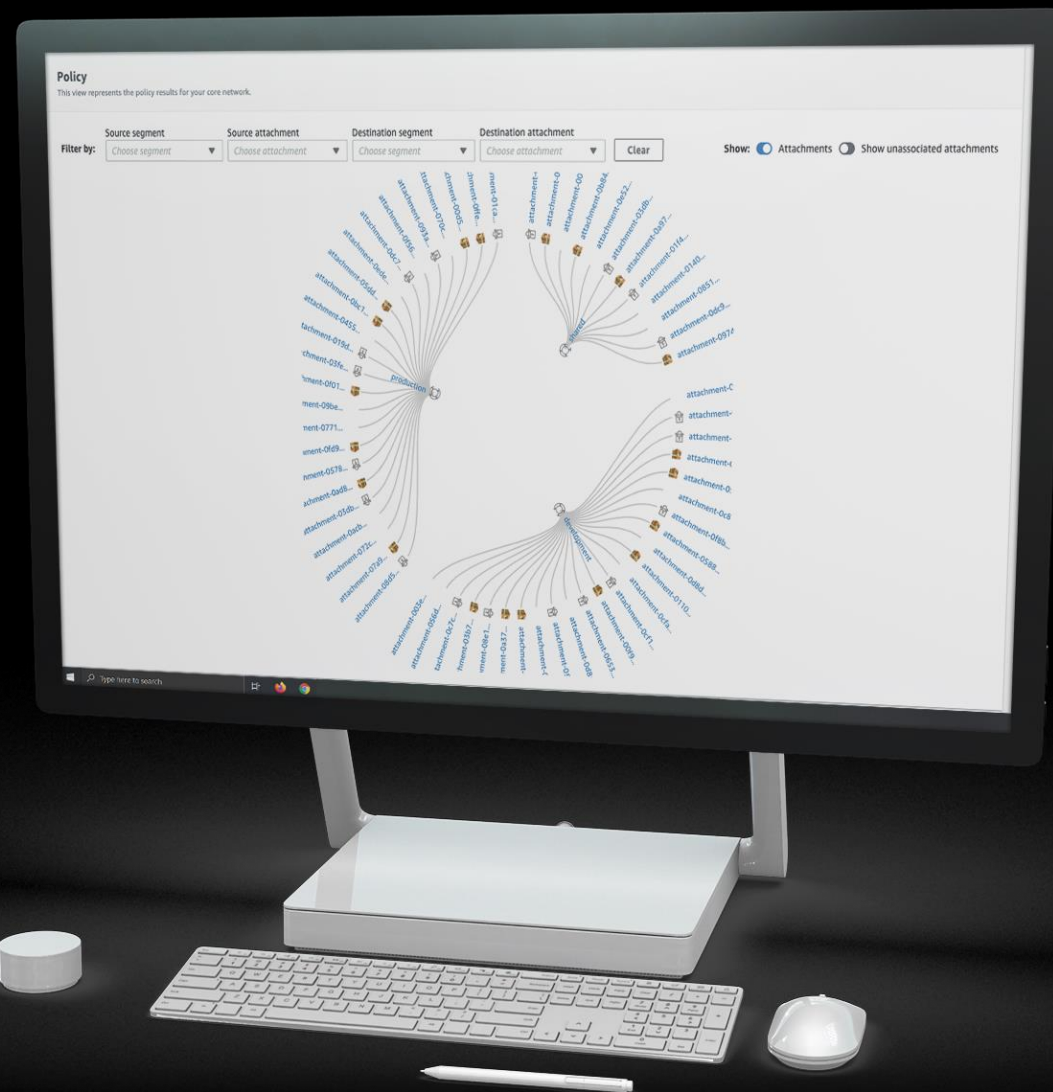




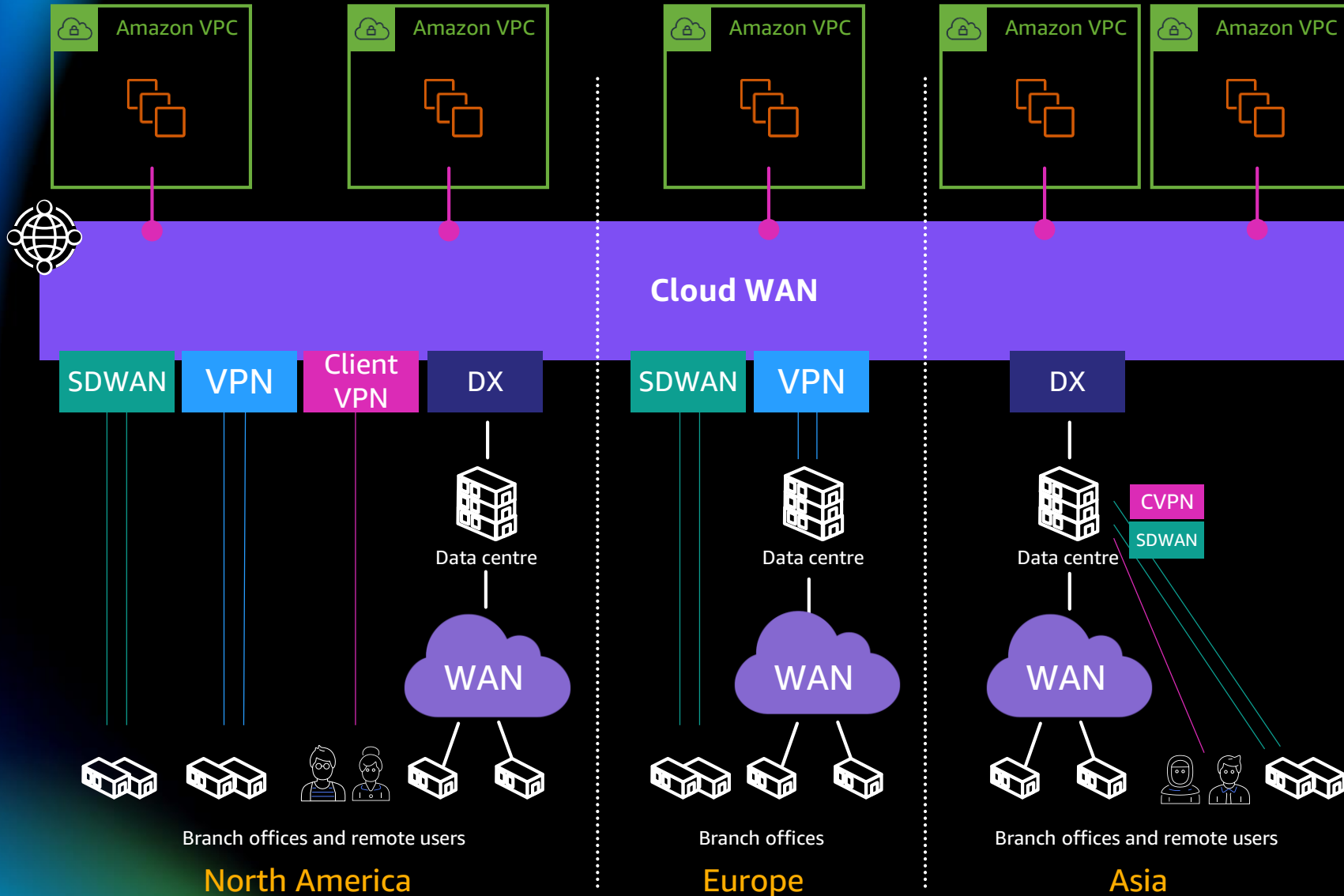








AWS Cloud WAN



Global

- Create connectivity across AWS Regions

Managed

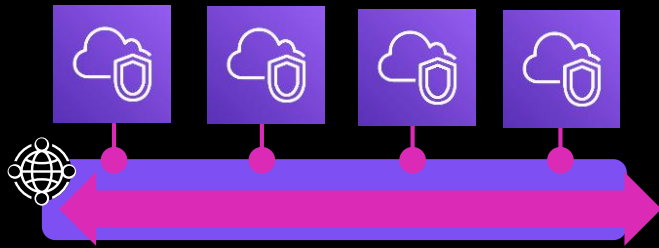
- Dynamic routing
- Built-in automation

Attach your things

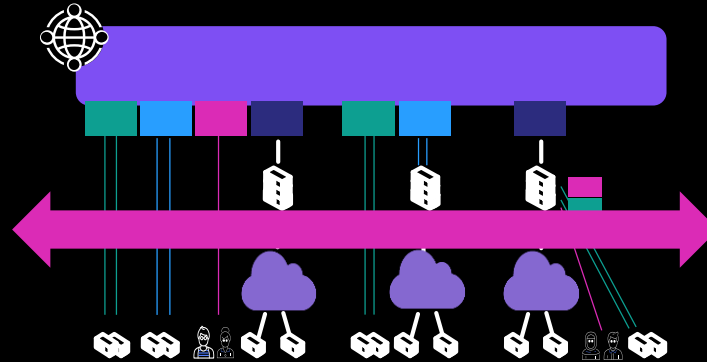
- VPCs
- VPNs
- SD-WAN
- Client VPN
- Firewalls & DX

