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The bridge to possible

Connect Hybrid Cloud in 3 Clicks with Cisco Meraki MX

Secure, high-quality experience for workloads deployed anywhere

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BRKMER-2002



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About your speaker



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Cisco Webex App

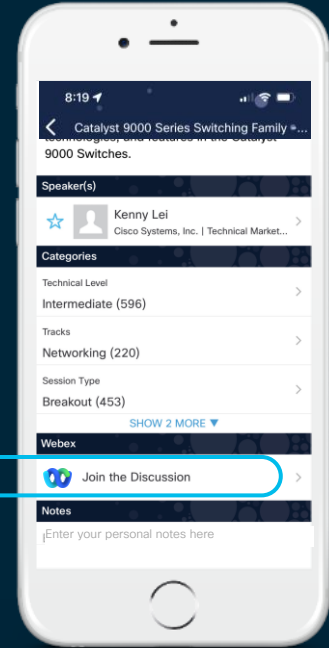
Questions?

Use Cisco Webex App to chat with the speaker after the session

How

- 1 Find this session in the Cisco Live Mobile App
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“Simplicity is the
ultimate sophistication.”

— Leonardo da Vinci



Agenda

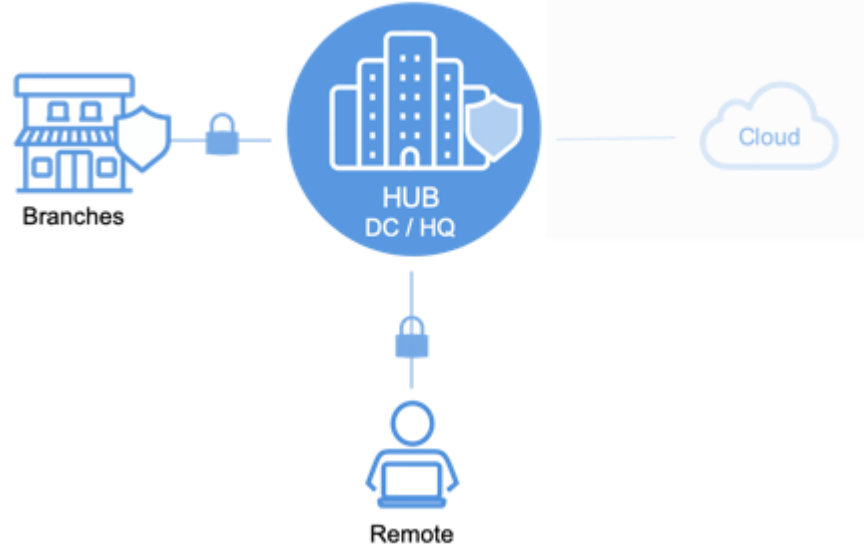
- Introduction
- Multi-region cloud deployments
- Securing the cloud with Secure Access Service Edge (SASE)
- Multi-tenancy and scale
- Merakify cloud deployments
- Key takeaways

Introduction

The way we work has come a long way...

HUB-CENTRIC CONNECTIVITY

- Resources were primarily hosted in the **data center**
- Secure and optimized **connectivity to the hub** was key
- Resources and workloads in the cloud were **limited** and non-critical



...And so have the resources at our disposal!

