
cisco Live!
Let's go

The bridge to possible

Revolutionize Your Network Management with Cisco Catalyst Center

Physical or Virtual on AWS or VMware ESXi

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Prabhjit Singh Bagga, Technical Marketing Engineer, Tech Lead

Cisco Live!

YouTube http://cs.co/catalyst-center-youtube

Agenda

- How do I manage my complex, hybrid networks with Catalyst Center?
- Is there any new Catalyst Center Physical Appliance?
- How do I easily deploy Catalyst Center on AWS and ESXi?
- How do I secure and manage my deployments on AWS and ESXi?
- How does HA work with Catalyst Center on AWS and ESXi?
- How do I migrate from Physical Appliance to Catalyst Center on AWS?
- How do I backup my Catalyst Center and restore if needed?

About Shai..

20+ years of industry experience
- Catalyst Center Product Manager
- Previously, I was a customer
- EX-Cisco Champion
- MBA+MSSE
- Lecturer @SJSU

Two truths and a lie

- Was a DJ
- I am a twin
- Coached football (not the American one)

About Prabhjit..

12+ Years with Cisco
- 3+ Years in TAC
- 3+ Years in Solution Testing (4G/LTE, VoLTE)
- 3+ Years as Cloud Engineer
- 5+ Years as a TME in SDA and Catalyst Center

Two truths and a lie

- I started school when I was 2 years old
- I can ride a scooter with 5 people on it
-

Catalyst Center adoption continues to grow

11K Devices added per day in last 12 months

12M Network Devices Managed

50% Y/Y

8M APs | 3M Switches | 200k Routers | 89k WLCs

31k Monthly Active Users

25% Y/Y

includes 72% of Fortune 100!

200 Million
Unique Monthly Clients

Population of Brazil
203 Million 2.5% of global population

6 Billion
Network Events analyzed weekly with AI Network Analytics

Nearly 10 million events per second

2 Billion
API Calls performed annually by customers

Nearly 64 calls per second

Virtual Appliance (VA) Accomplishments

Catalyst Center on AWS

Active Deployments	Total Devices	Total Clients	Total Wireless
75	10,406	65,753	WLC: 213 AP: 7667

Catalyst Center on ESXi

Active Deployments	Total Devices	Total Clients	Total Wireless
130	19,440	139,279	WLC: 265 AP: 13,361

Catalyst Center Options

Catalyst Center Virtual Appliances

The new cool kids on the block!

No cost for software ($0 PID)

Optional support can be purchased

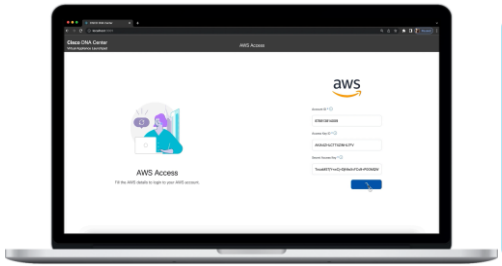
Quicker time to value

Deploy in 90 min

Scale parity with DN2-HW-APL(44 core appliance):

- 25,000 End points
- 1,000 switches
- 4,000 access points
- 1,500 sites

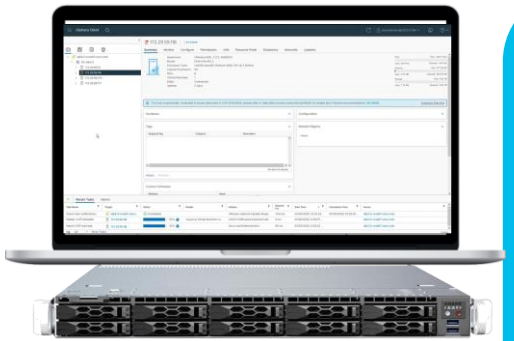
- Clustering instances not supported



aws

- Supported Worldwide

  15 AWS regions supported; with more coming!
- Take advantage of your EDP



vmware®

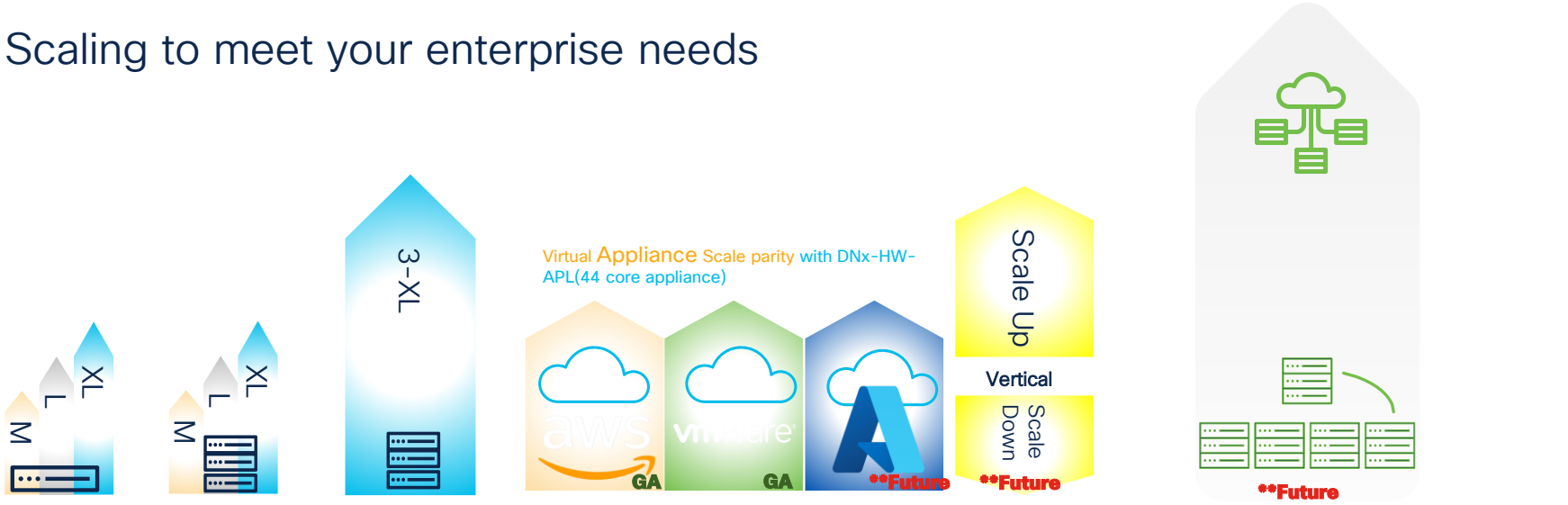
- Customer-supplied on-premises server
- Customer-supplied VMware license
- VM Requirement:

  32vCPU, 256GB Ram, 3TB Storage

  *Check datasheet for additional requirements

Catalyst Center operational evolution

Scaling to meet your enterprise needs



**Future plans subject to change

Catalyst Center platform system scale

As of 2.3.7.x

Description	Medium appliance DN2-HW-APL	Large appliance DN2-HW-APL-L	Extra large appliance DN2-HW-APL-XL	3 XL cluster	Virtual appliance
Endpoints (concurrent)	25,000	40,000	100,000	300,000	25,000
Network devices	5,000	8,000	25,000	35,000	5,000
APs	4,000	6,000	13,000	25,000	4,000
Sites	1,500	5,000	10,000	10,000	1,500
Access control policies	25,000	25,000	25,000	25,000	25,000
Access contracts	500	500	500	500	500
Per fabric site scale					
Fabric nodes	500	600	1,200	1,200	500
VNs	64	128	256	256	64
IP pools	100	300	1,000	1,000	100

Latency between DNAC to device: 200ms (RTT)

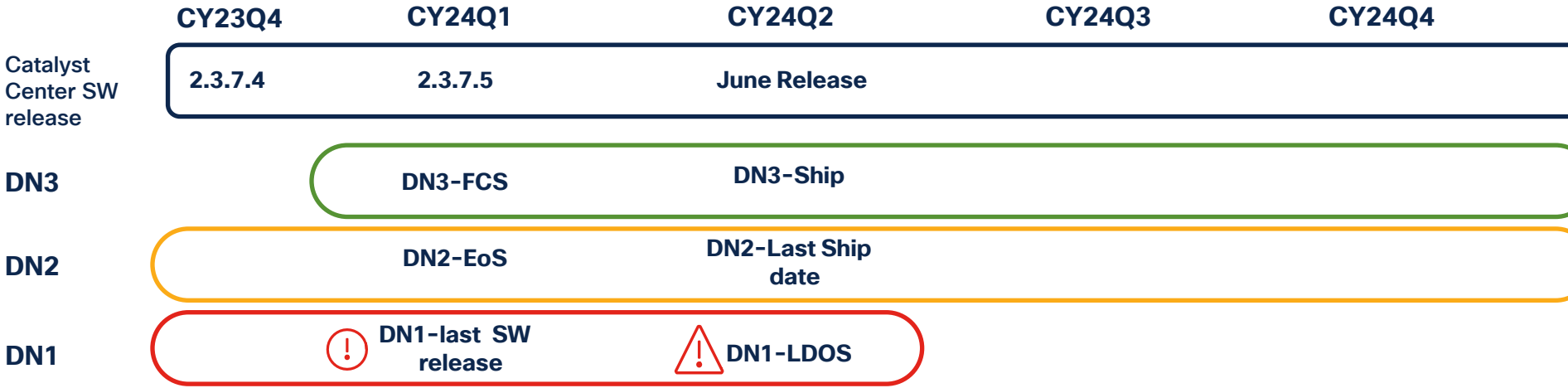
Appliance Licensing and Support Requirements

	Physical	ESXi	AWS
Appliance License	Perpetual	Perpetual	perpetual
Support	Term	Term	Term
SNTC Support Requirement	Mandatory	Recommended	Recommended

- Subscription Licenses are only attached to network devices (Switch, Router, AP, WLC) and cover feature support on Catalyst Center. (PnP, Swim, Assurance…)
- Support for Physical appliances (SNTC) is mandatory at the time of purchase
- Support for VA appliances (SNTC) is recommended at the time of purchase (Infra Support)

Physical Appliance

Appliance Roadmap and Migration



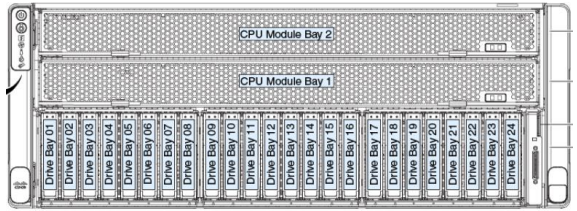
DN2/DN3 appliance comparison

DN2-HW-APL (44C) ~1KW 1,236.10BTU/hr
- i6238 2x22C @2.1/3.7Ghz, 2x140W, 256G RAM

DN3-HW-APL (32C) ~1.1KW 1,428.31 BTU/hr
- i6326 2x16C @2.8/4Ghz, 2x185W, 256G RAM

DN2-HW-APL-L (56C) ~1.2KW 1,485.35BTU/hr
- I8280 2x28C@2.7/4Ghz, 2x205W, 384 RAM

DN3-HW_APL-L (56C) ~1.3KW 2,159.40 BTU/hr
- i6348 2x28C@2.7/4Ghz, 2x235W, 384G RAM



4U → 2U

DN2-HW-APL-XL(112C) ~2KW 2,573.32 BTU/hr
- i8276 4x 28C@2.2/4Ghz, 4x165W, 768G RAM

DN3-HW-APL-XL (80C) ~1.9KW 2,107.36BTU/hr
- i8380 2x40C @2.3/4Ghz, 2x270W, 768G RAM

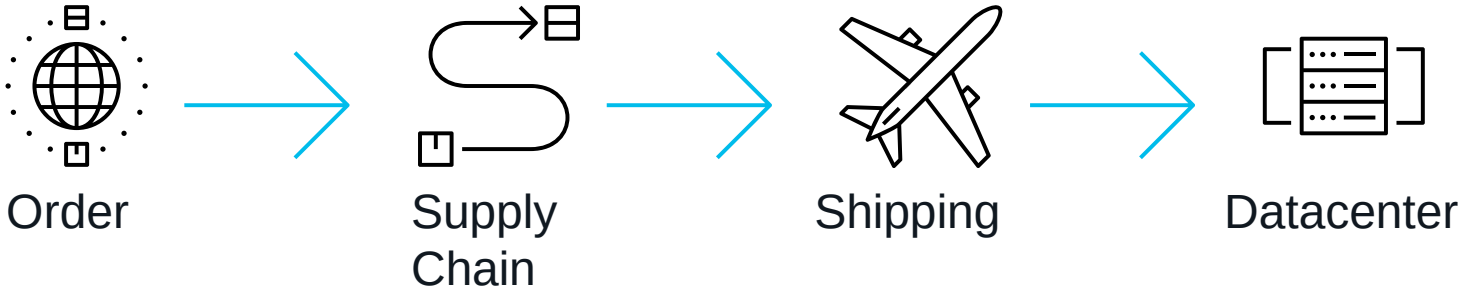
Note: *There is no scale difference between DN2 & DN3 appliances*

Power, BTU and space savings

Deployment Steps

Bring-up Cisco Catalyst Center On-premises

Order and Wait for the Lead Time



DCOps

IT/NetOps

Lab Admin

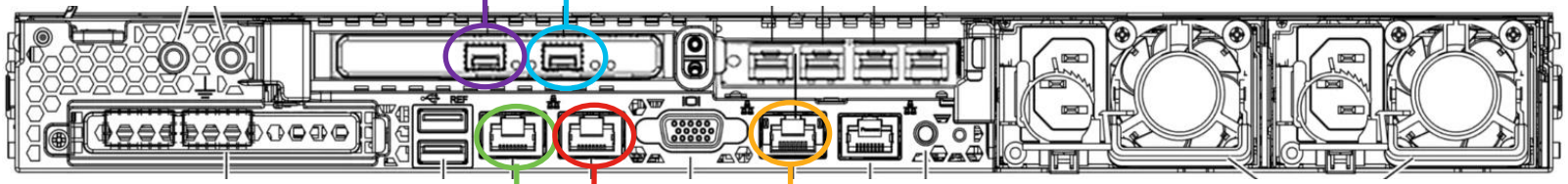
Rack/Stack/Cable

Enterprise Port

10Gbps Interface
Network Adapter 1
OS Label# enp94s0f0

Intracluster Port

10Gbps Interface
Network Adapter 4
OS Label# enp94s0f1



Management Port

1Gbps Interface
Network Adapter 1
OS Label# eno1

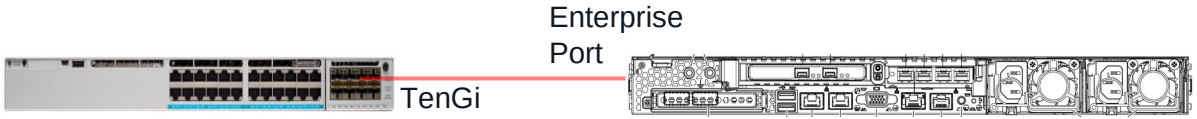
Internet Port

1Gbps Interface
Network Adapter 2
OS Label# eno2

CIMC Port

1Gbps Interface

Switch Configuration for Cisco Catalyst Center




```
dist-dc-01#config terminal
dist-dc-01(config)#interface tenGigabitEthernet 1/1/3
dist-dc-01(config-if)#switchport mode access
dist-dc-01(config-if)#switchport access vlan 99
dist-dc-01(config-if)#speed auto
dist-dc-01(config-if)#duplex full
dist-dc-01(config-if)#mtu 1500
dist-dc-01(config-if)#no shut
dist-dc-01(config-if)#end
dist-dc-01#copy running-config startup-config
```