Last-mile and customer-premises equipment doesn't change

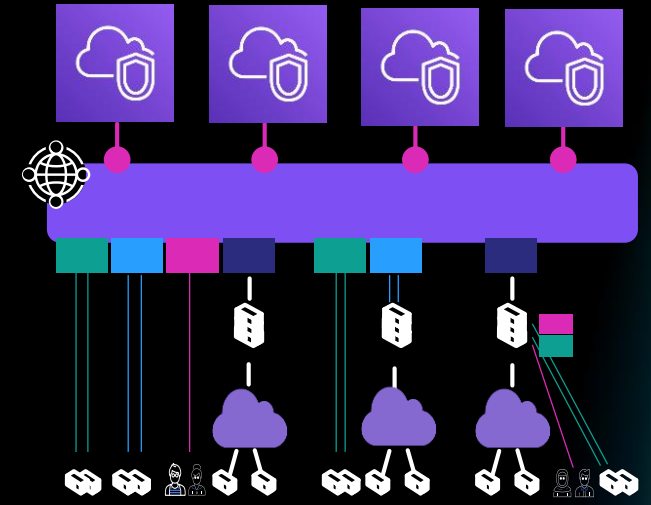
AWS Cloud WAN use cases



Between VPCs

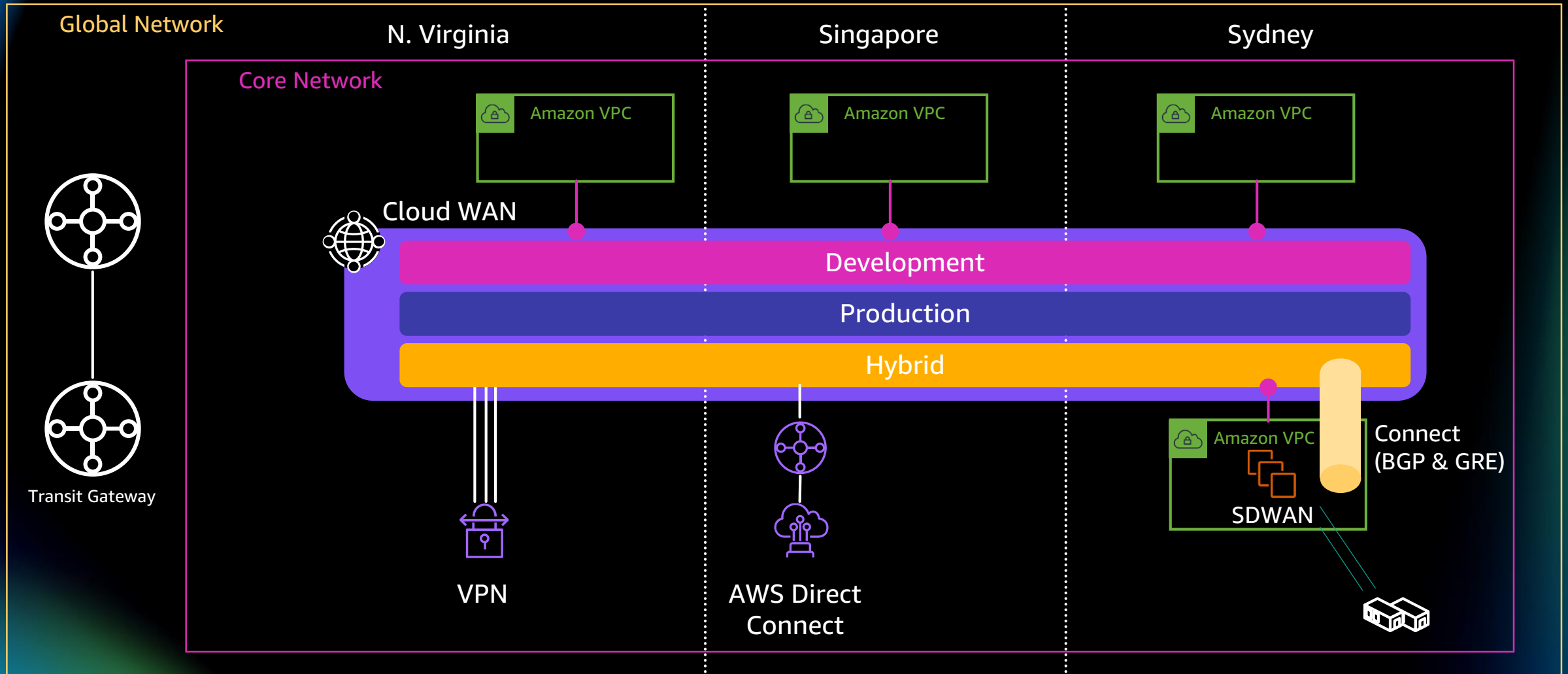


WAN



Hybrid

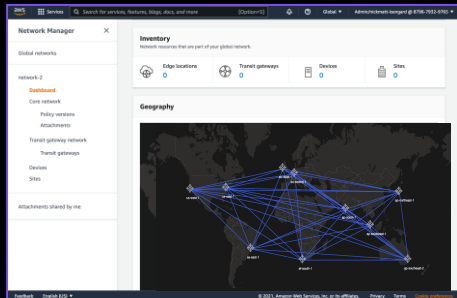
How it works: AWS Cloud WAN



How it works: AWS Cloud WAN management

Dashboard

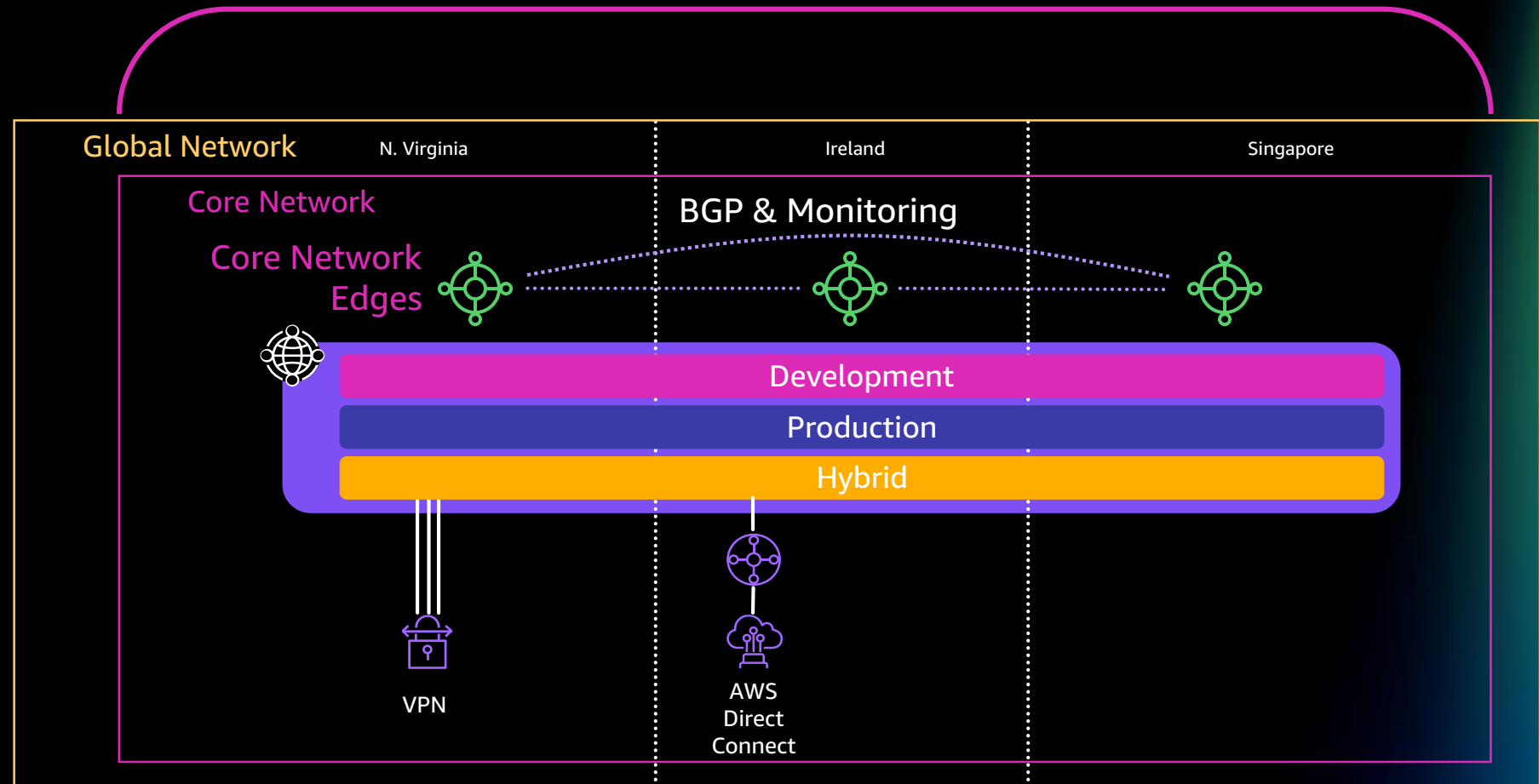
- Policy configuration
- Topology
- Routing information
- Events
- Performance monitoring



AWS Network Manager



Core Network Policy



What's in a network policy?