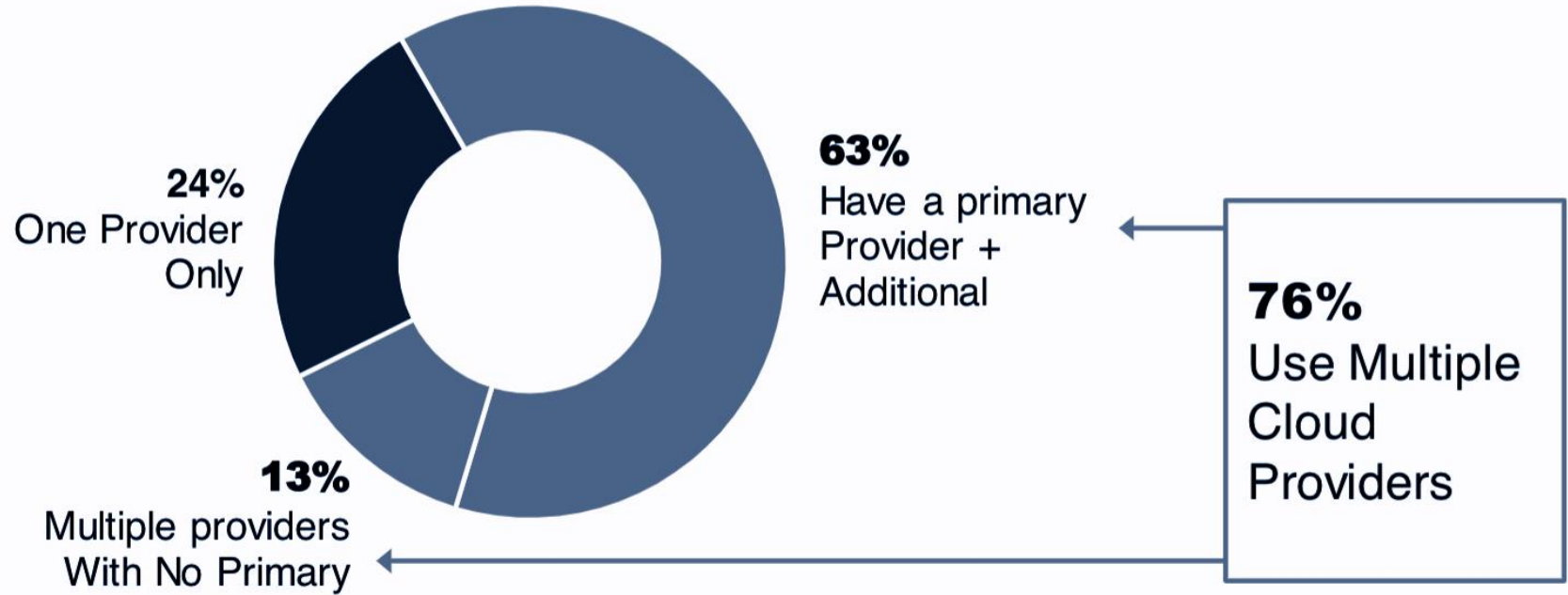
HYBRID-CLOUD CONNECTIVITY

- Resources and workloads are moving from **on-prem data centers**
- Business-critical resources and workloads are increasingly **hosted in multiple cloud environments**
- **Seamless and optimized access** to relevant clouds is key



Most organizations are choosing hybrid cloud

This further underscores the need for getting better at managing the complexity of multi-cloud environments

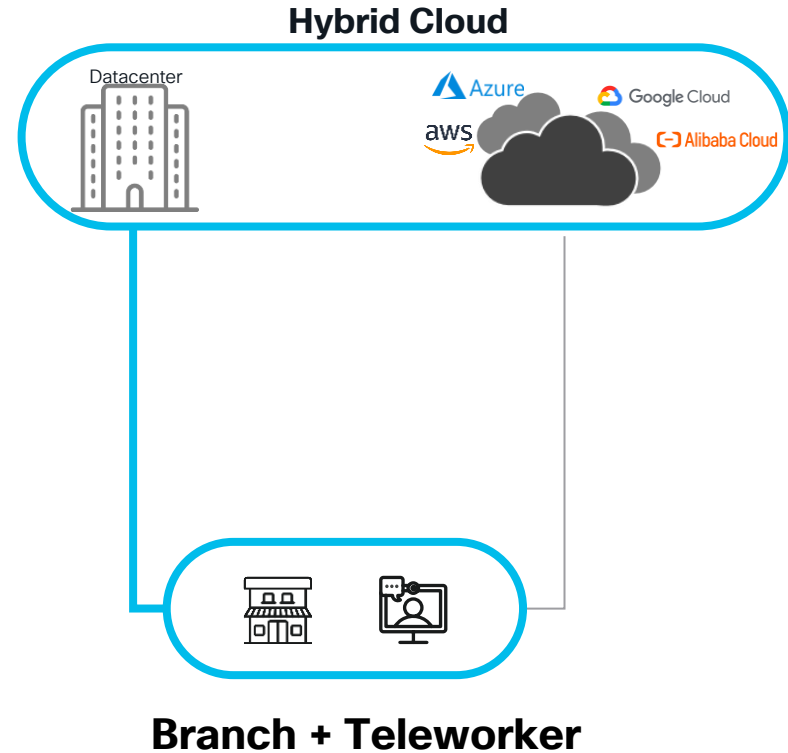


Source: 2020 Gartner Cloud End User Research

Why are most organizations embracing hybrid cloud?

Increasing cloud innovation to unlock new business outcomes

- 1 Innovation and Scale
- 2 Need for Datacenters
- 3 Enabling Hybrid Work
- 4 Set stage for future IoT and Edge computing adoption



Challenges with moving to Hybrid Cloud..

Here are some common challenges customers face



Complexity in cloud networking

- Need for a robust HA model and resilience across clouds
- Encrypted peering and dynamic route exchange across different cloud regions



Uniform Experience

- Disparate experiences between private & public clouds
- Extending cloud network features and operational management model used within the public cloud environments to non cloud locations