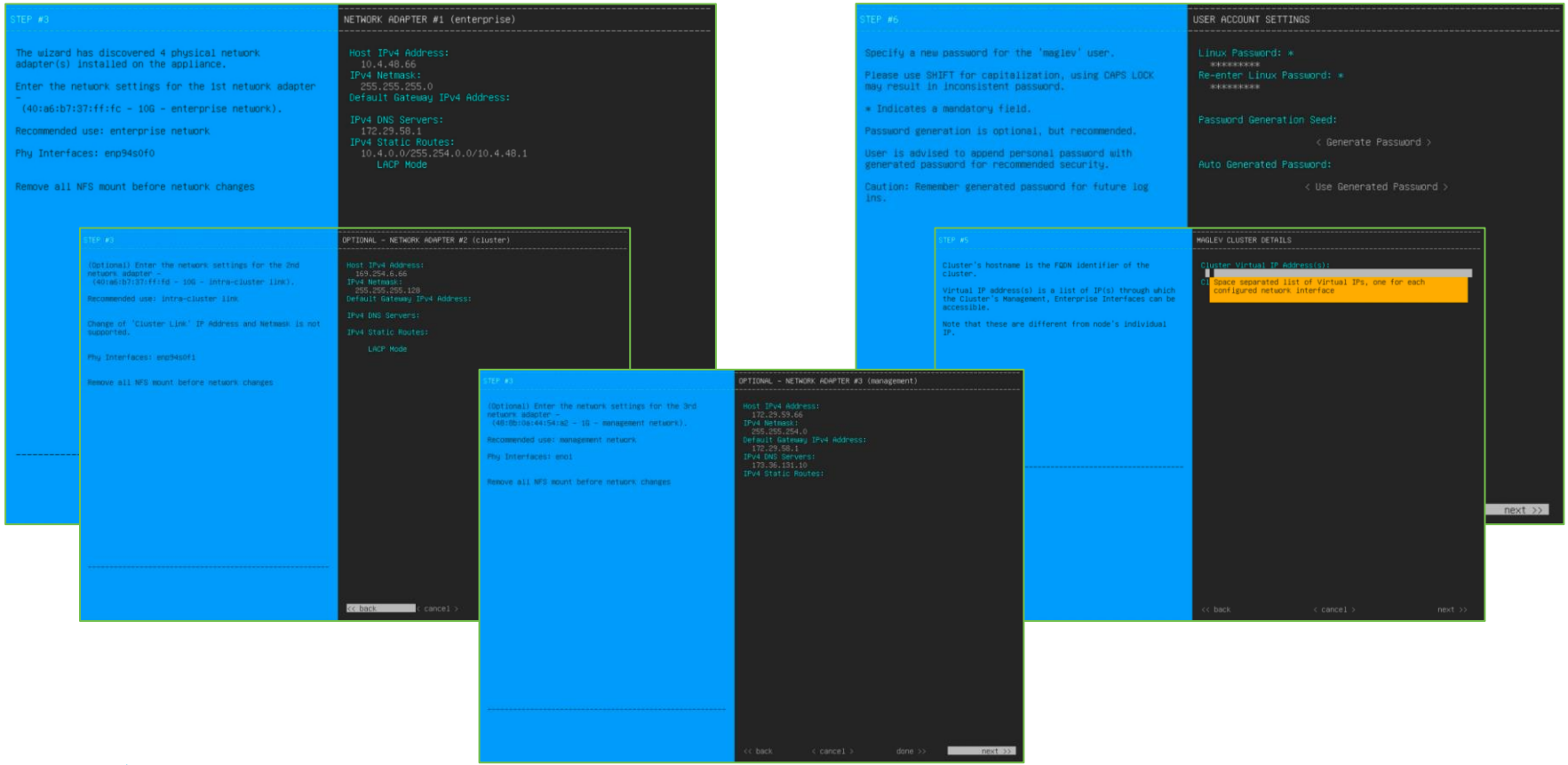
Access VLAN

Speed Auto

Duplex Full

MTU 1500

Maglev Config Wizard Steps



Catalyst Center Virtual Appliance (VA) on ESXi

- Why Deploy on ESxi
- Modes of Deployment
- Demo

Why Deploy Catalyst Center on ESXi

- Operational flexibility and choice for customers
- No additional CAPEX associated w/ physical appliance
- Quicker time to value from weeks to 2 hours
- Using AWS and VMware's native HA functionality
- Drive Sustainability

Specifications, Features, and Scale

	Specifications of DNAC VM	Specifications of Server	Device Scale
vmware Catalyst Center (CC) VA on ESXi	• Type: OVA • CPU: 32vCPU • Mem: 256GB • Storage: 3TB • Storage Bandwidth: 180Mbps (Bi-directional) • IOPS: 2000-2500	• vCenter and ESXi: 7.0.x • Intel CPU 2.1Ghz and above • Hyperthreading enabled • RAM: 256 GB for VA • RAID: Any as long as bandwidth and IOPS	• 25K End-points • 1K Devices • 4K APs • 2500 site elements

Note: *Make sure to reserve additional 8GB RAM for ESXi*

Things to Consider When Planning your Deployment

Ease of Deploying

Resources on ESXi

HA with DRS

Headless Install of Catalyst Center

Multiple Catalyst Centers

Am I going to fired for this?

How many of you Bring up/Manage VMware and ESXi environment by yourself?

Show of Hands

Two Methods

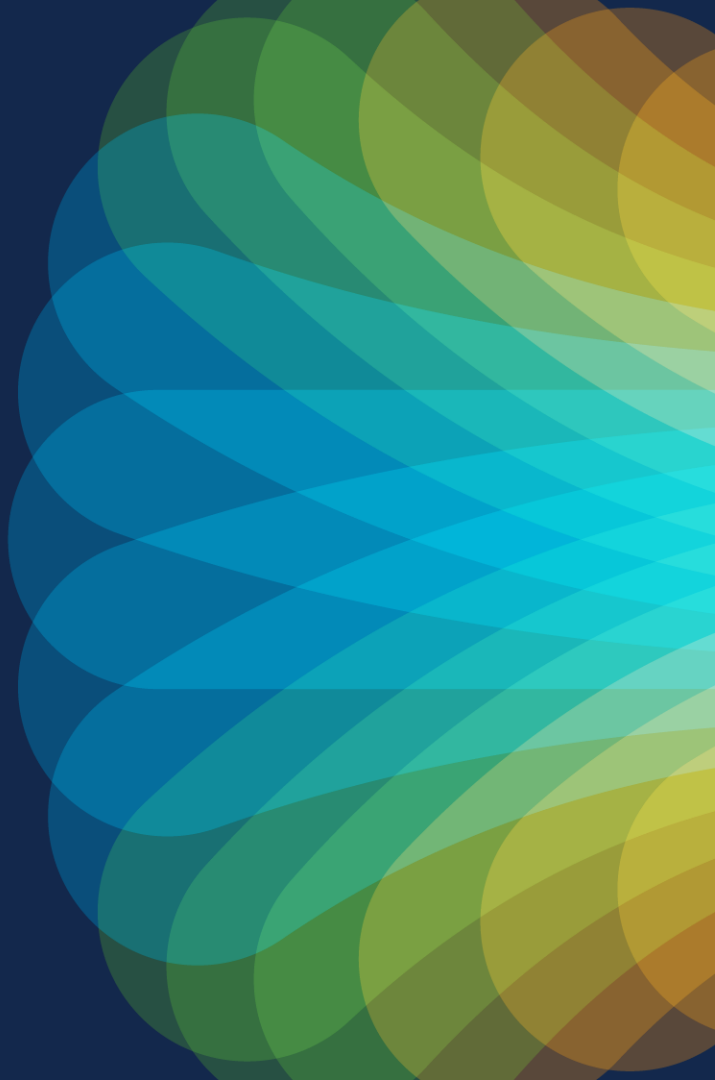
Manual Mode
Deploy OVA on ESXi or vCenter

1. Download OVA
2. Deploy using OVF Template
3. Configure using Maglev Wizard

Auto Mode
Cisco Launcher App

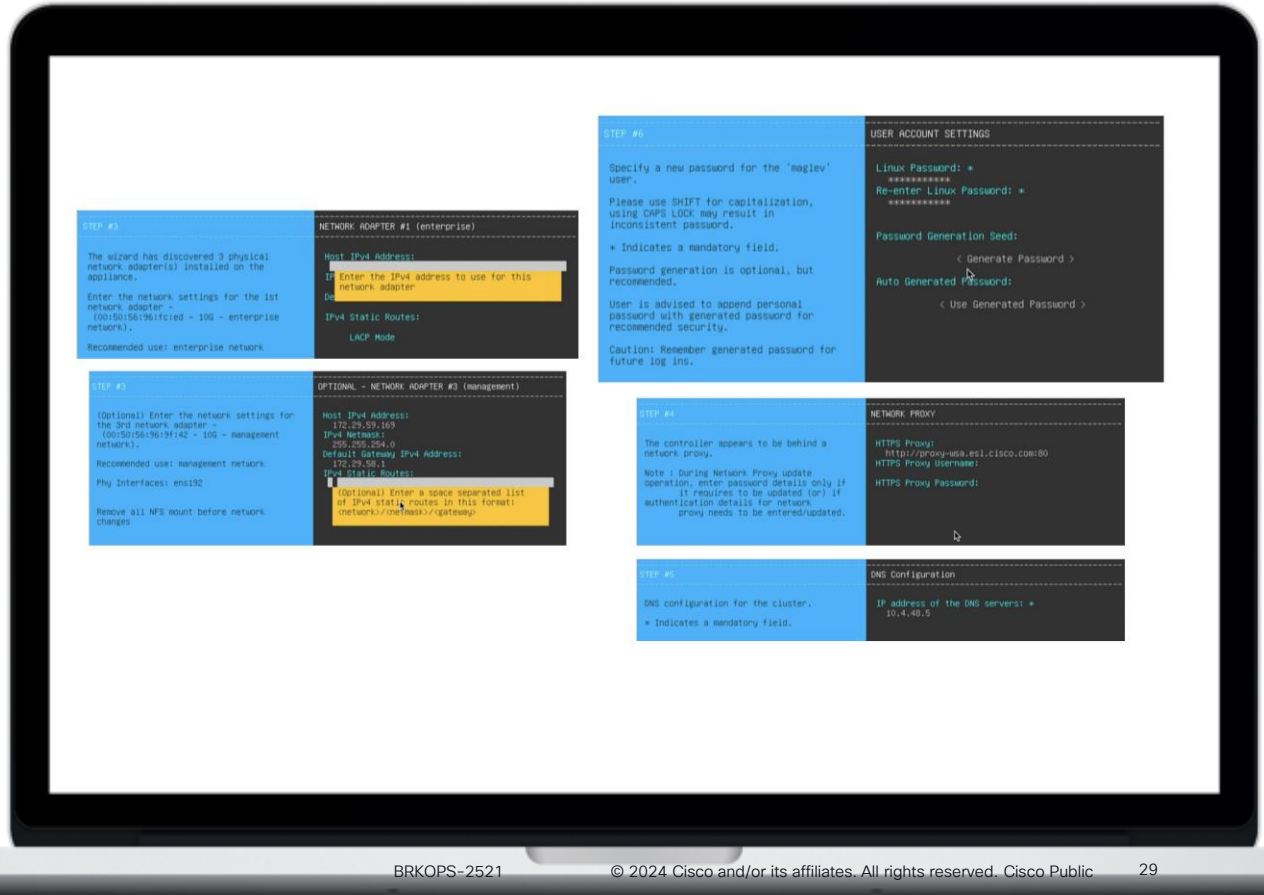
1. Download OVA and Launcher Script
2. Verification of Resources
3. Headless Install
4. Deploy on multiple ESXi Hosts

Auto Mode Cisco Launcher App



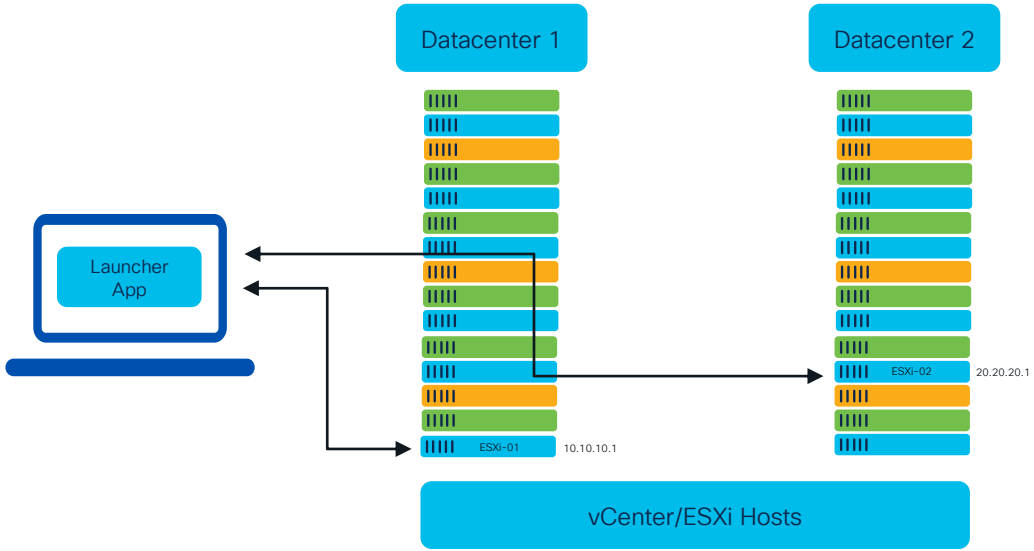
Why do I need Launcher App?

- Verification of ESXi Resources
- Headless Install



Why do I need Launcher App?