Network configuration

- Regions, ASNs

Segments

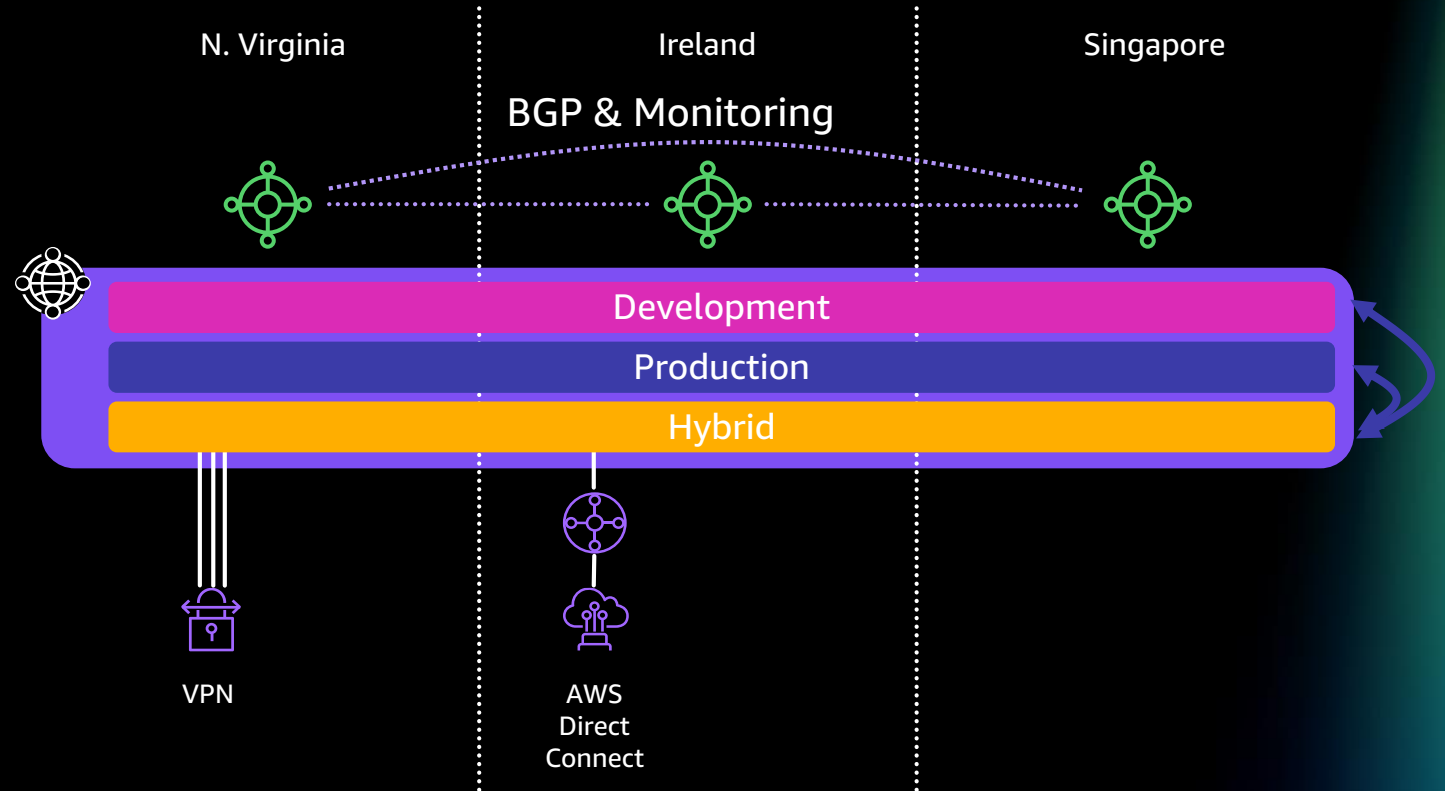
- Names
- Defaults

Routing

- Sharing between segments
- Static routes

Mapping attachments to segments

- Map using tags or metadata



Making changes to AWS Cloud WAN

1. Generate a policy

API

Core Network Policy 

→ Validation



Change set generated



3. Execute policy

API

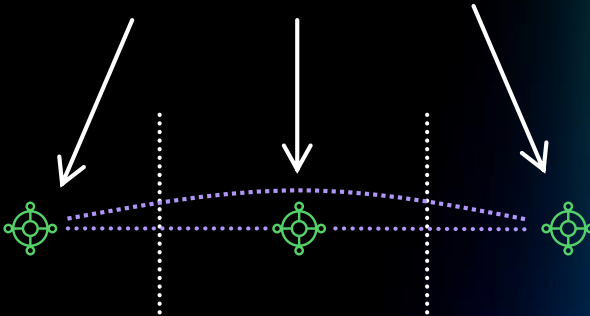
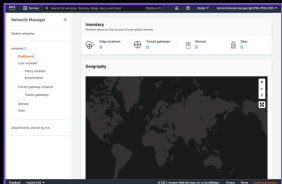


Execute policy

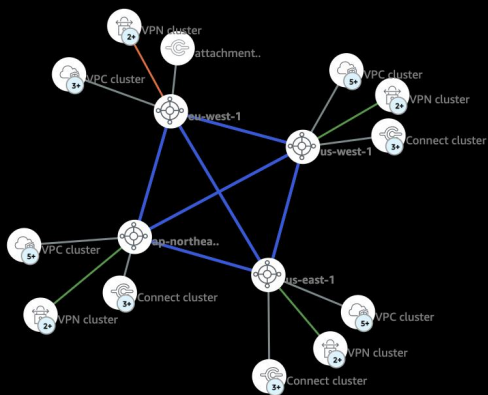
API

+ / -

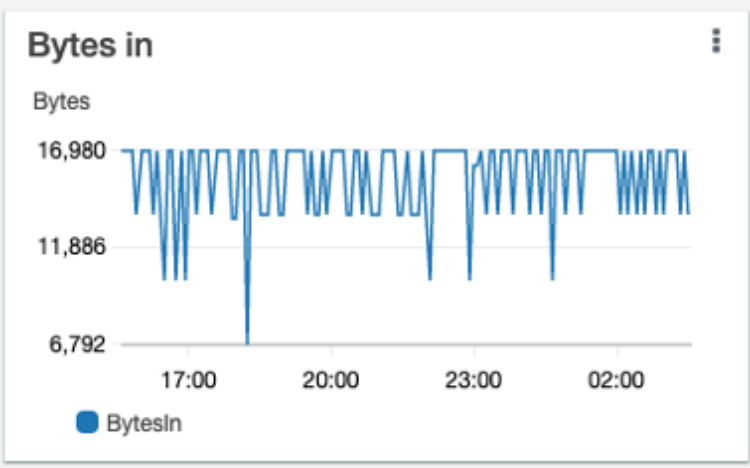
- AWS Regions
- Core Network Edges
- Attachments
- Segments
- Move/add/change/deletes



AWS Network Manager



Topologies

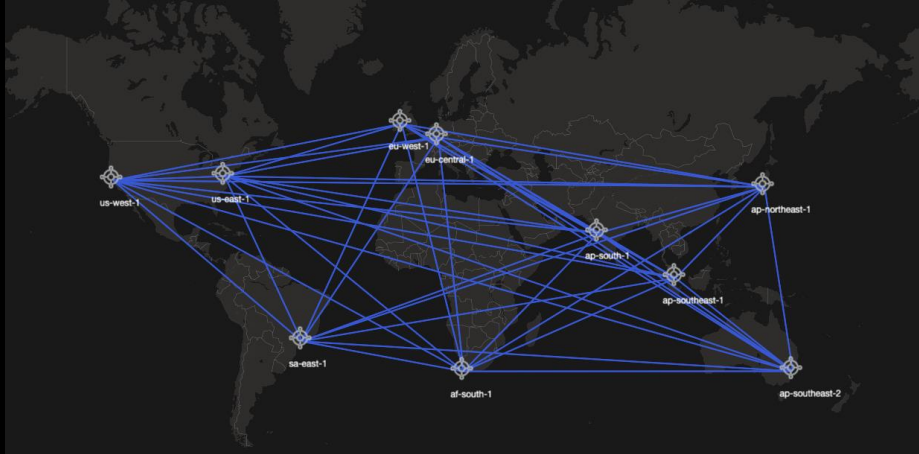


Metrics

Events			
#	Region	Message	Resource
1		BGP for a Connect peer has been established.	arn:aws:netwo
2		BGP for a Connect peer has been established.	arn:aws:netwo
3		IPsec for a VPN connection has come up.	arn:aws:netwo
4		IPsec for a VPN connection has come up.	arn:aws:netwo
5		BGP for a VPN connection has been established.	arn:aws:netwo
6		IPsec for a VPN connection has come up.	arn:aws:netwo
7		A Connect peer has been created in a Connect attachment.	arn:aws:netwo
8		An attachment has been associated to a Segment.	arn:aws:netwo
9		A Site-to-Site VPN attachment has been created for a Core Network.	arn:aws:netwo
10		IPsec for a VPN connection has come up.	arn:aws:netwo
11		IPsec for a VPN connection has come up.	arn:aws:netwo
12		Routes in one or more Segments have been installed.	arn:aws:netwo
13		IPsec for a VPN connection has come up.	arn:aws:netwo
14		BGP for a VPN connection has been established.	arn:aws:netwo
15		BGP for a VPN connection has gone down.	arn:aws:netwo
16		BGP for a VPN connection has been established.	arn:aws:netwo
17		BGP for a VPN connection has been established.	arn:aws:netwo
18		Routes in one or more Segments have been installed.	arn:aws:netwo
19		Routes in one or more Segments have been installed.	arn:aws:netwo