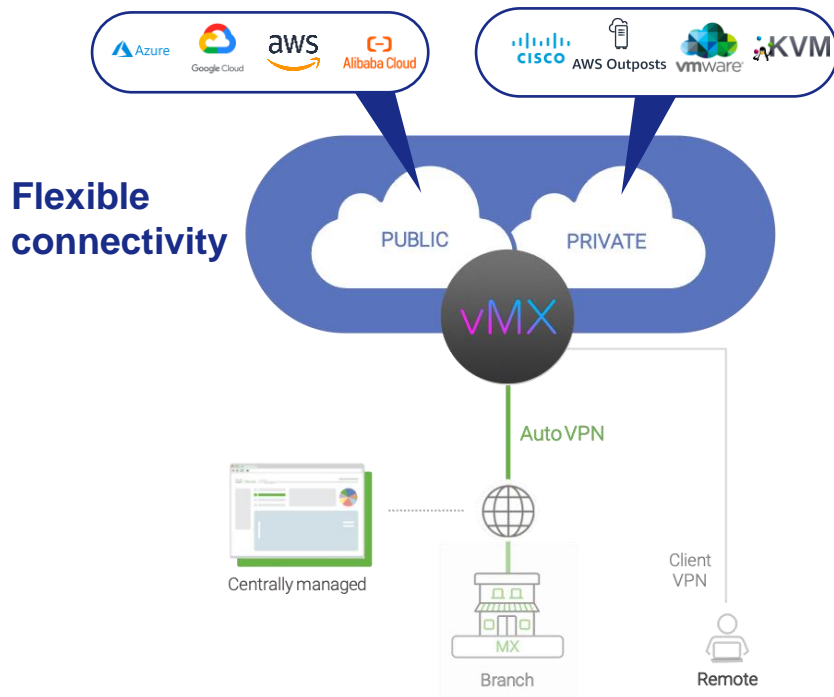
Costly administrative overhead

- Use of different consoles and terminology to provision and troubleshoot applications
- Multiple steps to make a simple change

Meraki is your partner to manage hybrid cloud

Extend security deep into public and private clouds using the Cisco Meraki vMX

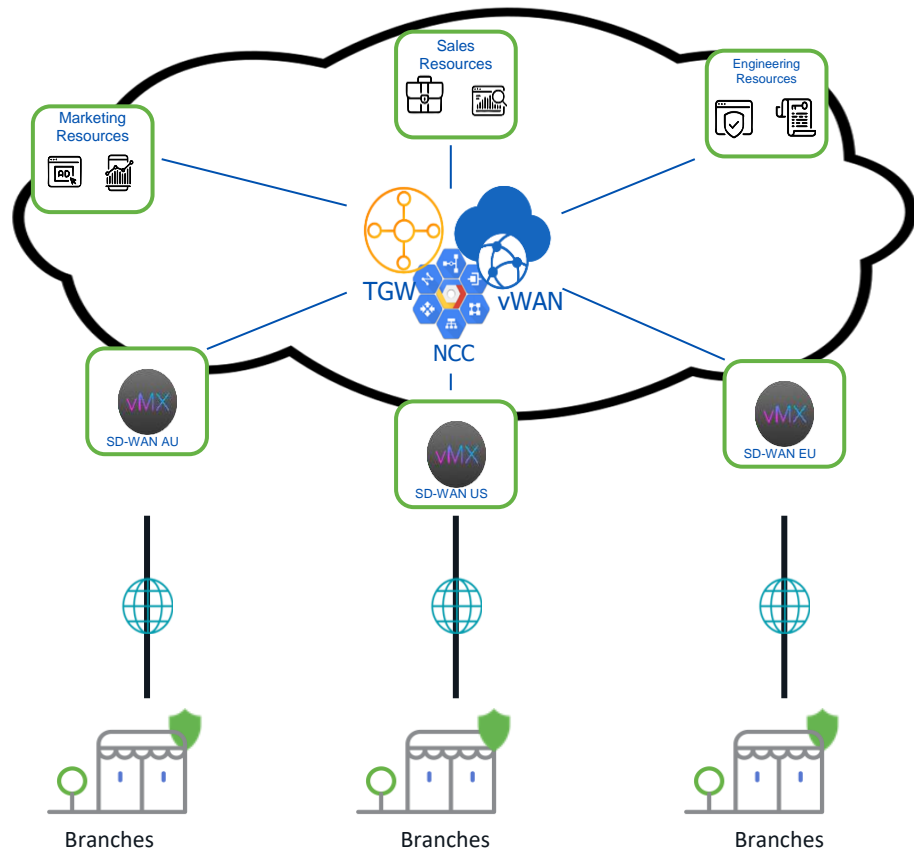
- vMX is a **virtual cloud instance** of a Meraki security & SD-WAN appliance.
- vMX extends your **unified** SD-WAN fabric to hybrid cloud environments
- Supported on **all** major cloud providers (AWS, GCP, Azure, Alibaba)
- Cloud done at **your pace** – bridge your data center with the cloud via Cisco UCS, AWS Outposts, VMware and KVM (upcoming)
- Scalable **Remote work** built-in



Simplifying SD-WAN connectivity across multiple regions and clouds

Customers are running multi-cloud and multi-region infrastructures.

Having **secure** and **reliable** interconnectivity is key.