- Verification of ESXi Resources
- Headless Install
- Central Location to Deploy multiple Catalyst Centers

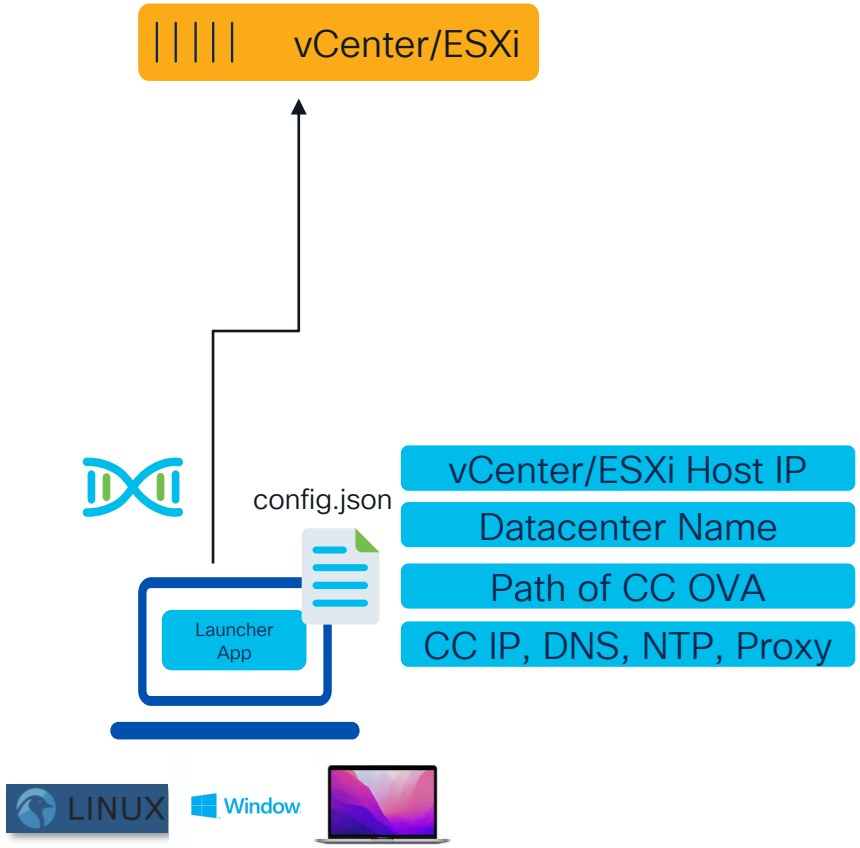


Pre-requisites to Auto Mode using Cisco Launcher

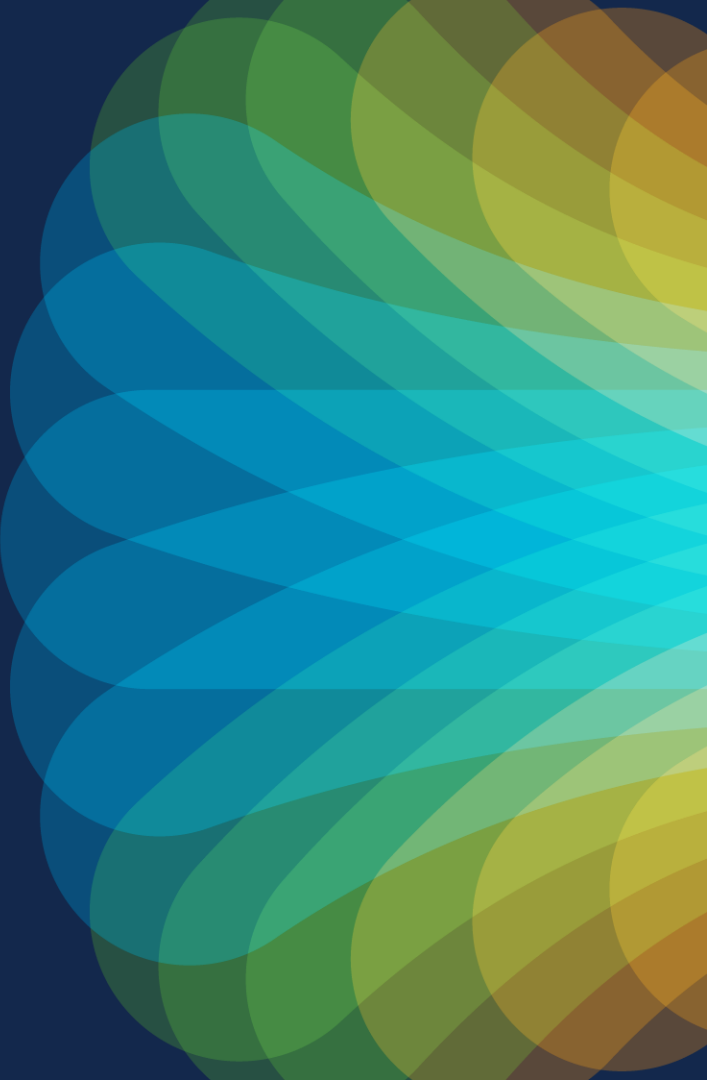
	VMware	Launcher App
Download OVA and Launcher App from Cisco.com	✓	
vCenter or ESXi	✓	
Create one or two networks (optional) for Catalyst Center	✓	
Create Resources – 32 vCPU, 256GB RAM, 3TB Storage	✓	
Decide to use Thick or Think Provisioning	✓	
Note IP Address of vCenter or ESXi to configure config.json file		✓
Note IP Address for Catalyst Center, NTP IP, DNS IP		✓
Note Proxy IP/URL to configure config.json file		✓

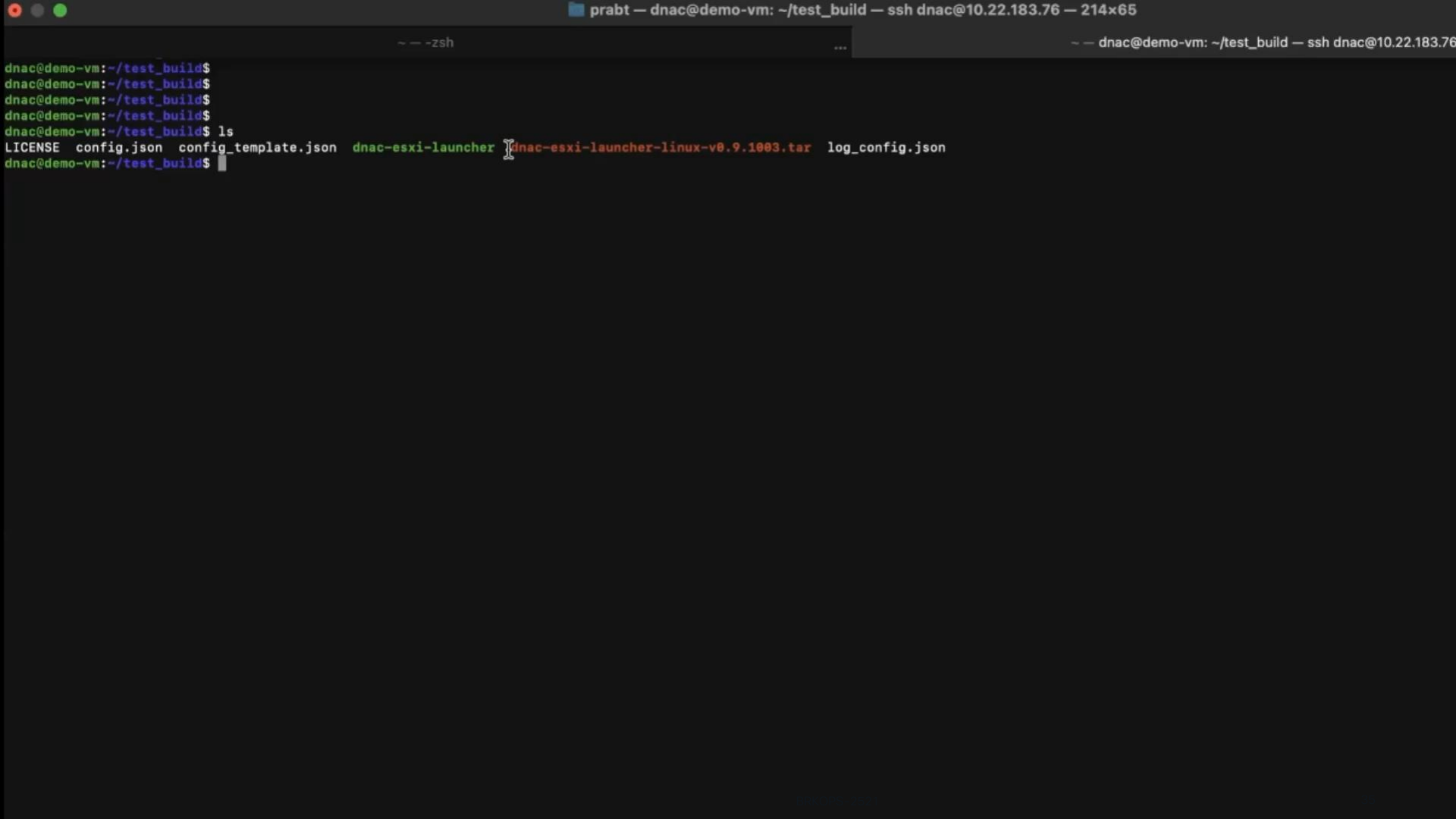
How does Launcher work?

- Download Launcher Script on Linux, Windows, or Mac
- Configure json file
- vCenter/ESXi Host IP, Datacenter Name, Datastore Name, Cluster Name
- Path of Catalyst Center OVA
- Catalyst Center IP, DNS IP, NTP IP, Proxy IP/URL
- Deploy OVA and Headless Install of Catalyst Center

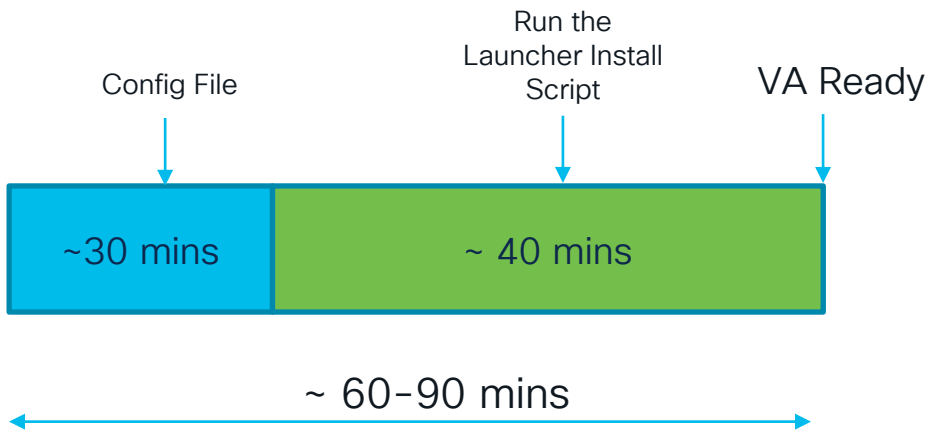


Demo
Launcher App




prabt — dnac@demo-vm: ~/test_build — ssh dnac@10.22.183.76 — 214×65
~ — -zsh
~ — dnac@demo-vm: ~/test_build — ssh dnac@10.22.183.76
dnac@demo-vm:~/test_build$
dnac@demo-vm:~/test_build$
dnac@demo-vm:~/test_build$
dnac@demo-vm:~/test_build$
dnac@demo-vm:~/test_build$ ls
LICENSE config.json config_template.json dnac-esxi-launcher dnac-esxi-launcher-linux-v0.9.1003.tar log_config.json
dnac@demo-vm:~/test_build$

Time Estimate for Auto Mode Deployment

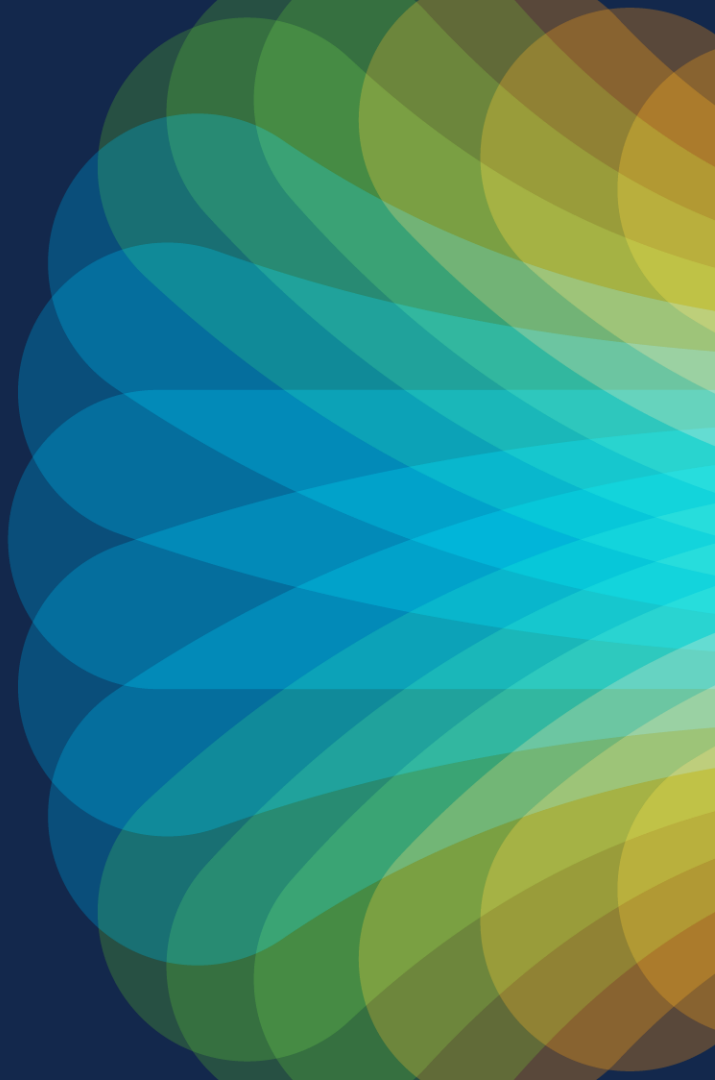


Note: *Values are approximate and may vary due to factors like network speed, EXSi resources, and connectivity*

Pre-requisites to Deploy using Manual Mode

	VMware	Catalyst Center
Download OVA from Cisco.com	✓	
vCenter or ESXi	✓	
Create one or two networks (optional) for Catalyst Center	✓	
Resources – 32 vCPU, 256GB RAM, 3TB Storage	✓	
Decide to use Thick or Thick Provisioning	✓	
Reserve IP Address for Catalyst Center		✓
Note DNS IP Address, NTP IP Address, Proxy IP Address/URL		✓
Catalyst Center CLI Maglev Password		✓

Demo
Manual Mode



Getting Started

LAUNCH VSPHERE CLIENT (HTML5)

Documentation

VMware vSphere Documentation Center

For Administrators

Web-Based Datastore Browser

Use your web browser to find and download files (for example, virtual machine and virtual disk files).

Browse datastores in the vSphere inventory

For Developers

vSphere Web Services SDK

Learn about our latest SDKs, Toolkits, and APIs for managing VMware ESXi and VMware vCenter. Get sample code, reference documentation, participate in our Forum Discussions, and view our latest Sessions and Webinars.

