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The bridge to possible

Crosswork Network Controller on AWS

Deployment using Cloud Formation Templates

Sriharsha Dhanekula, Technical Marketing Engineer Technical Leader
@sdhanek

Agenda

- Introduction
- Decipher the Installation Process
- Understand the cloud formation templates and architecture models
- Deploy Crosswork Network Controller Solution on AWS
- Explore Extensions and other Options
- Conclusion

Crosswork Network Controller is an application that simplifies deploying and managing VPN services with advance SLAs over Transport networks

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Agile, Flexible, Efficient

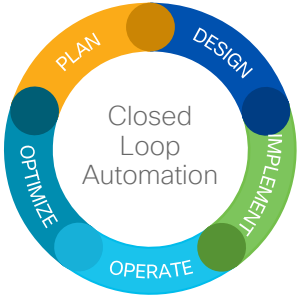
Cisco Network Automation Approach

1 Enable outcomes for our customers

Roll out services faster, reduce mean-time-to-value (MTTV)

Reduce operational strain & mean-time-to-repair (MTTR)

2 Transform network operations



Applications that enable our customers to operate networks at scale automating across domains

3 Deliver automation on premise and in the cloud

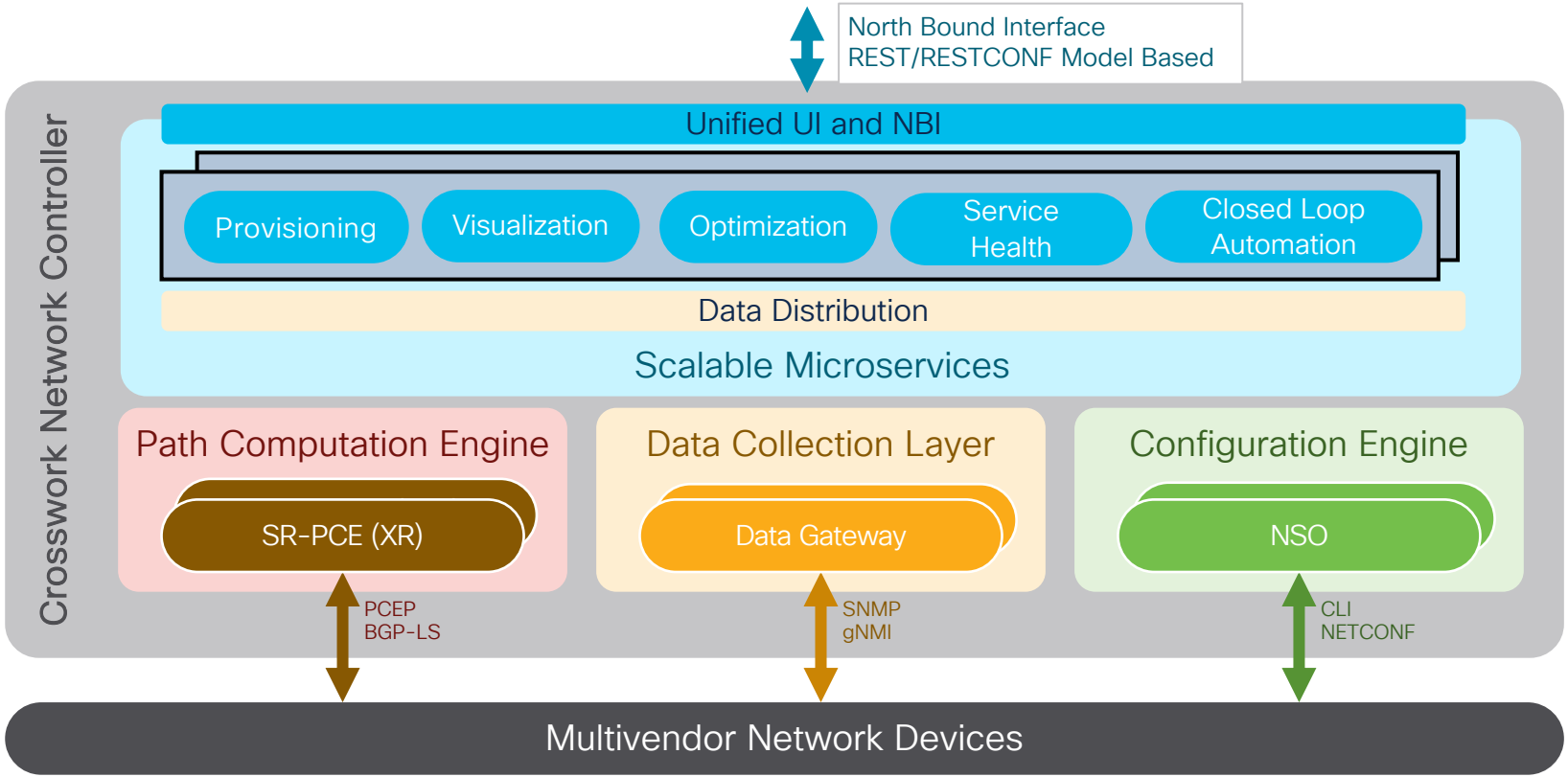
Crosswork On-prem

Crosswork Cloud

Insight on health and performance of network elements, workflow automation, security insights

Redefining what it means to own a Cisco-powered network by data driven insights

Crosswork Network Controller Overview



Synopsis

CNC Solution Components

- Crosswork Network Controller (CNC) Cluster
- Crosswork Data Gateway (CDG) Cluster
- NSO
- Windows Machine

AWS Terminology

- VPC: IGW, VGW, CGW, TGW, VPN Tunnels, etc.
- EC2: AMIs, Security Groups, etc.
- CloudFormation Templates

CNC on AWS EC2 Value Proposition

Quicker Time to Value: Set-up or tear down of all CNC components in minutes

DevOps: Run isolated clusters without resource constraints; test; stage; deploy

Operational Ease and Platform Resiliency:

- AWS IPAM for automatic IP address assignment eliminates the hassle of IP address assignment
- AWS NLB for multi-subnet/multi-AZ HA deployment and load-balancing

AWS Platform Extensibility and Resiliency

- Wide range of high-performance compute platforms, eg m5, m6
- Low latency/high-throughput resilient network + storage