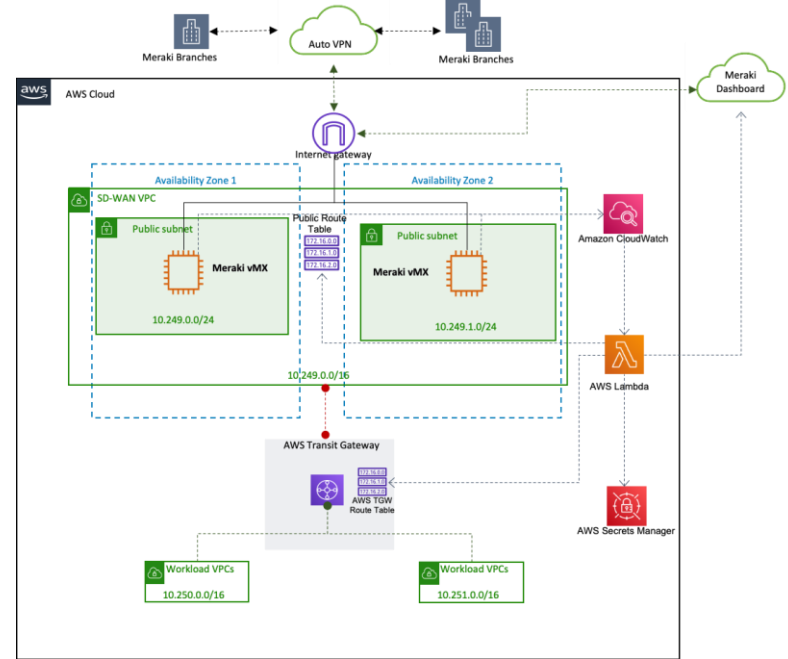




Connect multiple workloads for a unified experience

Extend Meraki SD-WAN across AWS using Transit Gateway (TGW)

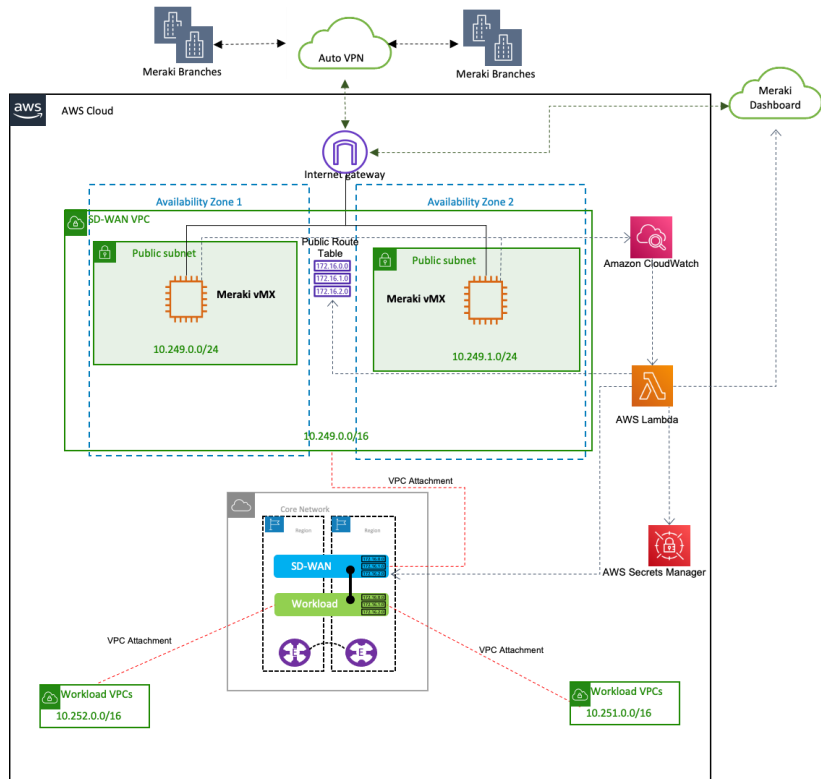
- Extend your branch SD-WAN deployments to applications hosted on AWS
- Highly available architecture for deeper connectivity to cloud resources via AWS Transit Gateway (TGW) using AWS Lambda
- Single-button automated deployment via [AWS Quick Starts](#)



Connect multiple regions for a unified experience

Extend Meraki SD-WAN across AWS Regions using AWS Cloud WAN

- Manually setting up multiple peering attachments and lack of automation make it difficult to scale and manage multi-region deployments
- Simplified multi-Region connectivity using AWS CloudWAN
- Managed Transit Gateway
- Segmentation and intent based policies
- Regional Hubs as VPC attach