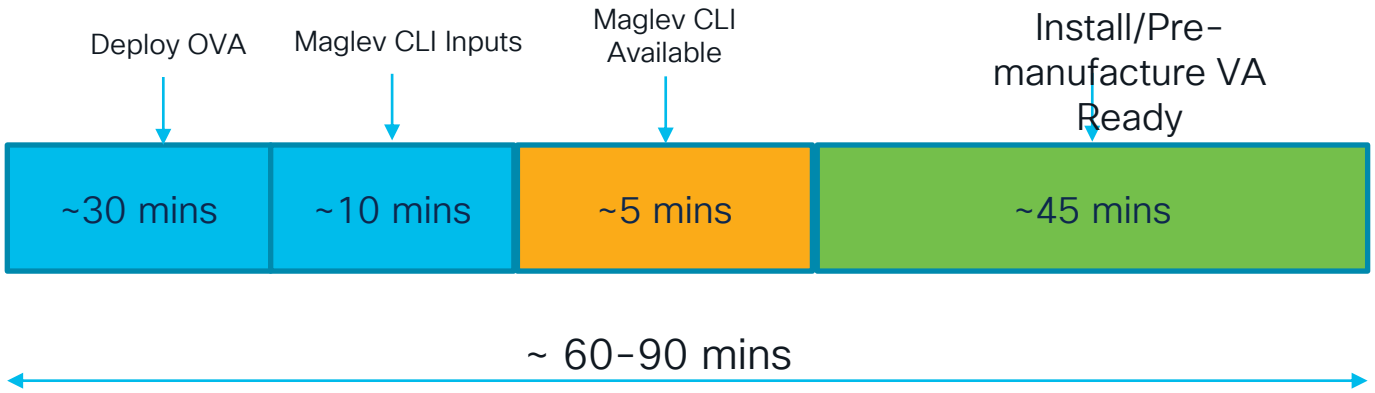
Learn more about the Web Services SDK

Browse objects managed by vSphere

Browse vSphere REST APIs

Download trusted root CA certificates

Time Estimate for Manual Mode Deployment



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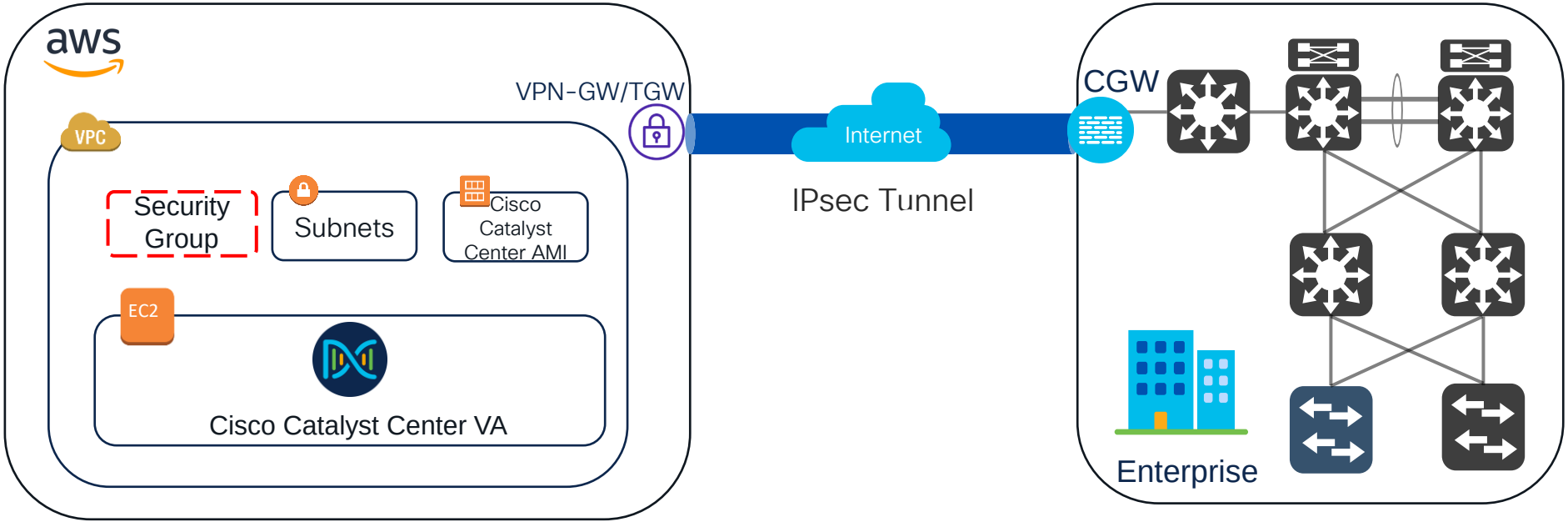
Catalyst Center on AWS

Deployment Overview



Deploy Anywhere in the World* - GeoDiversity

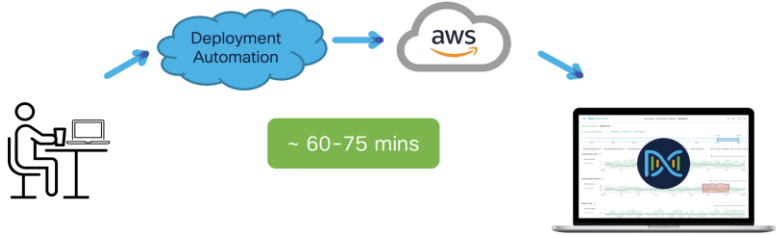
Driving sustainability

Virtualization has long been recognized as a more sustainable method to run applications

High Availability Using AWS's Native Features

Infrastructure availability from 99% to 99.99%.

Quicker Time to Value (Agility)



How many of you Bring up/Manage AWS environment by yourself?

Show of Hands

Things to Consider When Planning your Deployment

Ease of Deploying

Security

Single Pane of Glass

Observability

Serviceability

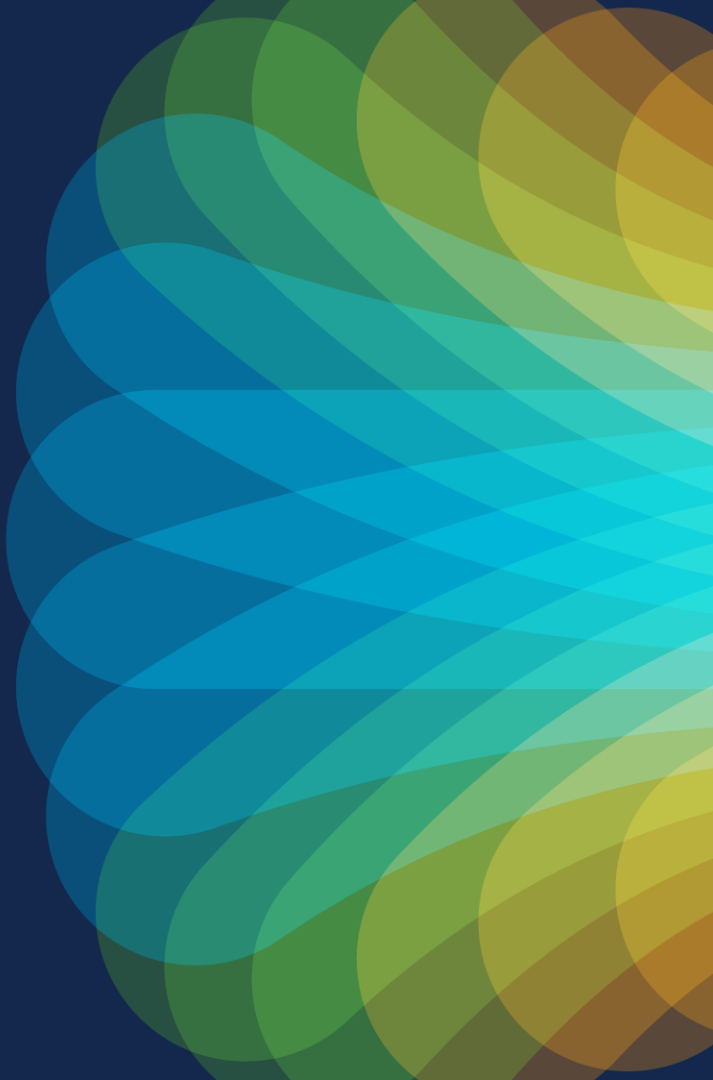
Three Modes to Deploy CC VA on AWS

Auto Mode (Cisco Launchpad App)

Manual Mode (CloudFormation Template)

Manual Mode (AWS Marketplace)

Auto Mode
Cisco Launchpad App



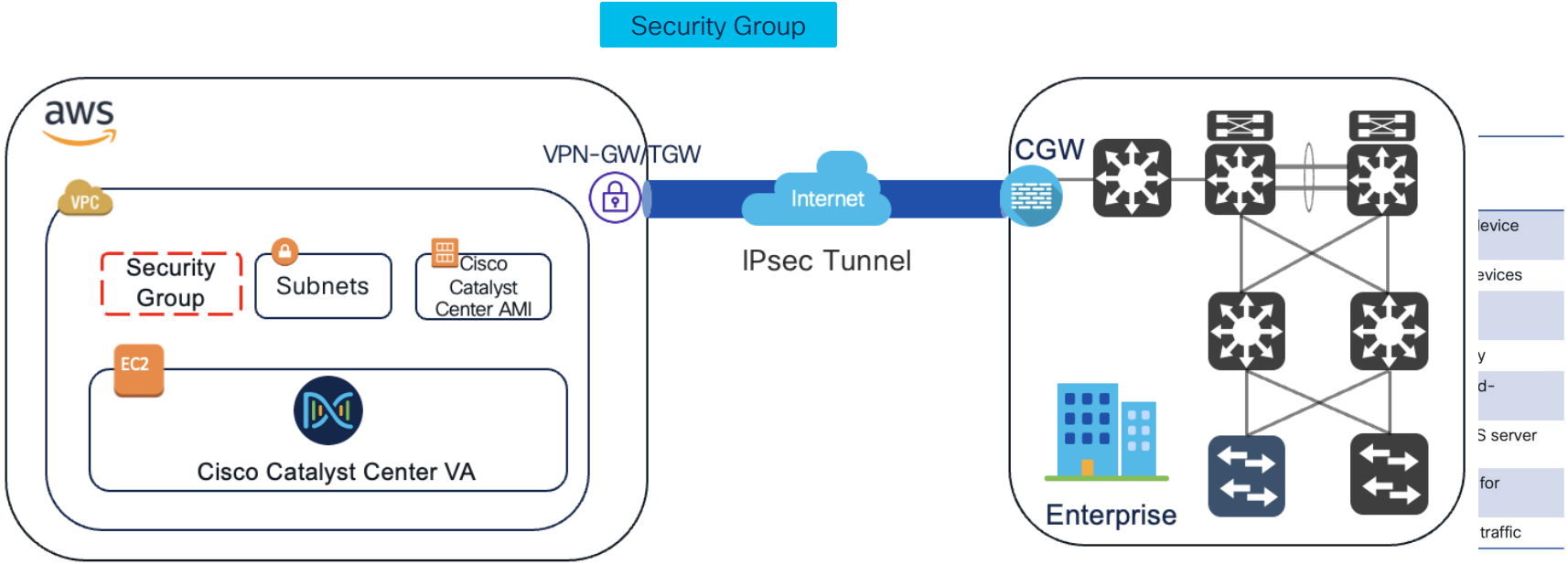
Why Deploy CC Using Launchpad?

Ease of Deploying AWS + CC

Deploy AWS across the globe, VPC, Security Groups, VPN-GW, IPSec Tunnel, GP3, SSD, S3, EBS, Deploy of CC Globally

Why Deploy CC Using Launchpad?

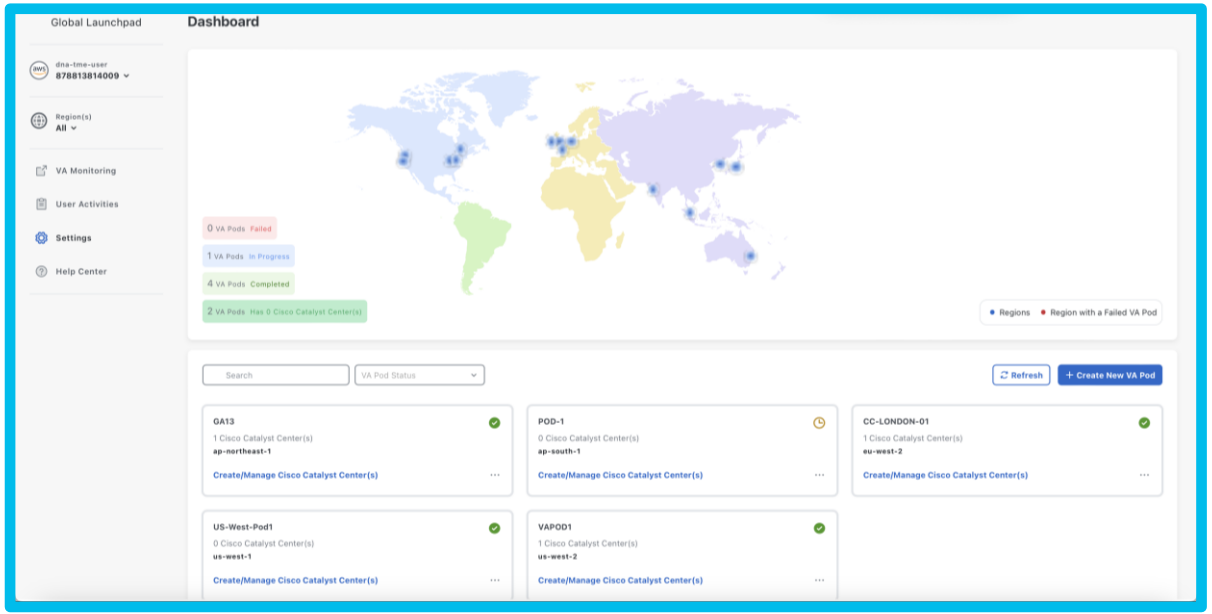
Security	No Internet Gateway, Changes only by admin, IPSec or TGW attachments



Why Deploy CC Using Launchpad?

Single Pane of Glass

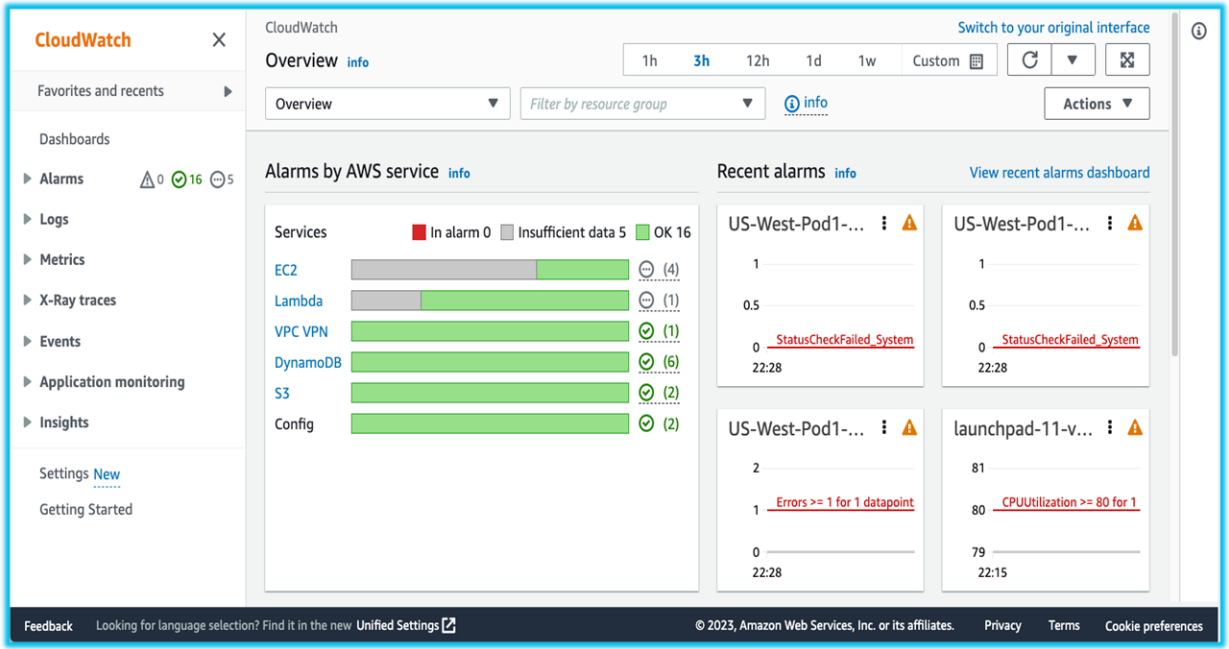
Manage AWS and Catalyst Center globally view dashboard



Concurrently deploy around the world in ~ 75 mins

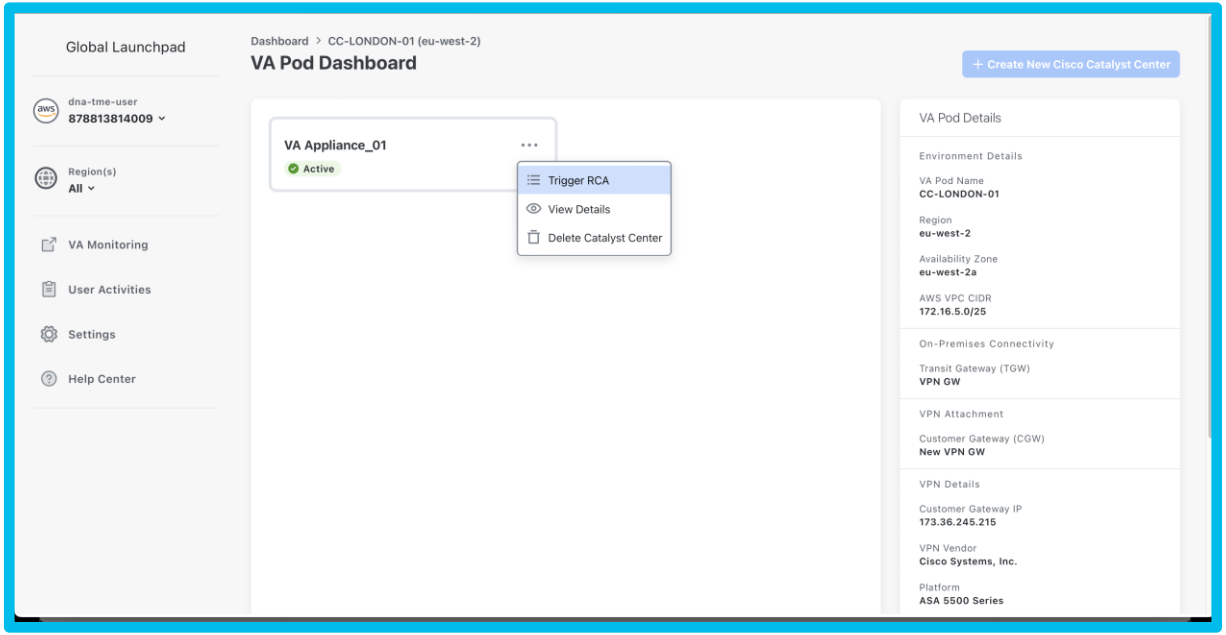
Why Deploy CC Using Launchpad?