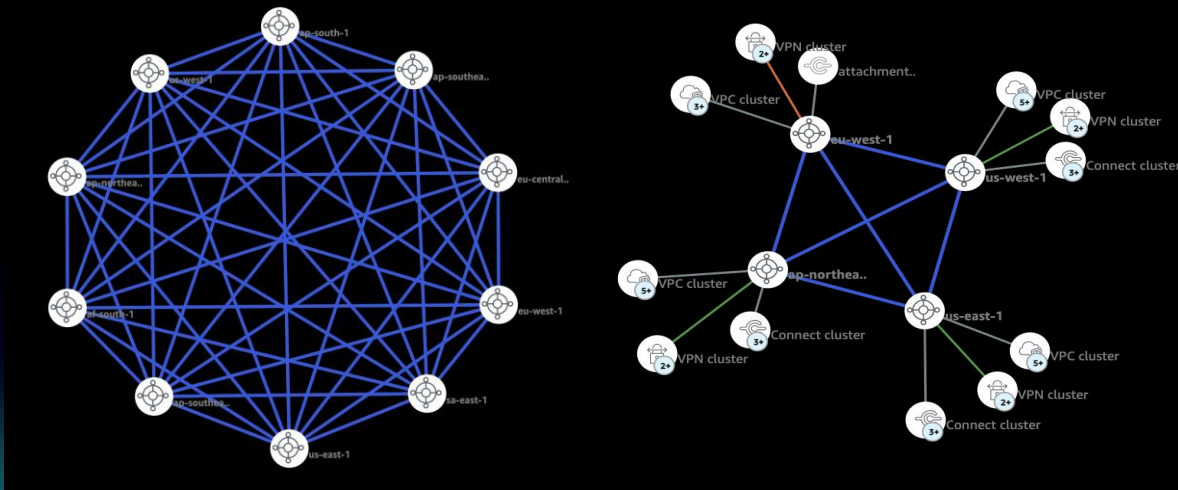
Events

Topology: Dashboard and graph



Dashboard

- Physical locations
- Devices and links
- Supports Cloud WAN and Transit Gateway



Topology Graph

- AWS Regions
- Attachments
- Cross-Region peering
- Segments (optional)

AWS Cloud WAN Partners

Telecom

verizon[✓]

swisscom

Systems integrators

accenture

Deloitte.