**Automating Meraki
SDWAN across multiple
AWS regions**

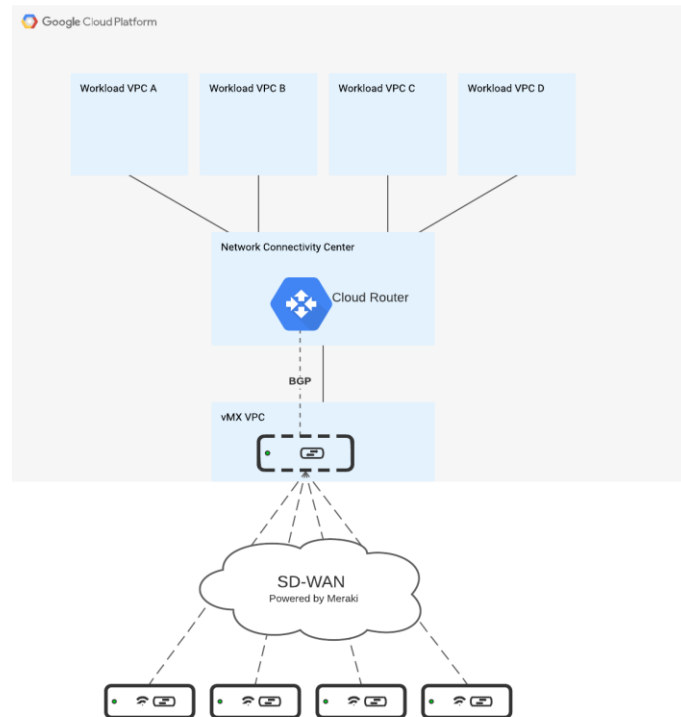


Google Cloud

Connect multiple workloads for a unified experience

Extend SD-WAN to Google Network Connectivity Center (NCC)

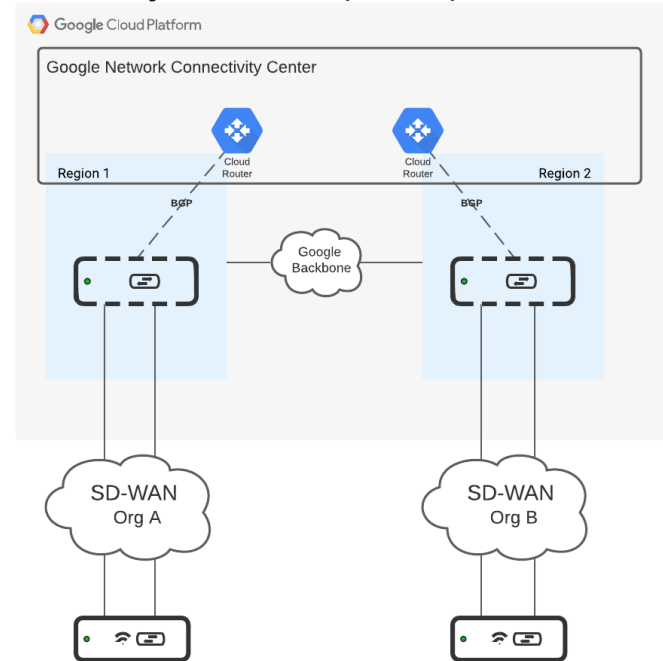
- NCC operates in a hub-and-spoke model
- Easily extend your SD-WAN fabric to the cloud by leveraging Border Gateway Protocol (BGP)
- NCC hub resource reduces operational complexity through a simple, centralized connectivity management model
- vMXs deployed as Router appliances work with NCC to enable dynamic route exchange with Google's network using BGP



Connect multiple regions for a unified experience

Extend SD-WAN to Transit Google Network Connectivity Center (NCC) Hubs

- vMXs deployed as cloud router spokes across different regions
- Cloud router programs the learnt branch routes in the VPC and advertises the VPC subnets to vMXs
- Route exchange between cloud routers across regions
- Connect different orgs via google backbone to traverse across different regions.