Observability	CloudWatch to observe any changes/misconfigurations/alerts



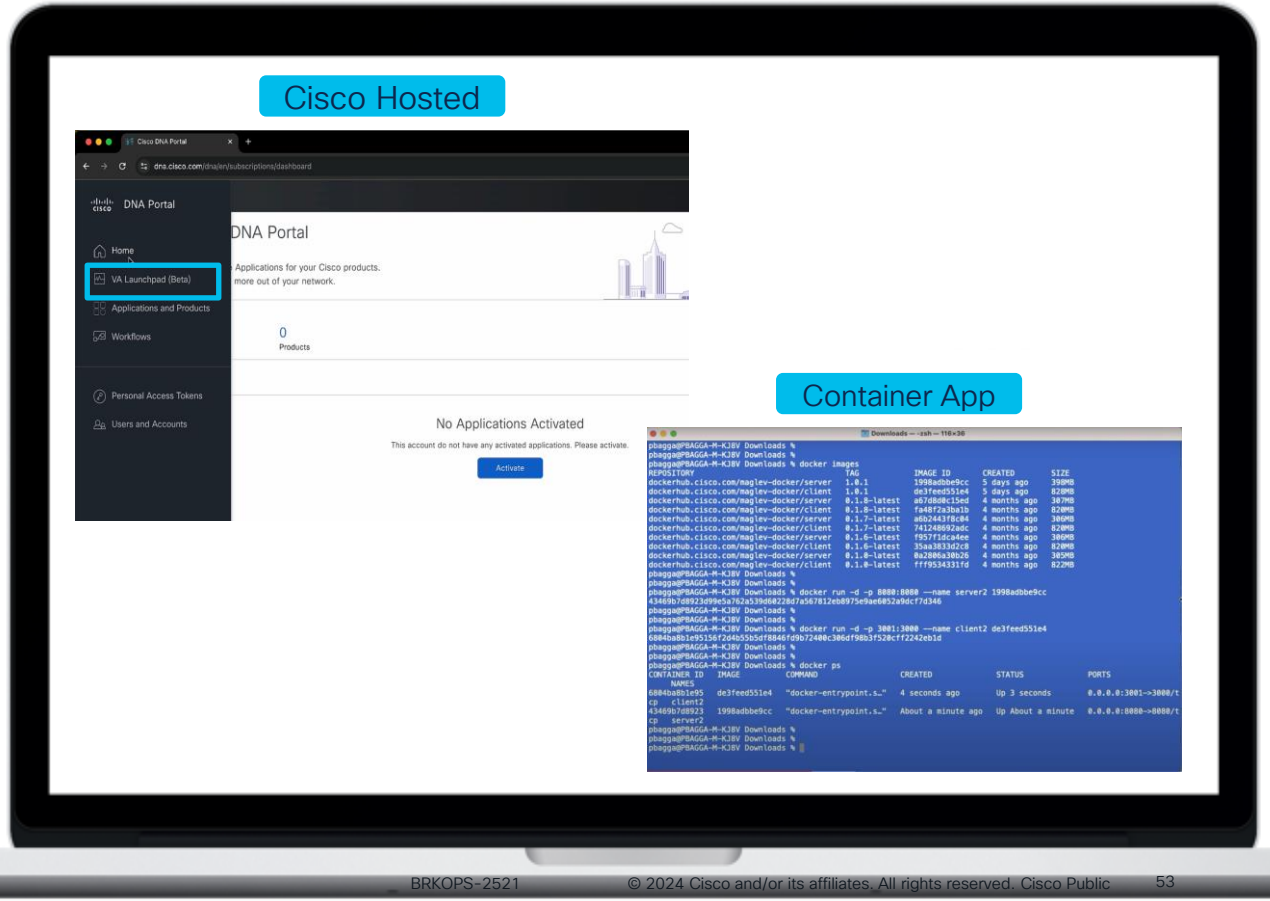
Why Deploy CC Using Launchpad?

Serviceability	Monitoring Global Alerts, Get SNS notification, Create RCA Bundles



Where is it available?

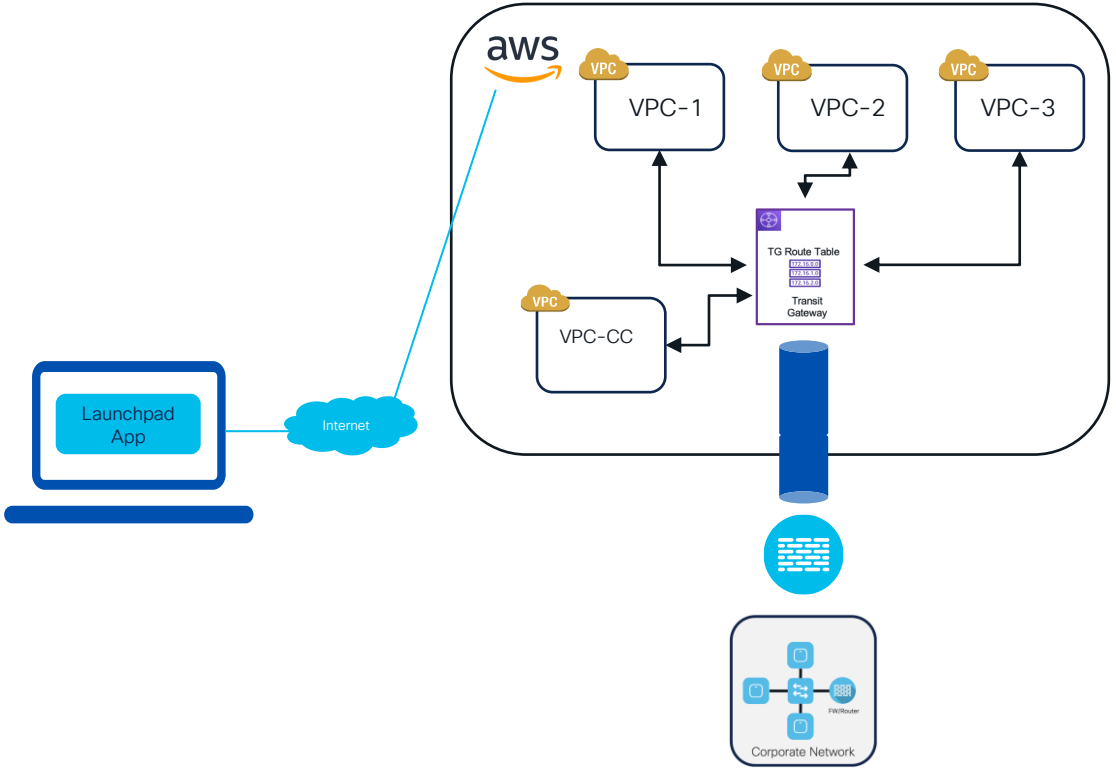
Log into Launchpad via Cisco hosted or Customer hosted container app



How Does it work?

Log into Launchpad via Cisco hosted or Customer hosted container app

Launchpad creates a VPC in your AWS with security hardening

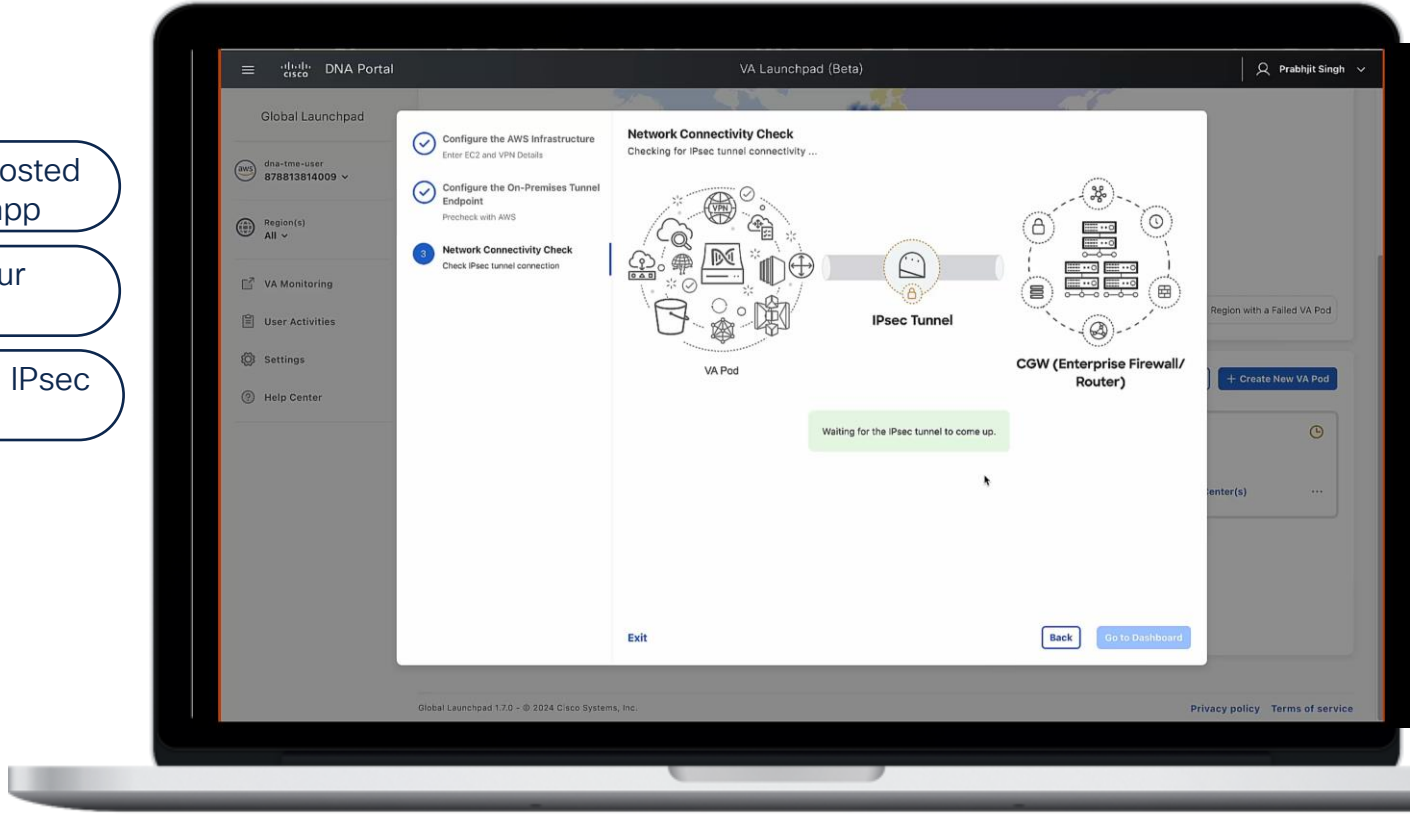


Security Hardening

- Security Groups
- Admin User
- No Internet Gateway

How Does it work?

- Log into Launchpad via Cisco hosted or Customer hosted container app
- Launchpad creates a VPC in your AWS
- Launchpad helps you Configure IPsec Tunnel / connect to TGW



IPsec VPN Configuration

```
crypto ikev1 enable <outside_interface>
crypto ikev1 policy 200
```

Enable Internet Key Exchange (IKE) Configuration
A policy is established for the supported ISAKMP encryption,

```
crypto ipsec ikev1 transform-set ipsec-prop-vpn-06c14b5f0791af2f8-0 esp-aes  esp-sha-hmac
```

```
crypto ipsec profile ipsec-vpn-06c14b5f0791af2f8-0
  set pfs group2
  set security-association lifetime seconds 3600
  set ikev1 transform-set ipsec-prop-vpn-06c14b5f0791af2f8-0
exit
```

```
crypto ipsec df-bit clear-df <outside_interface>
```

Change the <outside_interface> to the name of your public-facing interface

Tunnel Interface Configuration

```
sysopt connection tcpmss 1379
```

```
crypto ipsec security-association replay window-size 128
```

```
crypto ipsec fragmentation before-encryption outside
```

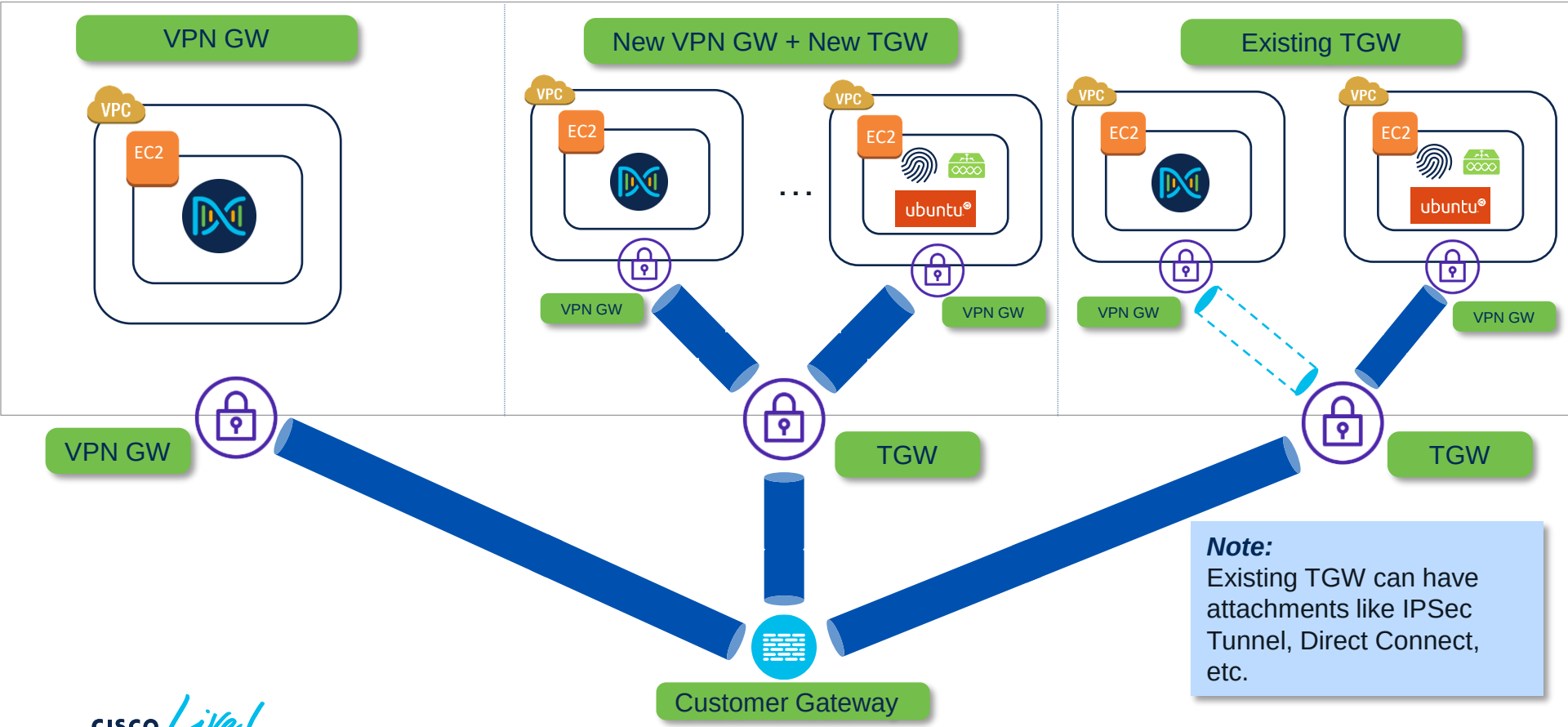
```
tunnel-group 3.109.140.185 type ipsec-l2l
tunnel-group 3.109.140.185 ipsec-attributes
  ikev1 pre-shared-key jK8CORoyB3QPnr5GsPKvSdYbj.YP_oIu
```

```
  nameif Tunnel-int-vpn-06c14b5f0791af2f8-0
  ip address 169.254.39.246 255.255.255.252
  tunnel source interface <outside_interface>
  tunnel destination 3.109.140.185
  tunnel mode ipsec ipv4
  tunnel protection ipsec profile ipsec-vpn-06c14b5f0791af2f8-0
  no shutdown
exit
```

```
route Tunnel-int-vpn-06c14b5f0791af2f8-0 172.16.2.0 255.255.255.0 169.254.39.245 100
```

Static Route Configuration

Choose Your Connection from AWS to On-premises!