DXC

kyndryl™

SD-WAN

aviatrix

alkira

cisco

interCloud

FORTINET®

aruba
a Hewlett Packard
Enterprise company

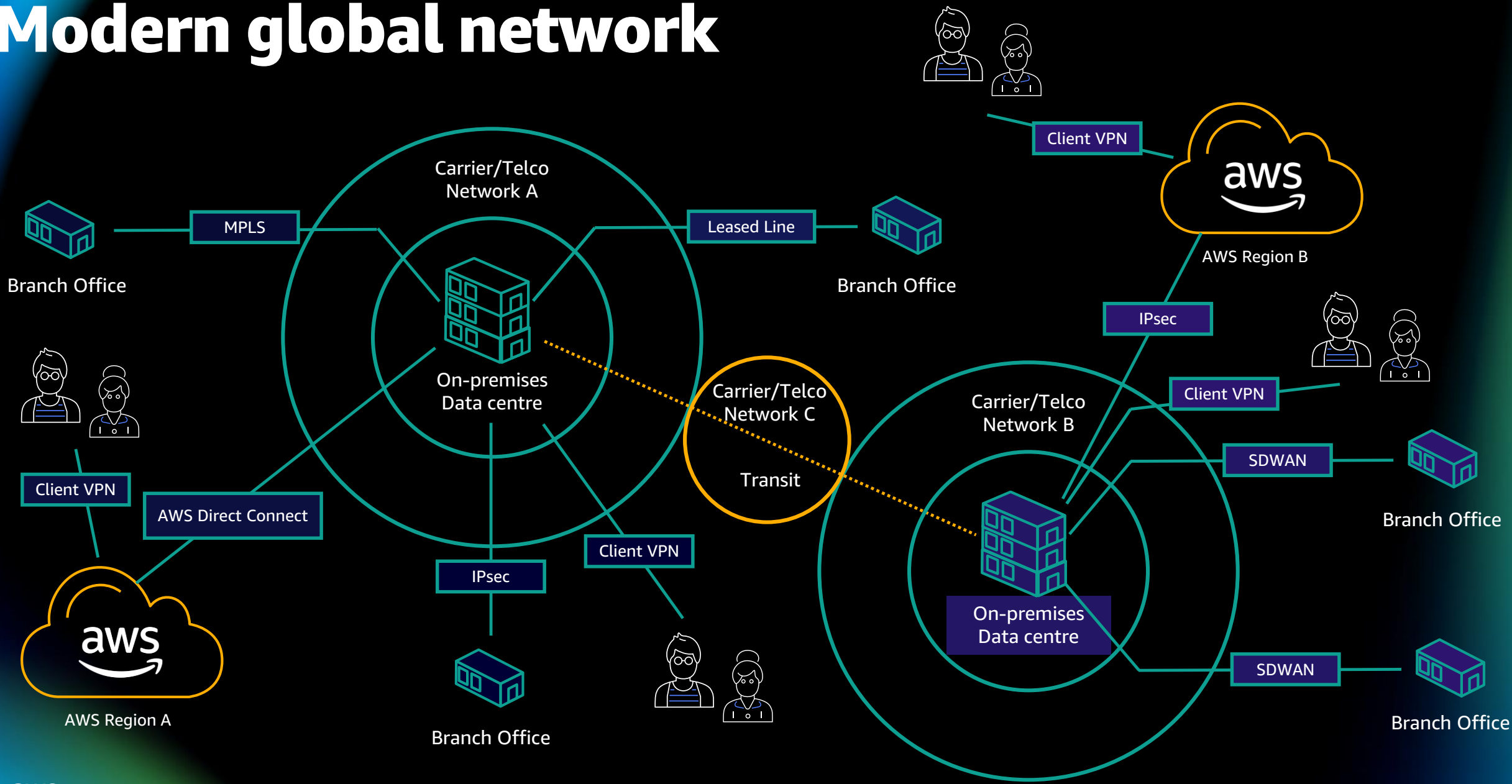
paloalto®
NETWORKS

vmware®

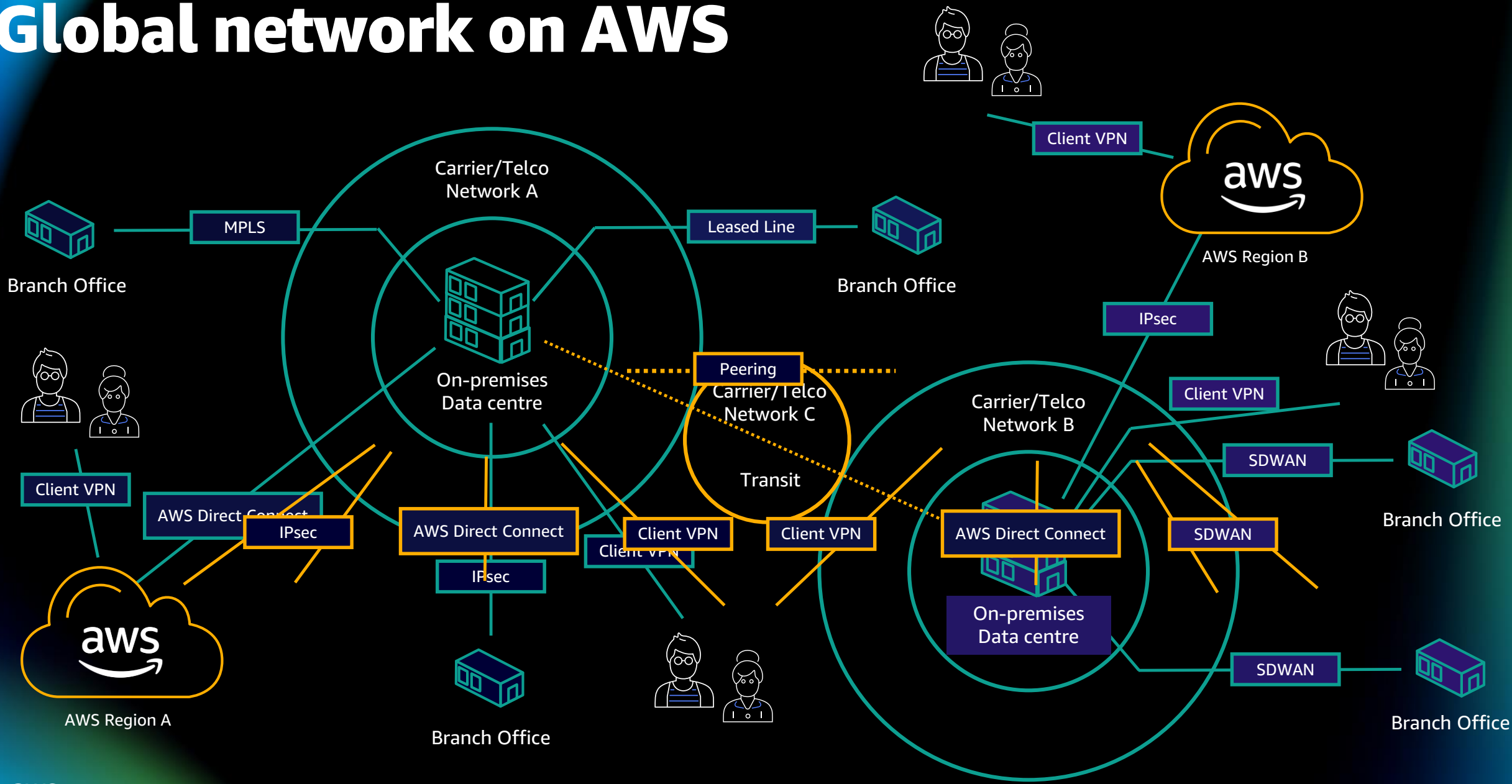
prosimo

ubyon

Modern global network



Global network on AWS



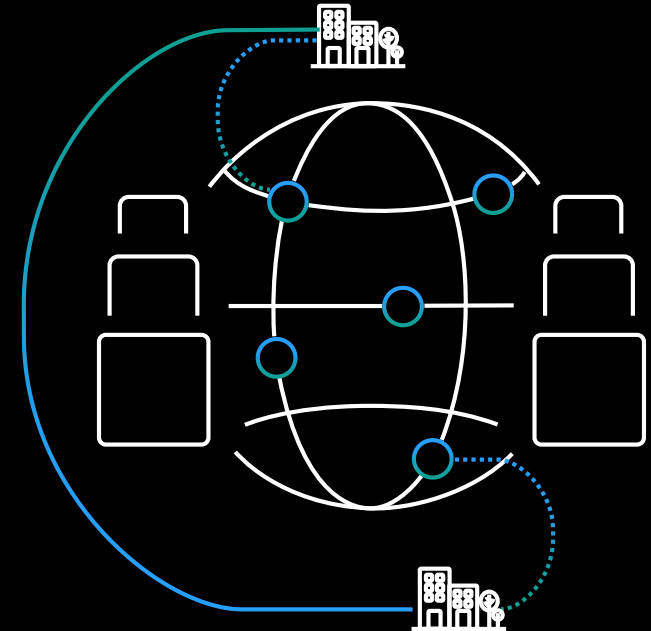
How can I route traffic between two nearest points without sending it through an AWS Region