Serviceability: Lifecycle management and monitoring of the EC2 instances

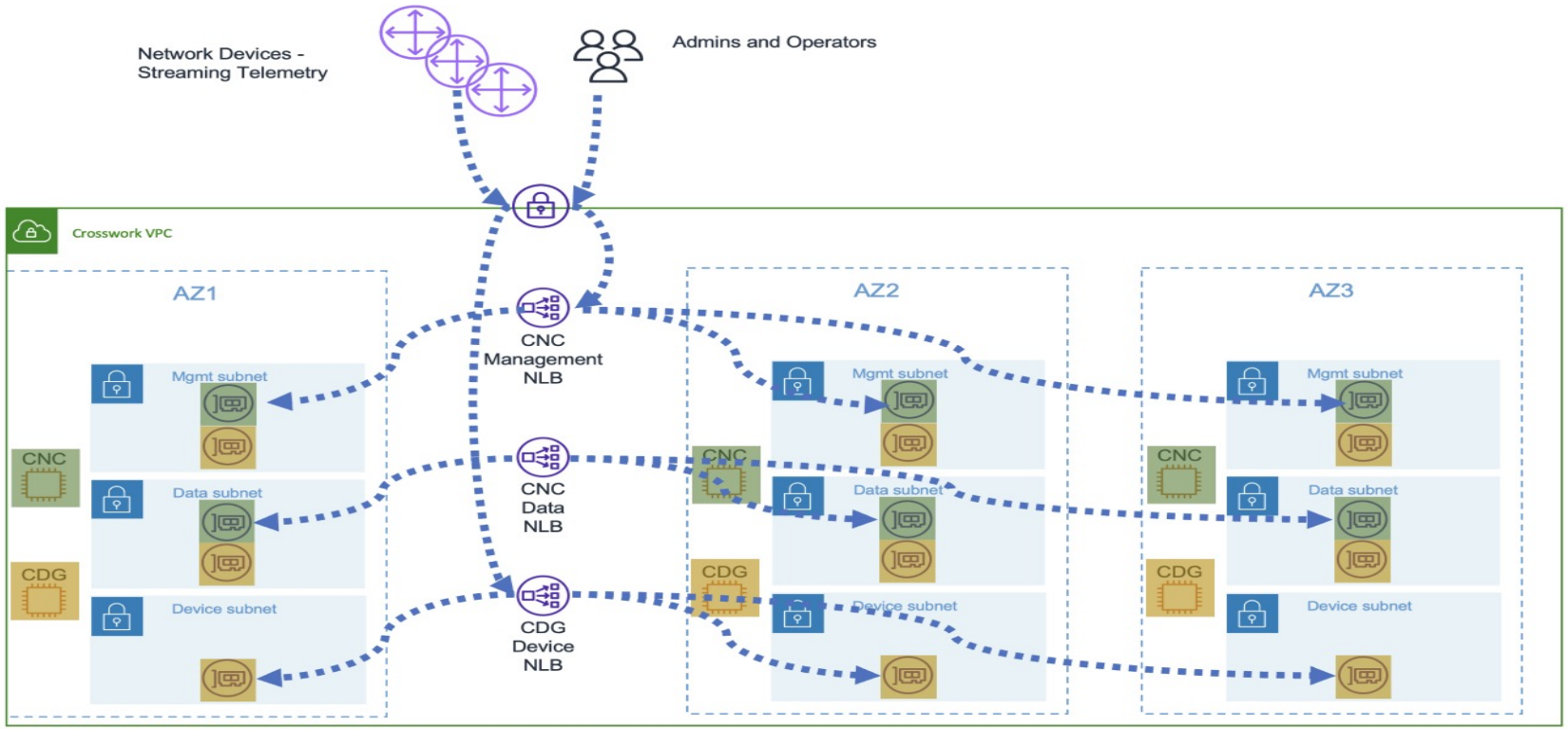
AWS Expertise: Existing skills and know-how in managing EC2 deployments

Installation Summary

Entities Snapshot

- VPC
  - Multiple AZ's
  - Subnets
- Security Groups
- Crosswork Cluster
- CDG Cluster
- Load Balancers
- Windows Machine

Visualizing the Deployment: A Pictorial Walkthrough



Supported Features on CNC – AWS

CNC Cluster and CDG Cluster

- Supported in Multi AZ and Single AZ
- Deployment CF Templates are supported by the BU
- Load Balancers are used for Mgmt. and Data VIP
- Route53 – DNS and FQDN