Note:
Existing TGW can have attachments like IPSec Tunnel, Direct Connect, etc.

Supported Customer Gateway (CGW) Devices

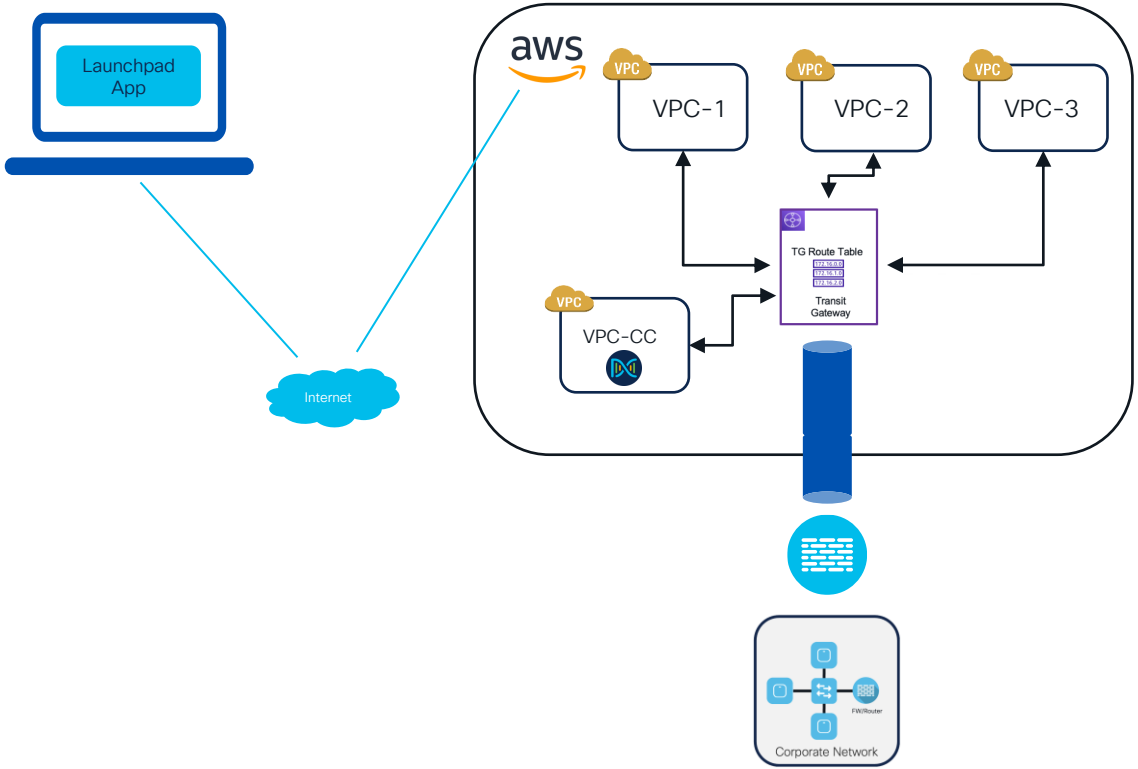
Vendor	Platform	Software
Checkpoint	Gaia	R80.10+
Cisco Meraki	MX Series	15.12+ (WebUI)
Cisco Systems, Inc.	ASA 5500 Series	ASA 9.7+ VTI
Cisco Systems, Inc.	CSRv AMI	IOS 12.4+
Juniper Networks, Inc.	J-Series Routers	JunOS 9.5+
Juniper Networks, Inc.	SRX Routers	JunOS 11.0+

Vendor	Platform	Software
Mikrotik	RouterOS	6.44.3
Fortinet	Fortigate 40+ Series	FortiOS 6.4.4+ (GUI)
Palo Alto Networks	PA Series	PANOS 7.0+
SonicWall	NSA, TZ	OS 6.5
Sophos	Sophos Firewall	v19+
Strongswan	Ubuntu 16.04	Strongswan 5.5.1+
Yamaha	RTX Routers	Rev.10.01.16+

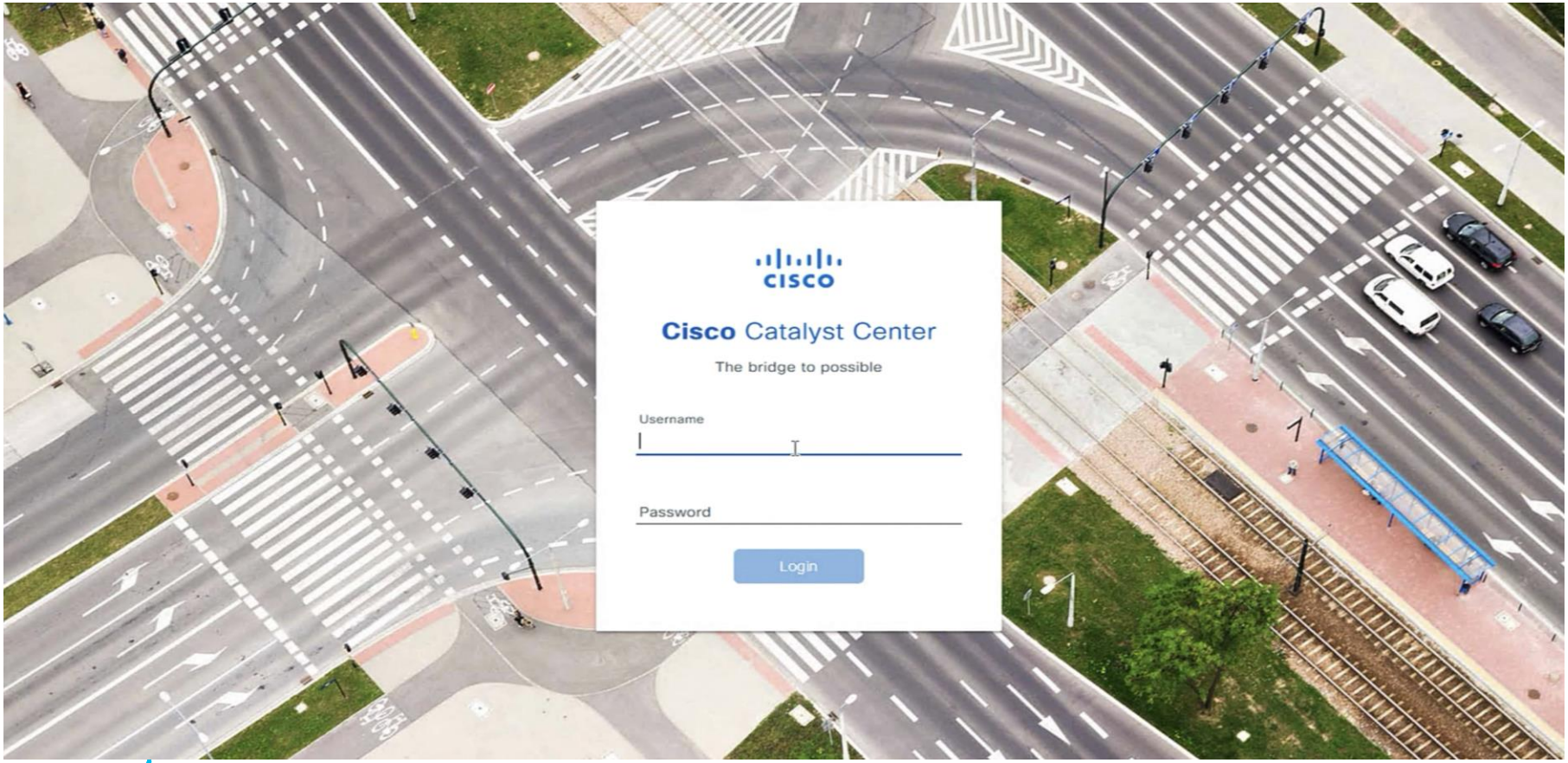
Note:
Link: https://docs.aws.amazon.com/vpn/latest/s2svpn/your-cgw.html

How Does it work?

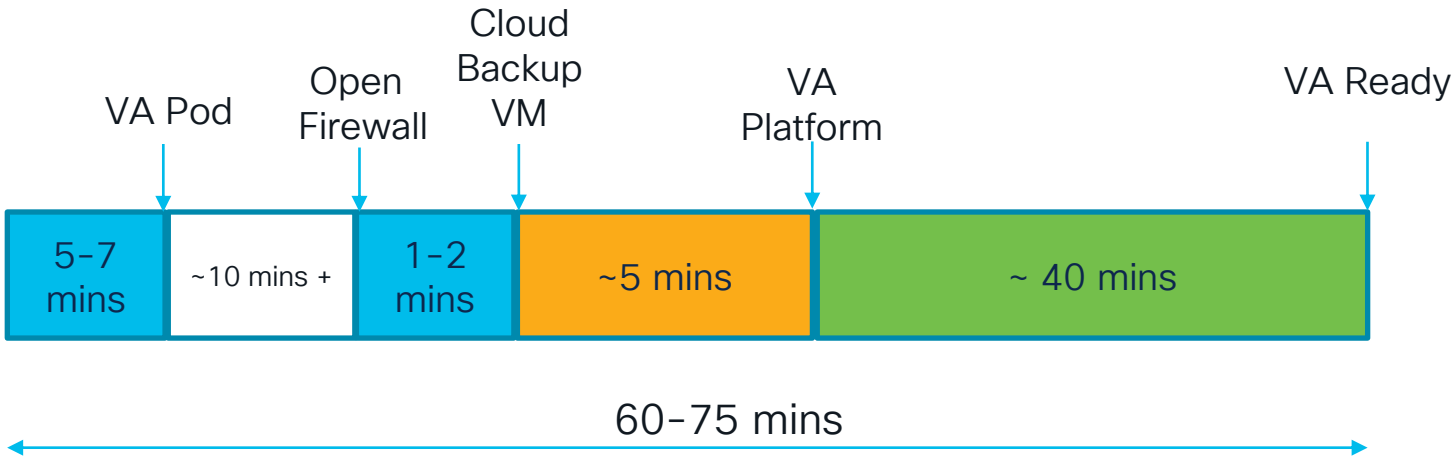
- Log into Launchpad via Cisco hosted or Customer hosted container app
- Launchpad creates a VPC in your AWS
- Launchpad helps you Configure IPsec Tunnel / connect to TGW
- Launchpad deploys CC VA in the VPC



Cisco Catalyst Center is UP !!