AWS Direct Connect SiteLink

Available now

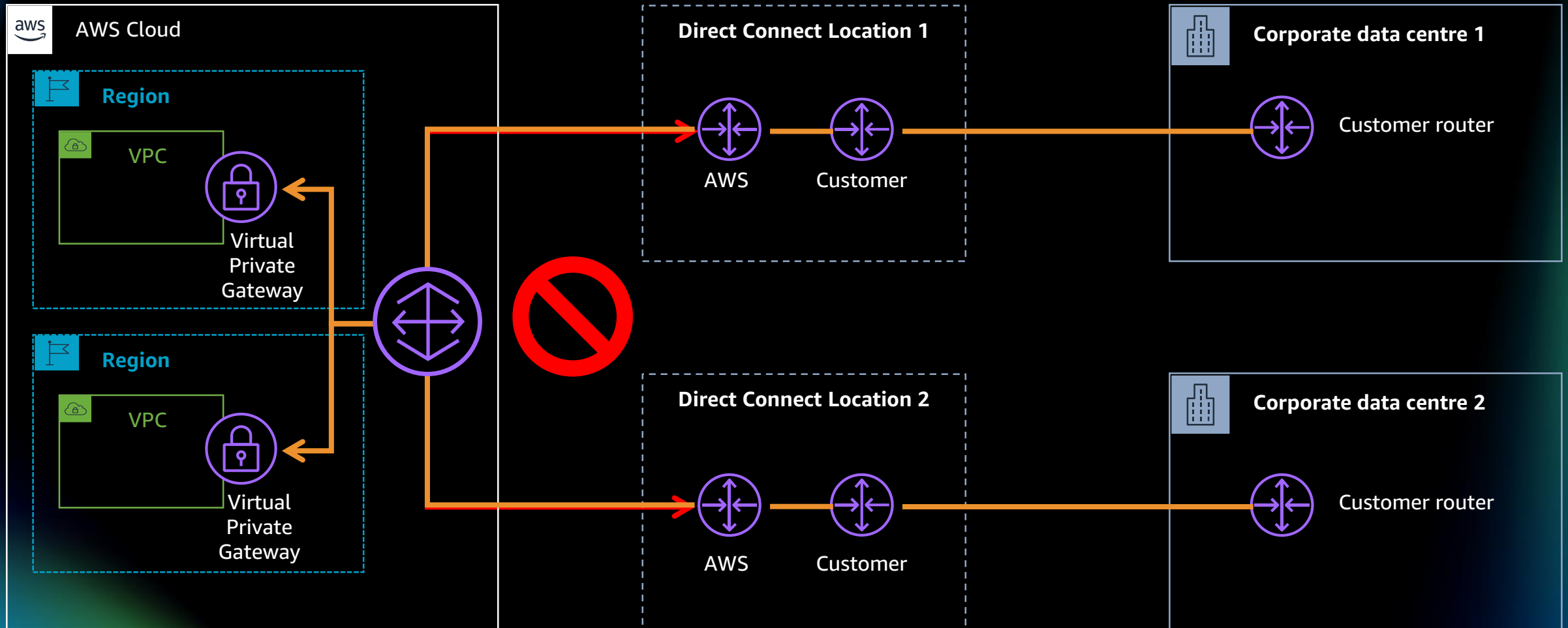
INTERCONNECT YOUR SITES WITH AWS DIRECT CONNECT (DX)

- Use the AWS global network, without the need to route traffic through an AWS Region
- Built on AWS Direct Connect proven reliability, pay-as-you-go pricing, and ease of use
- Turn SiteLink on in seconds and connect locations around the world in minutes



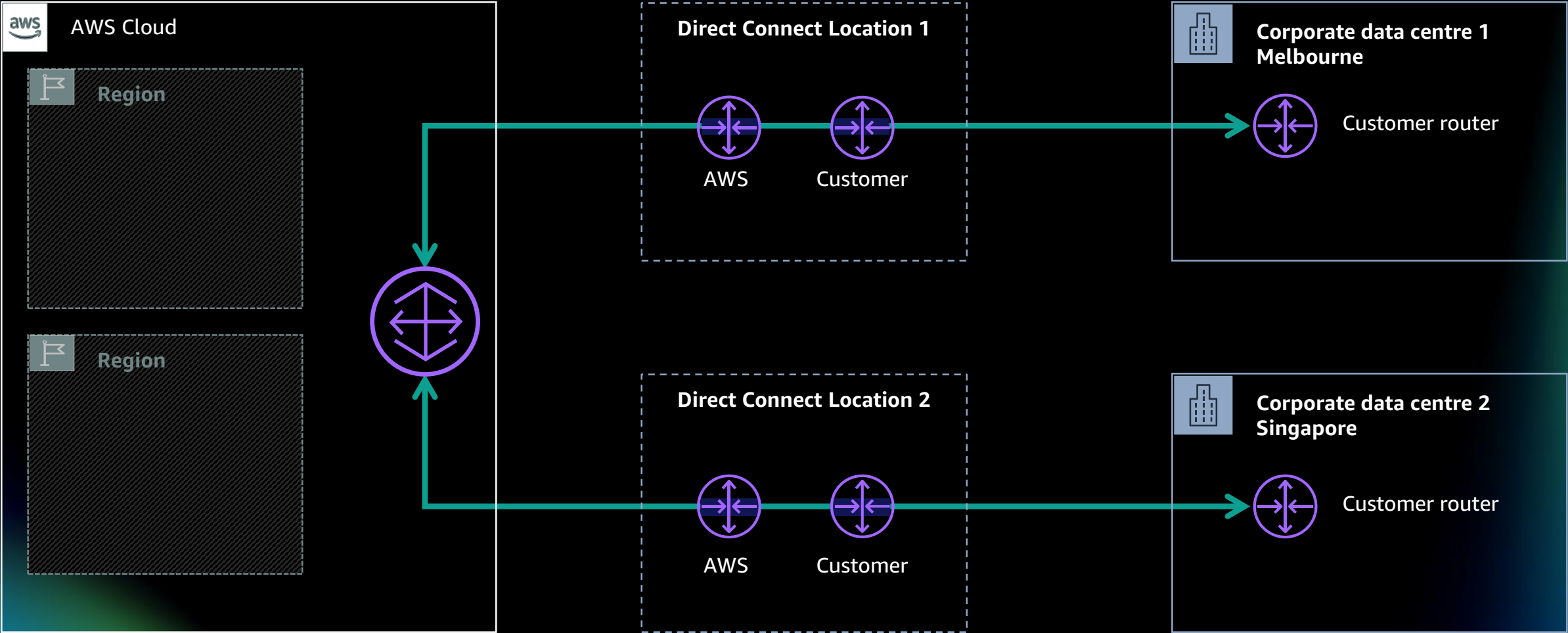
AWS Direct Connect without SiteLink

TRAFFIC ONLY FLOWS ONLY BETWEEN AWS REGIONS AND YOUR PREMISES



With SiteLink

DIRECT CONNECTIVITY BETWEEN DIRECT CONNECT LOCATIONS



AWS Direct Connect locations

OVER 100 AWS DIRECT CONNECT LOCATIONS WORLDWIDE



United States

Ashburn	Kansas City	Phoenix
Atlanta	Las Vegas	Portland (x2)
Boston	Los Angeles (x2)	Reston
Chicago (x2)	Miami	San Jose (x2)
Columbus	Milpitas	Santa Clara
Dallas	Minneapolis	Seattle (x2)
Denver	New York, NY	Secaucus
El Segundo	Newark	
Hillsboro	Philadelphia	
Houston		



Canada

Montreal (x2)
Toronto
Vancouver



South America

Rio de Janeiro
Sao Paulo (x2)



Europe and Africa

Amsterdam (x2)	Marseille
Berlin	Milano (x2)
Cape Town	Munich
Copenhagen	Oslo
Dublin (x2)	Paris (x3)
Frankfurt (x2)	Prague
Helsinki	Slough
Johannesburg	Stockholm
London (x3)	Vienna
Madrid (x2)	Warsaw
Manchester	Zurich



Middle East

Dubai UAE
Fujairah
Israel Haifa
Manama (x2)



China

Shanghai
Shenzhen
Ningxia (x2)
Beijing (x2)



Asia Pacific

Bangalore	Mumbai (x2)
Canberra	Osaka
Chennai	Perth
Delhi	Seoul (x2)
Hong Kong (x2)	Singapore (x2)
Hyderabad	Sydney (x3)
Kuala Lumpur	Taipei (x2)
Melbourne	Tokyo (x2)

SiteLink configuration

TURN ON/OFF USING A SIMPLE CONFIGURATION CHANGE USING THE CONSOLE

When you create a Private/Transit VIF

▼ Additional settings

Address family - optional
Determines whether the virtual interface is created with an IPV4 or IPV6 peering.