Supported for Production

- Only CNC Essentials

NSO and PCE support High Availability

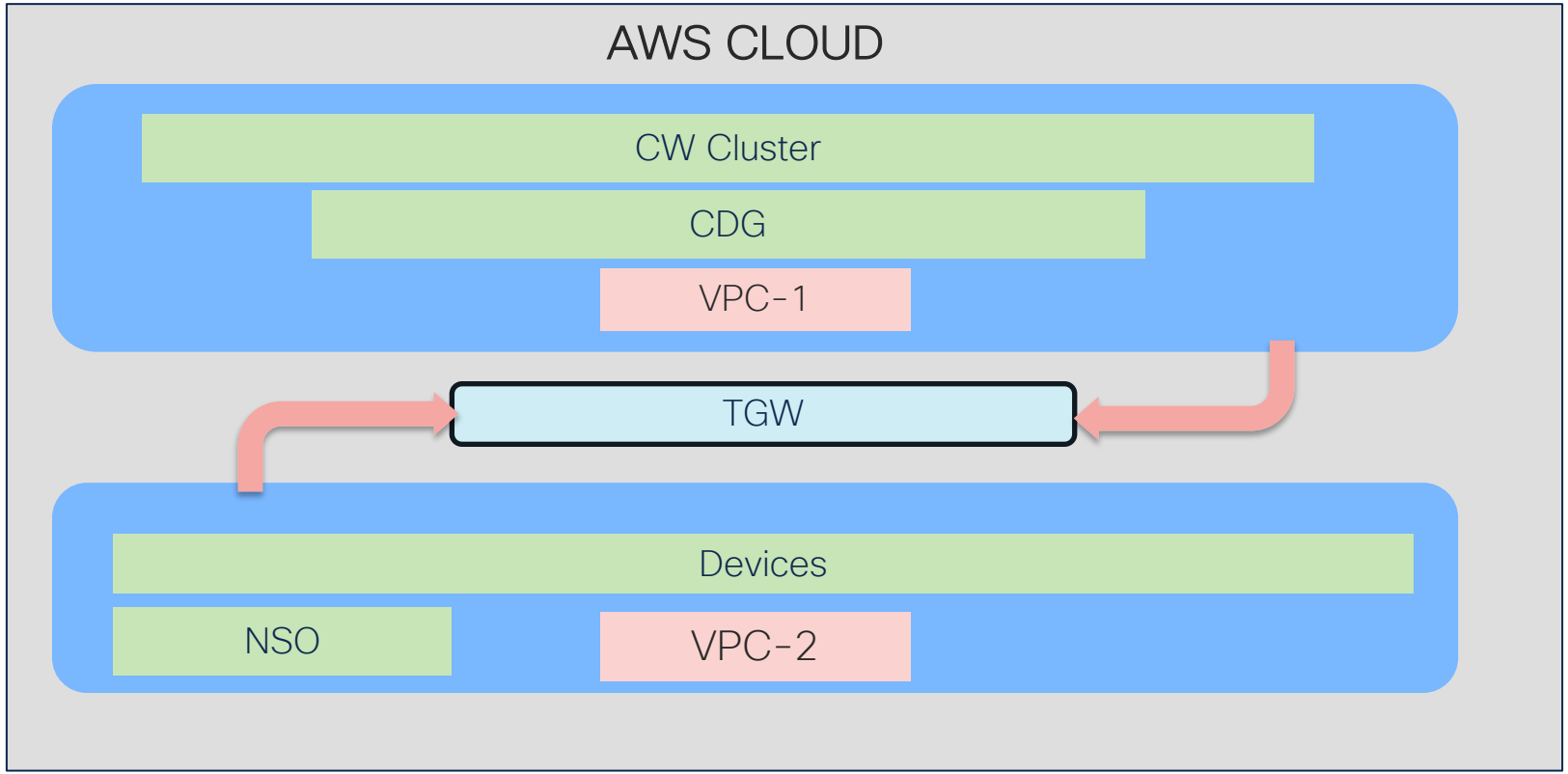
Architecture Options

Single VPC (Single, Multi-AZ)	• All Components are deployed in a single VPC with Multi-AZ's
	  • Supported and Tested
	  • Covered under today's demonstration