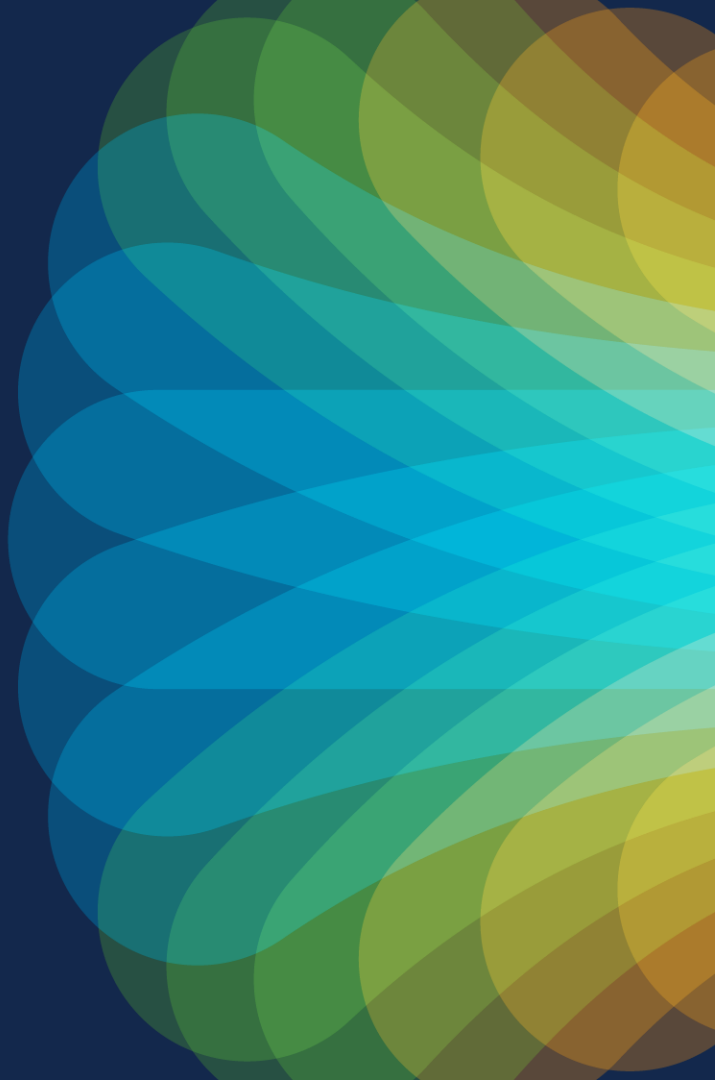


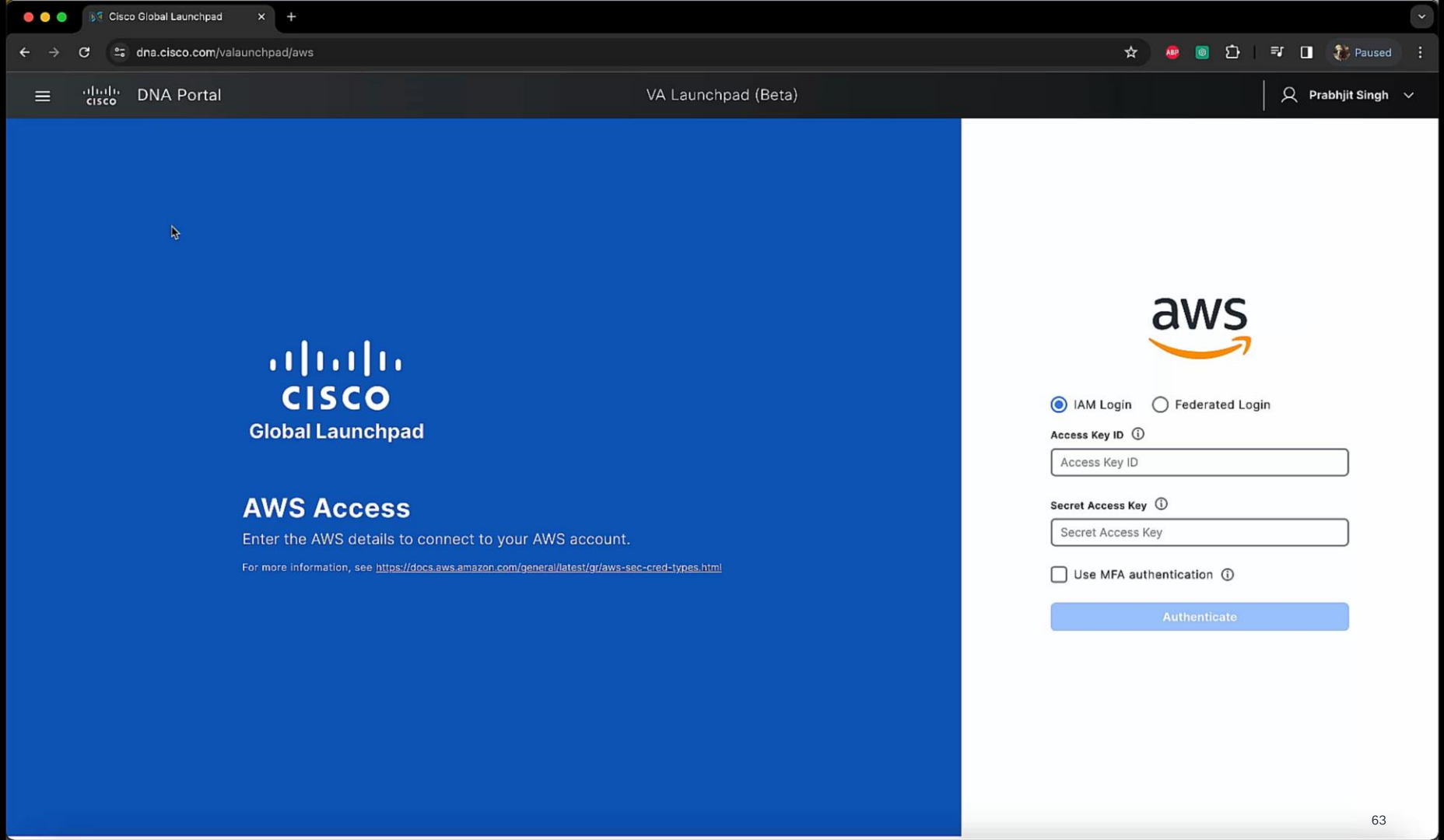
Time Taken From 0 to 100...



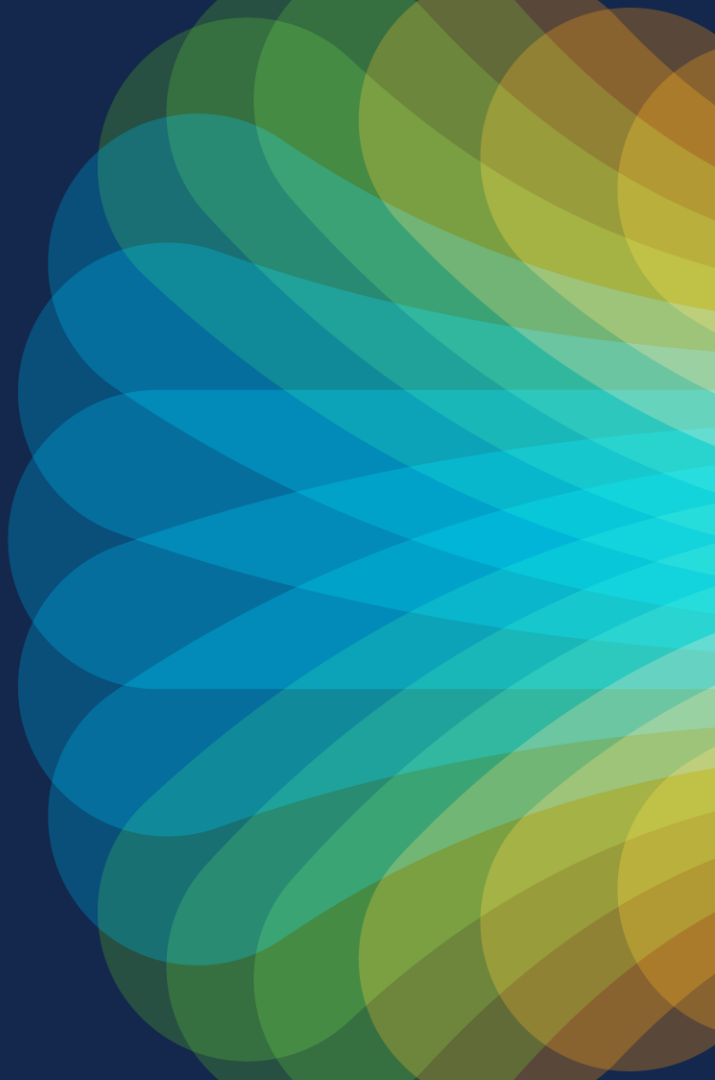
Note: *Values are approximate and may vary due to factors like network speed, EXSi resources, and connectivity*

Demo
Auto Mode
Launchpad App




Cisco Global Launchpad
dna.cisco.com/valaunchpad/aws
Paused
DNA Portal
VA Launchpad (Beta)
Prabhjit Singh
Global Launchpad
AWS Access
Enter the AWS details to connect to your AWS account.
For more information, see https://docs.aws.amazon.com/general/latest/gr/aws-sec-cred-types.html
aws
IAM Login
Federated Login
Access Key ID
Access Key ID
Secret Access Key
Secret Access Key
Use MFA authentication
Authenticate

Manual Mode CloudFormation Template

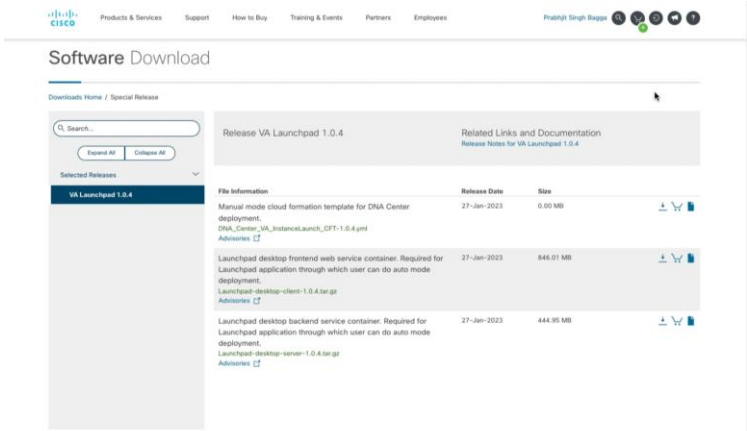


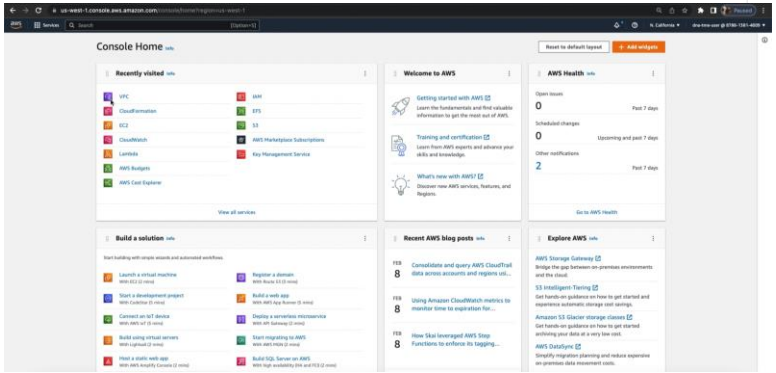
Steps to Deploy using Manual Mode

CloudFormation Template

1

Download CloudFormation Template + AWS Account





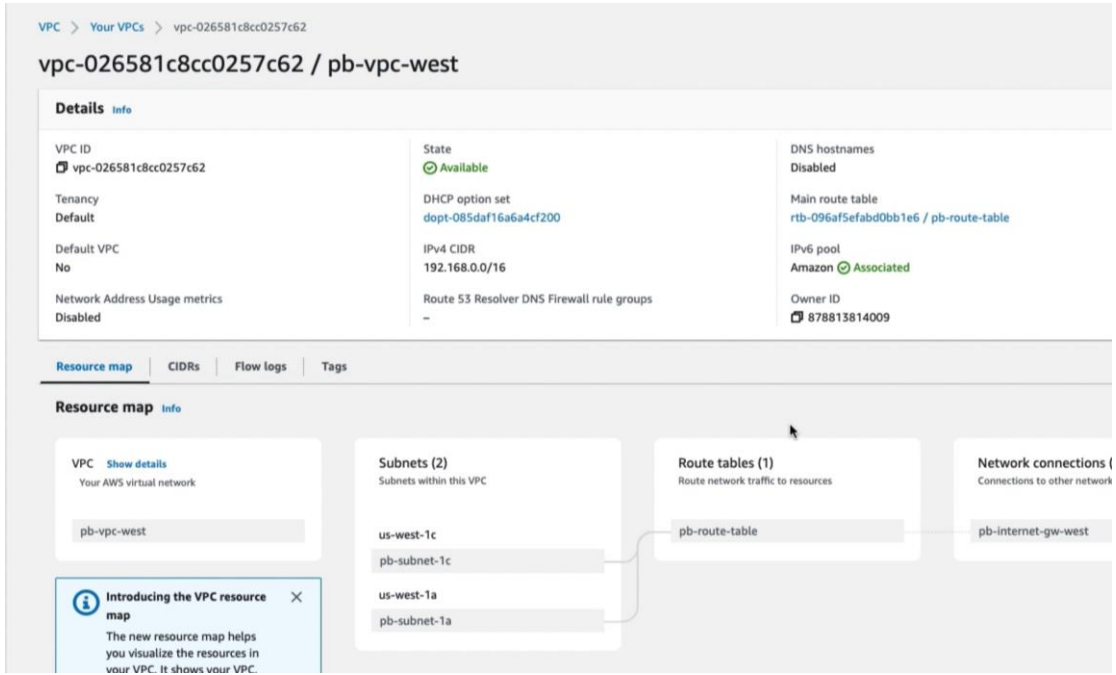
Steps to Deploy using Manual Mode

CloudFormation Template

VPC

2

- VPC
- Subnet for VA
- Security Group
- Keypair
- Connectivity to On-prem



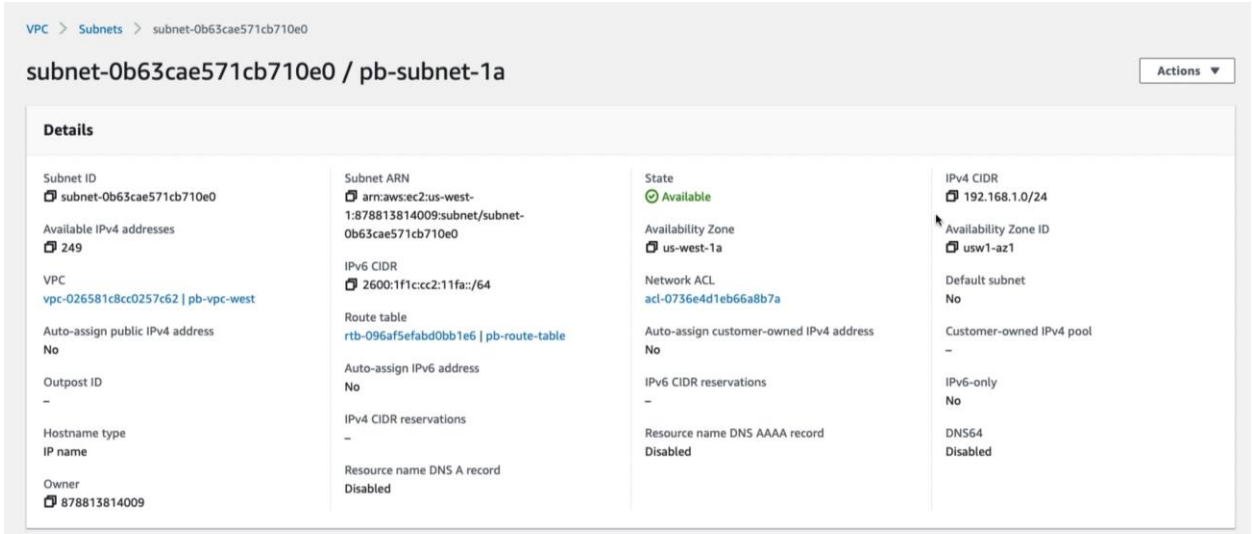
Steps to Deploy using Manual Mode

CloudFormation Template

Subnet for VA

2

- VPC
- Subnet for VA
- Security Group
- Keypair
- Connectivity to On-prem



Steps to Deploy using Manual Mode

CloudFormation Template

2

- VPC
- Subnet for VA
- Security Group
- Keypair
- Connectivity to On-prem

Security Group

Outbound Rules

Type	Protocol	Port	Description
TCP	Netconf	830	Cisco Catalyst Center uses NETCONF for device inventory, discovery, and configuration
TCP	SSH	22	Cisco Catalyst Center to SSH to network devices
UDP	DNS	53	Cisco Catalyst Center uses DNS to resolve hostnames
UDP	SNMP	161	Network device management and discovery
TCP	HTTPS	443	Cisco Catalyst Center uses HTTPS for cloud-tethered upgrades
UDP	RADIUS	1812	Using external authentication with a RADIUS server
TCP	Cisco ISE	5222,8910	Cisco Catalyst Center uses Cisco ISE XMP for PxGrid
TCP	Cisco ISE	9060	Cisco DNA Center uses Cisco ISE ERS API traffic

Steps to Deploy using Manual Mode

CloudFormation Template

Keypair

2

- VPC
- Subnet for VA
- Security Group
- Keypair
- Connectivity to On-prem

Key pairs (1/7) Info

Search

Name	Type	Created
CSR-SCI	rsa	2022/04/19 16:10 GMT-7
dnac-key	rsa	2022/06/08 15:34 GMT-7
Launchpad-dnac-04-virtualdnac	rsa	2022/07/28 21:22 GMT-7
pb-vpc-key	rsa	2022/08/12 23:57 GMT-7
Launchpad-05-virtualdnac	rsa	2022/08/17 21:10 GMT-7
launchpad-07-virtualdnac	rsa	2022/08/25 23:58 GMT-7
launchpad-11-virtualdnac	rsa	2022/10/03 17:17 GMT-7