☒ IPV4
☐ IPV6

Your router peer ip - optional
The BGP peer IP configured on your endpoint

10.0.0.1/30

Amazon router peer ip - optional
The BGP peer IP configured on the AWS endpoint.

10.0.0.2/30

BGP authentication key - optional
The password that will be used to authenticate the BGP session.

my-secret-password

Jumbo MTU (MTU size 9001) - optional
Allow MTU size of 9001 on virtual interface.

☐ Enabled

Enable SiteLink - optional
Enable direct connectivity between Direct Connect points of presence.

☒ Enabled

Tags
Specified tags to help identify a AWS Direct Connect resource.
No tags associated with the resource

Add tag

Cancel>Create virtual interface

When you edit an existing VIF

Edit virtual interface

Virtual interface settings

Virtual interface name
A name to help you identify the new virtual interface.

SiteLink VIF 1

Name must contain no more than 100 characters. Valid characters are a-z, 0-9, and - (hyphen)

Connection
The physical connection on which the new virtual interface will be provisioned.

Jumbo MTU (MTU size 9001)
Allow MTU size of 9001 on virtual interface.

☐ Enabled

Enable SiteLink - optional
Enable direct connectivity between Direct Connect points of presence.

☒ Enabled

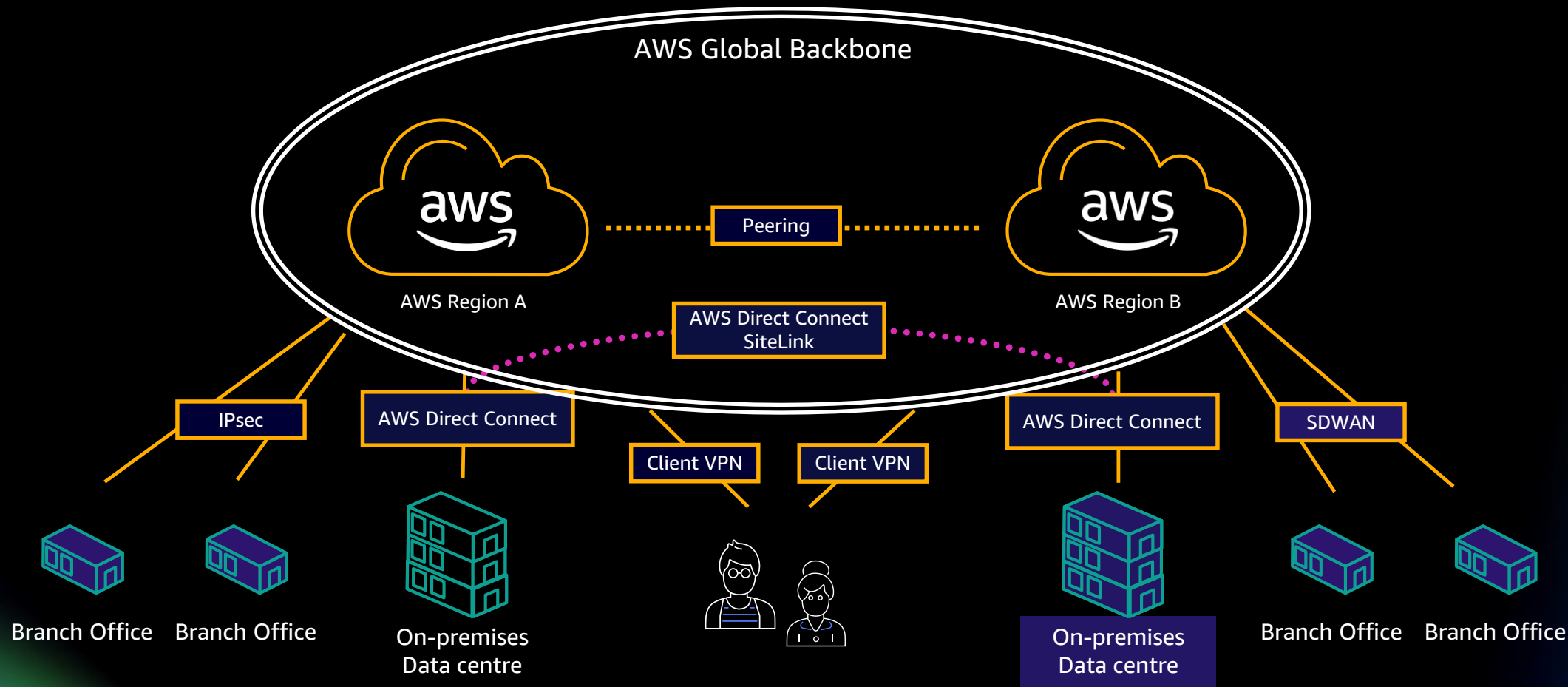
Tags
Specified tags to help identify a AWS Direct Connect resource.

No tags associated with the resource

Add tag

Cancel>Edit virtual interface

Global network on AWS



Demo



Console Home

Info

Actions

Recently visited

Info



VPC



EC2



CloudFormation



Systems Manager



Direct Connect



Support



Global Accelerator



S3

Welcome to AWS



Getting started with AWS

Learn the fundamentals and find valuable information to get the most out of AWS.



Training and certification

Learn from AWS experts and advance your skills and knowledge.



What's new with AWS?

Discover new AWS services, features, and Regions.

AWS Health

Info

Open issues

0

Past 7 days

Scheduled changes

0

Upcoming and past 7 days

Cost and usage

Info



Summary

Both

- Use the AWS global backbone
- Support encryption (MACsec/IPsec)
- Pay for what you use
- Available globally
- Can also be used to access AWS resources

AWS Cloud WAN

- VPC to VPC
- VPN & SD-WAN
- Segments
- Dashboard and monitoring
- Region-based
- DX and Transit Gateway peering support on roadmap

DX SiteLink

- DX port to port
- Not dependent on AWS Regions
- Support for up to 100 gbps paths
- Enabled per virtual interface

Connect your sites, users, and applications

BRING THE POWER OF CLOUD INFRASTRUCTURE TO YOUR NETWORK

Build the right network for each workload.

Run services wherever you need them.

Use global AWS Cloud infrastructure as part of your network.



AWS Direct Connect



AWS Site-to-Site VPN

NEW!



AWS Direct Connect SiteLink



AWS Client VPN

NEW!



AWS Cloud WAN (preview)



Global Regions



AWS Wavelength



AWS Local Zones



AWS Private 5G



AWS Outposts

Visit the AWS Networking and Content Delivery product page



<https://aws.amazon.com/products/networking/>

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<https://tinyurl.com/for-every-app-hub-aws>

Visit resource hub

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