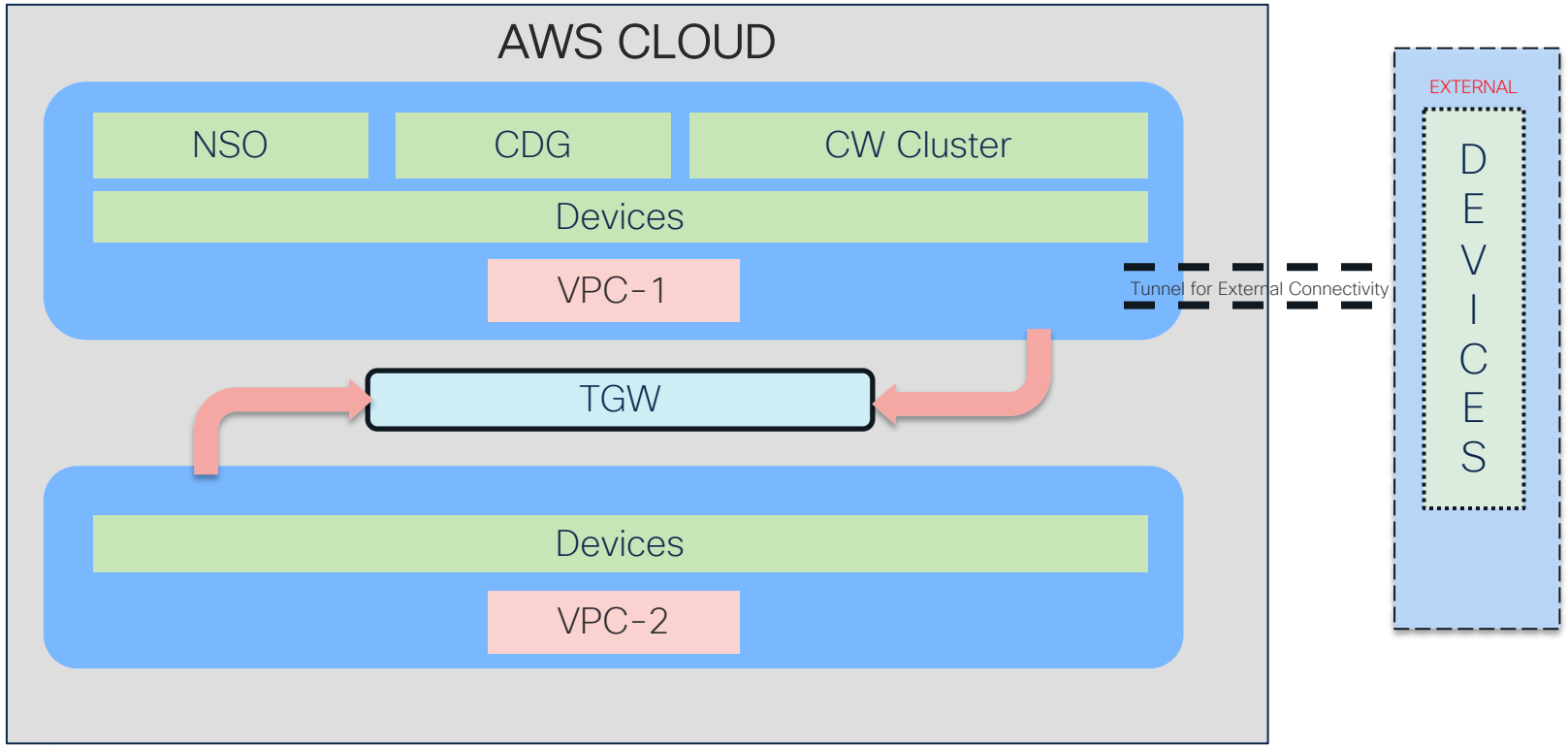
Multi-VPC	• Components can be deployed in different VPCs • Connections between VPC can be done via TGW • Technically feasible but not tested yet

AWS + Remote Combination (like dCloud, Existing On-prem Network)	• Components can be deployed at a remote location like dCloud, Customer on-prem, etc.
	  • Supported and Tested
	  • Tested scenario: CW Infra in AWS, CDG in AWS, NSO and Devices in Cisco dCloud