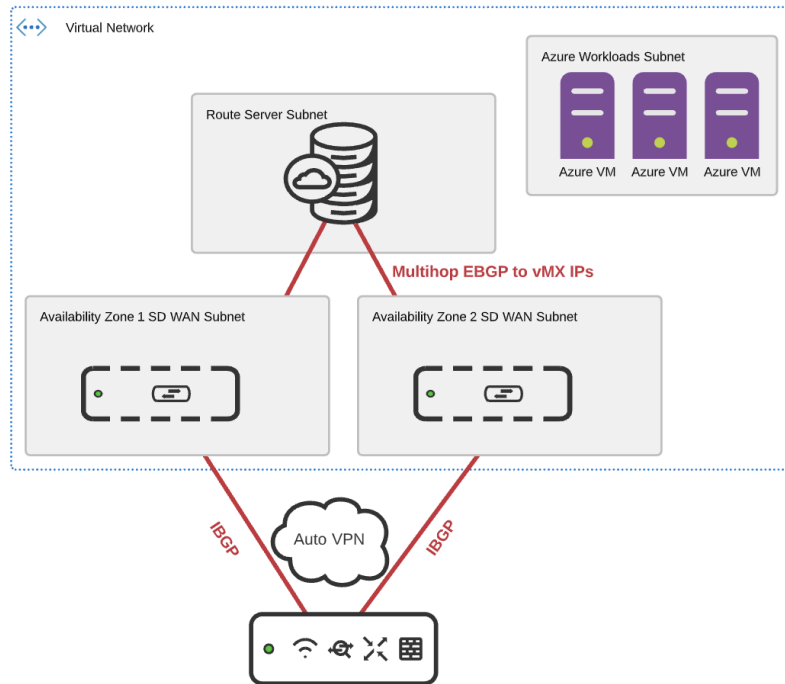




Connect multiple workloads for a unified experience

Extend SD-WAN to Azure using Route Server

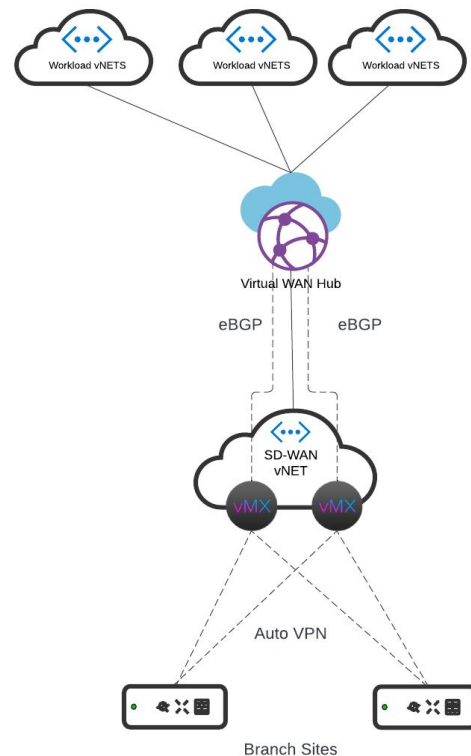
- Simplified dynamic routing between a network virtual appliance (NVA) and Azure Virtual Network (vNET)
- Route tables are now dynamically updated
- Branch MX connects to a pair of vMXs
- BGP configured between vMXs and route server
- AS Path manipulation used to ensure symmetry



Connect multiple regions for a unified experience

Extend SD-WAN to Azure using BGP Peering with vWAN

- vMXs deployed in dedicated SD-WAN vNET as NVA Spokes
- BGP peering with vWAN Hub
- Virtual hub router learns routes from vMXs
- The virtual hub router advertises the virtual network routes to the NVA
- Deploy regional hubs to traverse over Microsoft's backbone

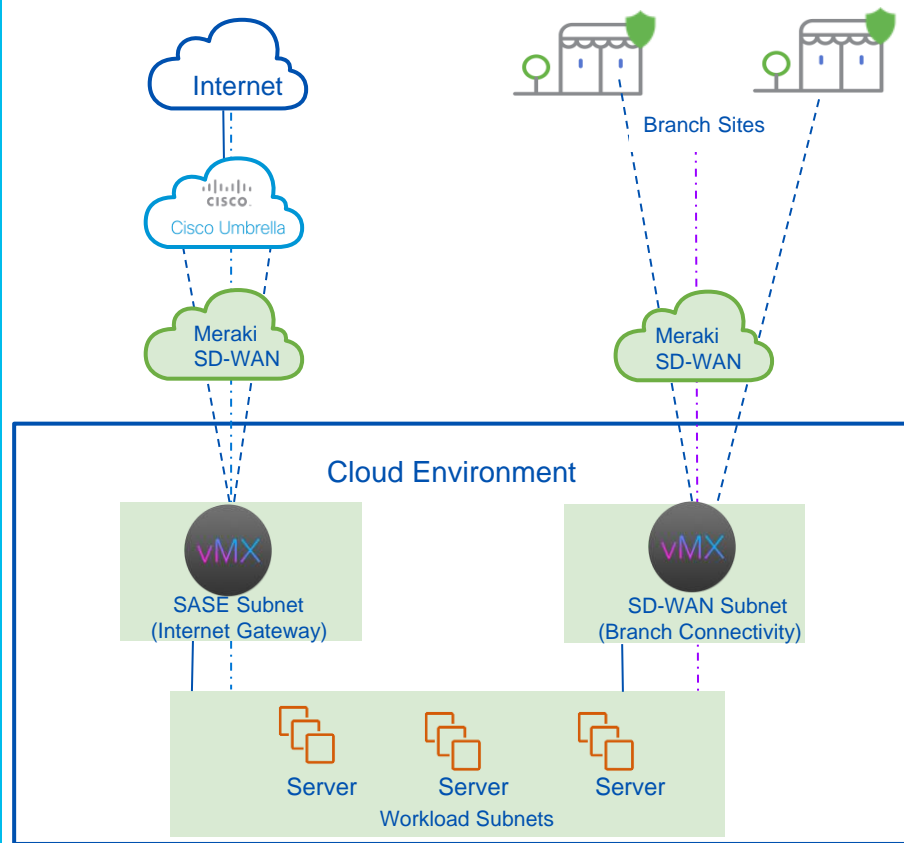


Securing the Cloud with SASE



Securing the Cloud with SASE

- Traffic to branch sites via SD-WAN vMX
- Internet traffic from cloud workloads egresses via SASE vMX connected to Cisco Umbrella
- Policy enforcement done via Cisco Umbrella SIG

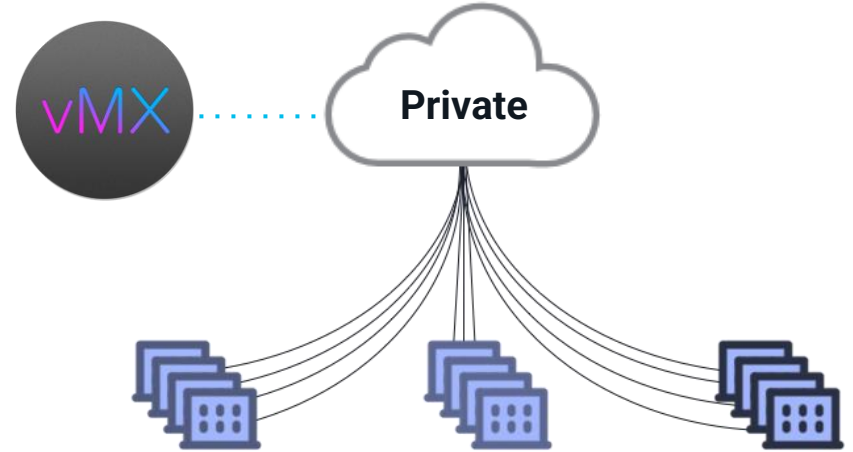


Extending Cloud for Multi-Tenancy and Scale



Multi-Tenancy and Scale using Private Cloud vMX

HUGE scale on one physical compute platform

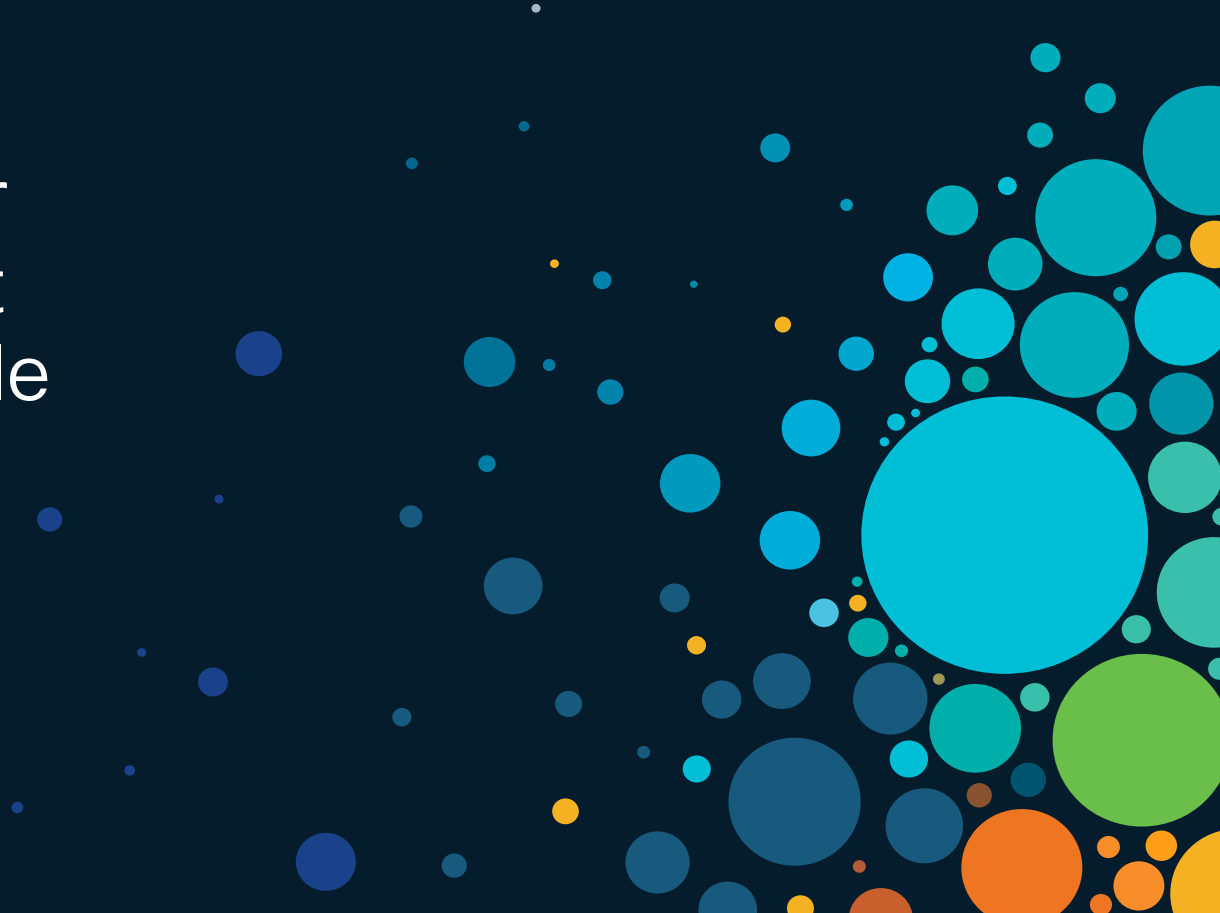


Global Enterprise	Business division A	Business division B	Business division C
Service Provider	SMB customer A	SMB customer B	SMB customer C

Let's Merakify the cloud

Deploy and manage vMX and cloud resources from the
Meraki Dashboard

Customers are
moving to one or
more clouds, but
managing multiple
environments is
complex



Cloud On-Ramps

(Coming Soon)



Simplifying the Deployment of vMX on the Big Four Clouds

The screenshot displays the 'New Cisco Meraki vMX deployment' wizard. It includes sections for 'Product overview', 'Launching a BYOL product', 'Terms of Service', 'Basic Compute Service (BES)', 'Networking', and 'Network interfaces'. The 'Networking' section shows a table of network interfaces with columns for Name, Action Type, vCPU, Memory, and others. The 'Network interfaces' section shows a table of network interfaces with columns for Name, Action Type, vCPU, Memory, and others. The 'Auto-assign Public IP' checkbox is highlighted with a red box and the text 'Enable'.