Multi-VPC Installation Architecture



AWS and On-Prem Combination Architecture



Cloud Formation Template – Resources

AWS Environment

- VPC and its components
- Security group
- IAM

Crosswork Network Controller

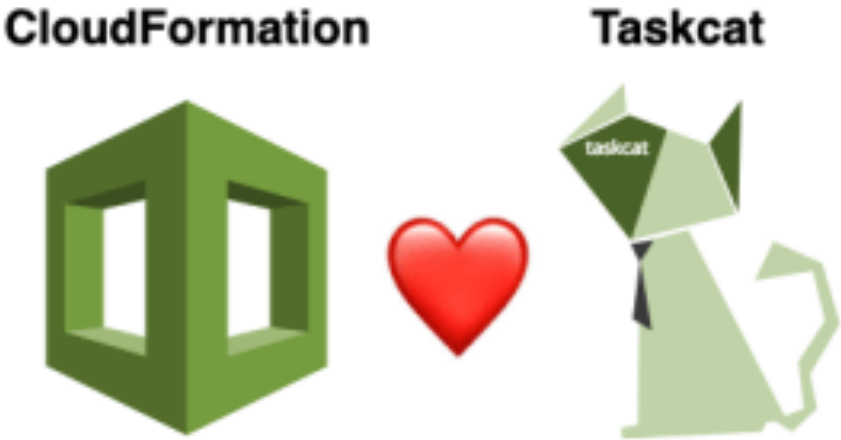
- Cluster Instances
- Interfaces for all Cluster Instances
- CNC Common Launch Template
- Route 53 (CNCv6.0)
- Network Load Balancer (CNCv6.0)

Crosswork Data Gateway

- Instance Definition
- Interfaces Definition
- CDG Common Launch Template
- Route 53 (CNCv6.0)
- Network Load Balancer (CNCv6.0)

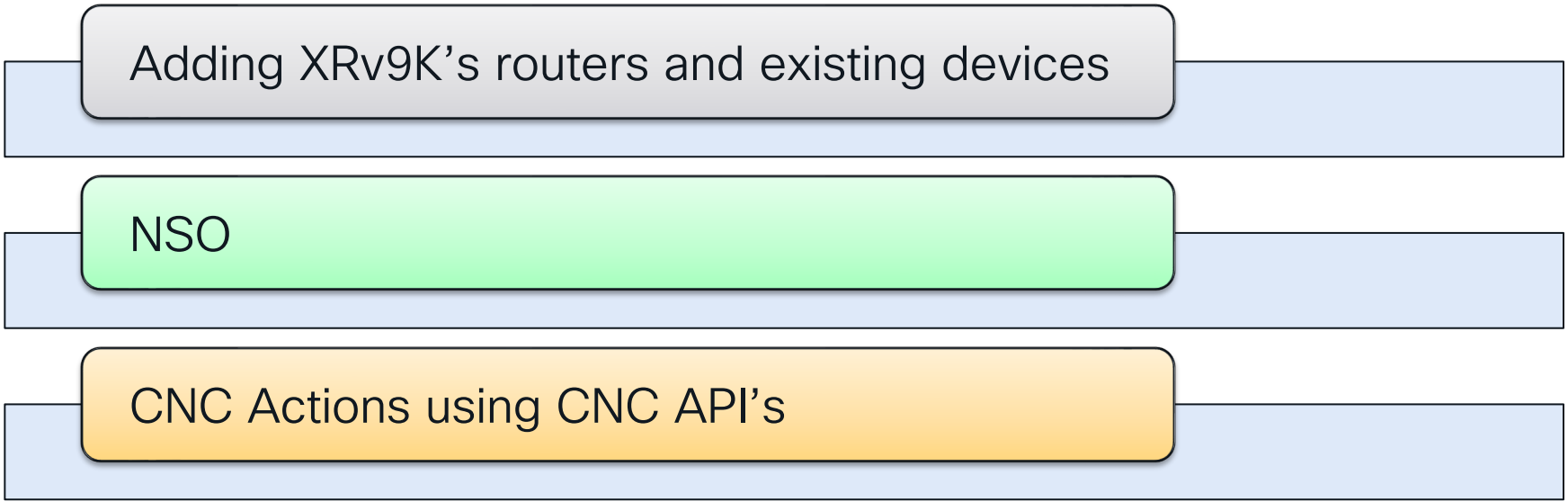
Demo

Demo Tools



LIVE DEMO

Extensions



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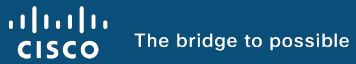

Thank you


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