Managing multiple cloud environments is not simple

- Nuanced processes
- Differing user experiences
- Varying configurations
- Upgrading or downgrading vMXs is involved



Manage your resources in each cloud via the Meraki Dashboard



Unified and Automated Cloud Management

Automated deployment of vMXs directly from the Meraki Dashboard across public and private cloud environments



Expand Network Connectivity Options

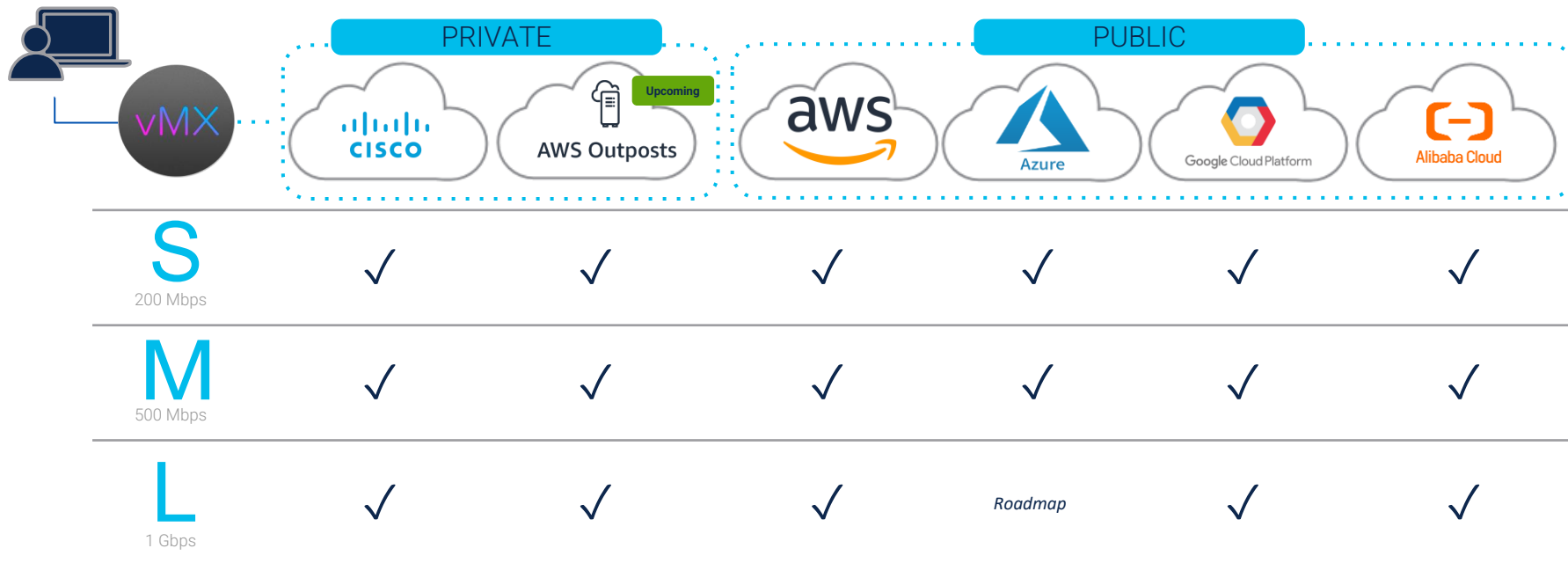
Multi-region connectivity and management via BGP peering with TGW, vWAN and NCC



Consistent User Experience

Deploy and manage services across the cloud using the Meraki Dashboard. Reducing the need to switch environments to manage different cloud network resources

The Complete Multi-Cloud Portfolio



Key Takeaways

- ✓ Hybrid cloud is now
- ✓ vMX is central to simplifying your hybrid cloud
- ✓ Achieve high tenancy and scale using private cloud with vMX
- ✓ Simplified deployment and management of vMX across clouds

Additional Resources

Risk-free evaluation



meraki.cisco.com/eval

Check out our website & blog



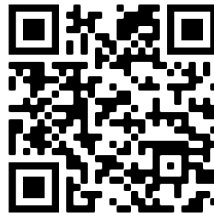
meraki.cisco.com/blog

Cisco Meraki vMX Quick Starts



aws.amazon.com/quickstart/

Meraki Documentation



documentation.meraki.com



The bridge to possible

Thank you

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