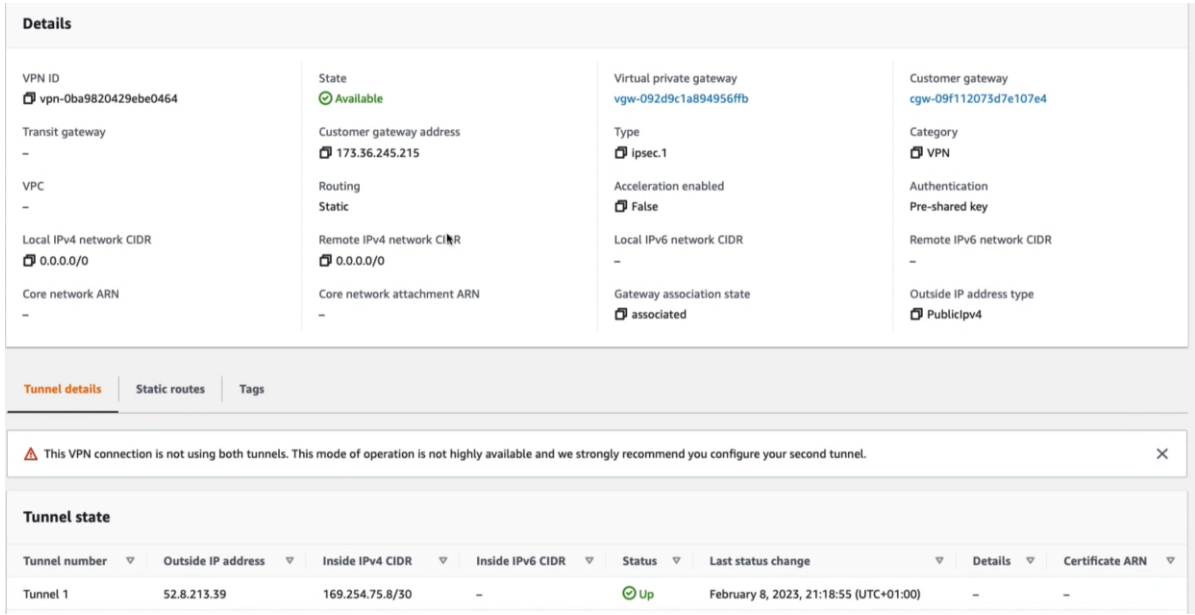
Steps to Deploy using Manual Mode

CloudFormation Template

Connectivity to On-prem

2

- VPC
- Subnet for VA
- Security Group
- Keypair
- Connectivity to On-prem



Note: Connectivity types includes IPsec Tunnel, SD-WAN, Direct Connect, Co-lo, etc.

Steps to Deploy using Manual Mode

CloudFormation Template

3

Open the required ports on Enterprise Firewall/Router

Type	Protocol	Port	Description
TCP	Netconf	830	Cisco Catalyst Center uses NETCONF for device inventory, discovery, and configuration.
TCP	SSH	22	Cisco Catalyst Center to ssh to network devices
UDP	DNS	53	Cisco Catalyst Center uses DNS to resolve hostnames.
UDP	SNMP	161	Network device management and discovery.
TCP	HTTPS	443	Cisco Catalyst Center uses HTTPS for cloud-tethered upgrades
UDP	RADIUS	1645,1812	Using external authentication with a RADIUS server.
TCP	Cisco ISE	5222,8910	Cisco Catalyst Center uses Cisco ISE XMP for PxGrid.
TCP	Cisco ISE	9060	Cisco Catalyst Center uses Cisco ISE ERS API traffic.

Note: These are a subset of all ports needed. Check the entire list from this link.

Steps to Deploy using Manual Mode

CloudFormation Template

4

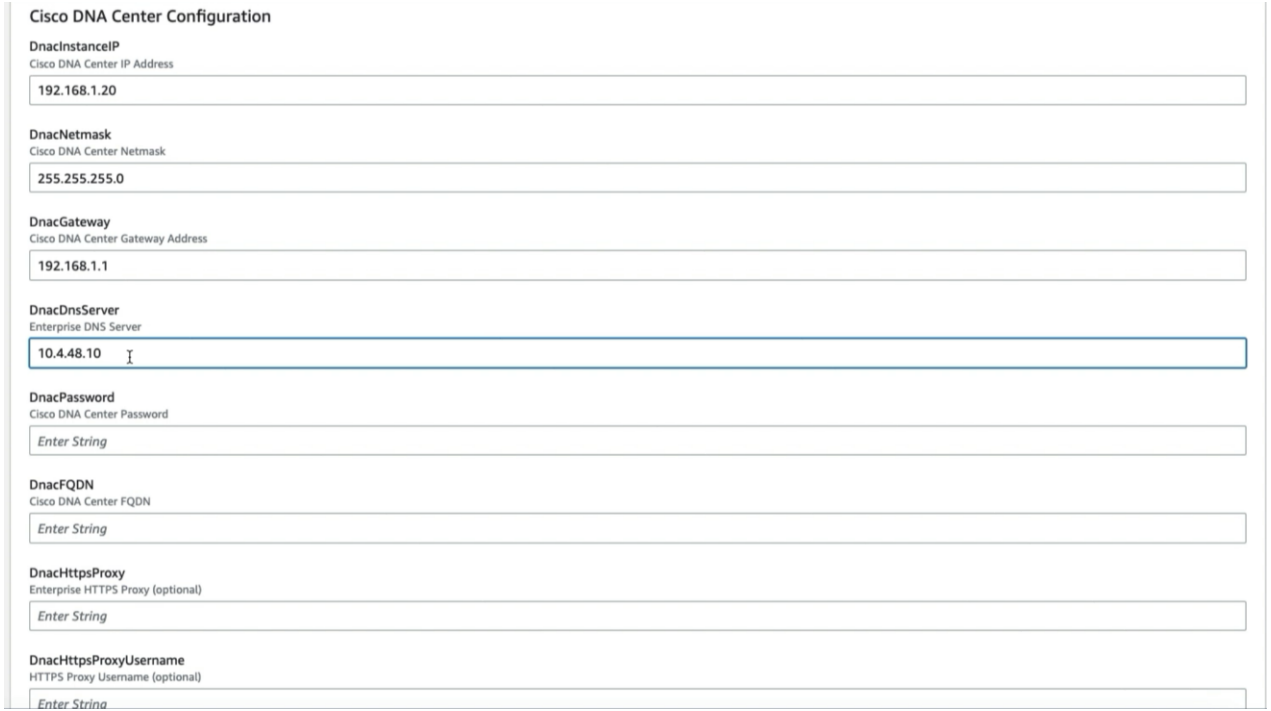
Deploy CloudFormation Template

Steps to Deploy using Manual Mode

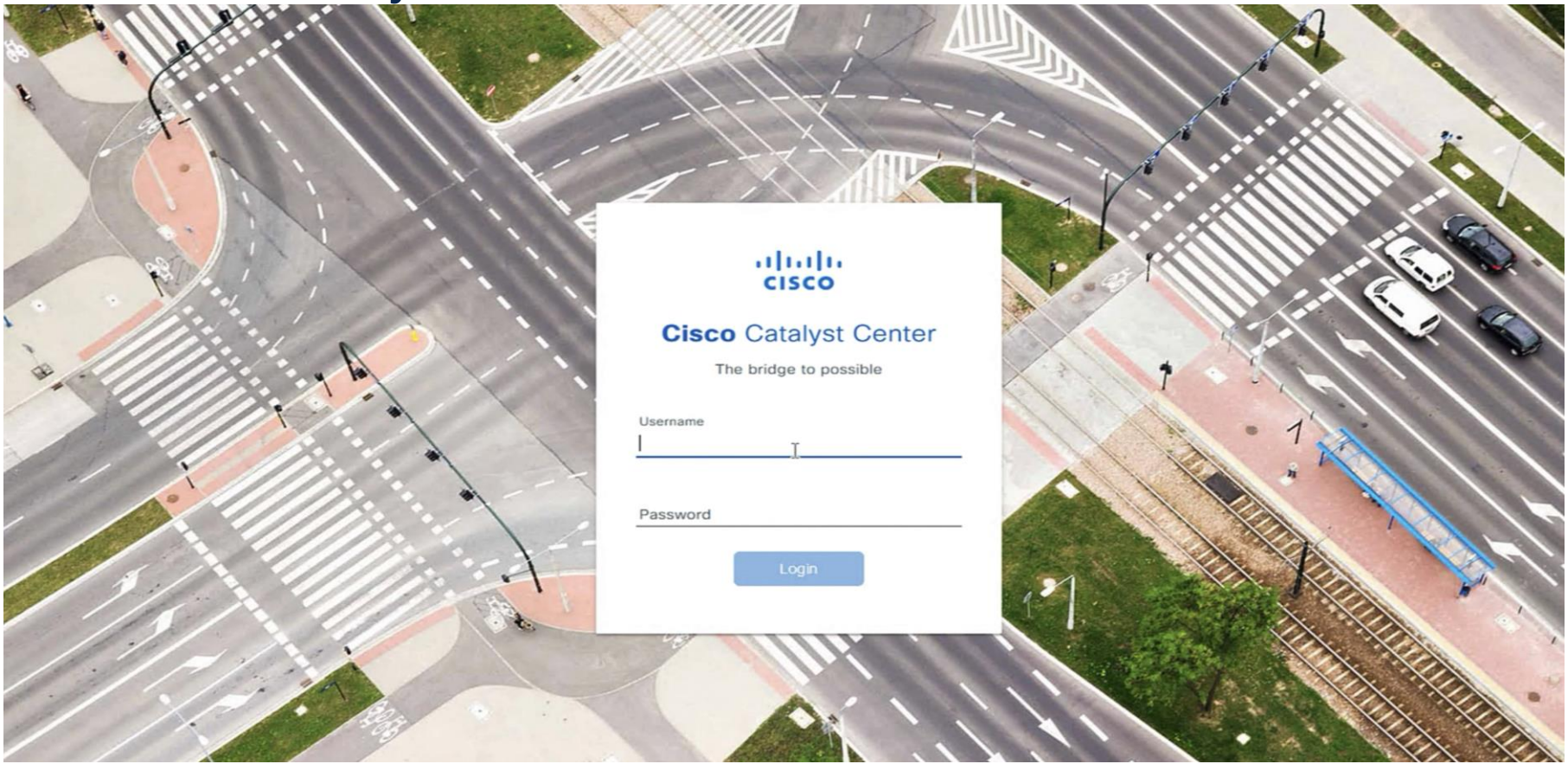
CloudFormation Template

4

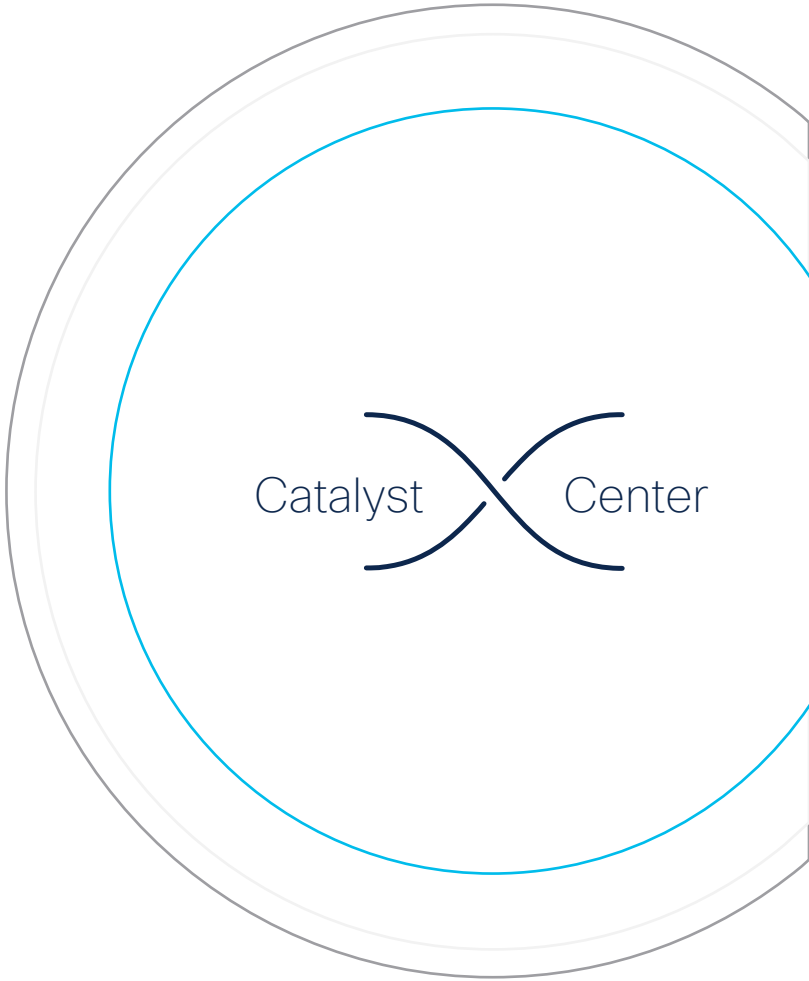
Deploy CloudFormation Template



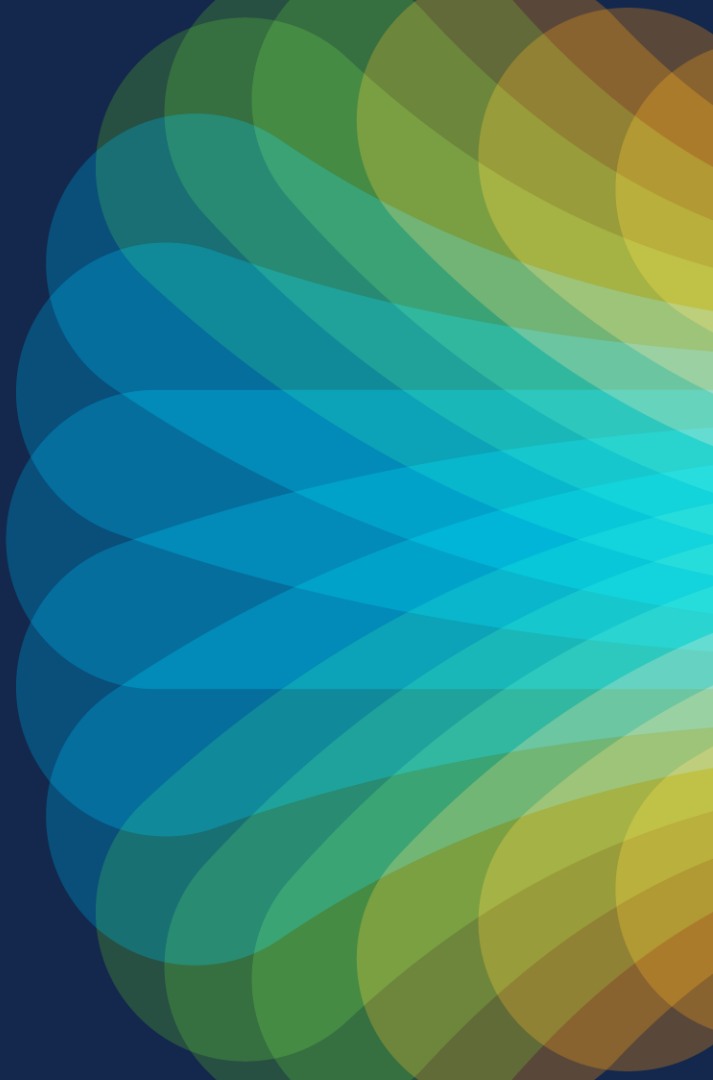
Cisco Catalyst Center is UP !!



Demo
Manual mode



Demo
Manual Mode CloudFormation Template



Software Download

Search...

Expand All | Collapse All

Selected Releases

VA Launchpad 1.0.4

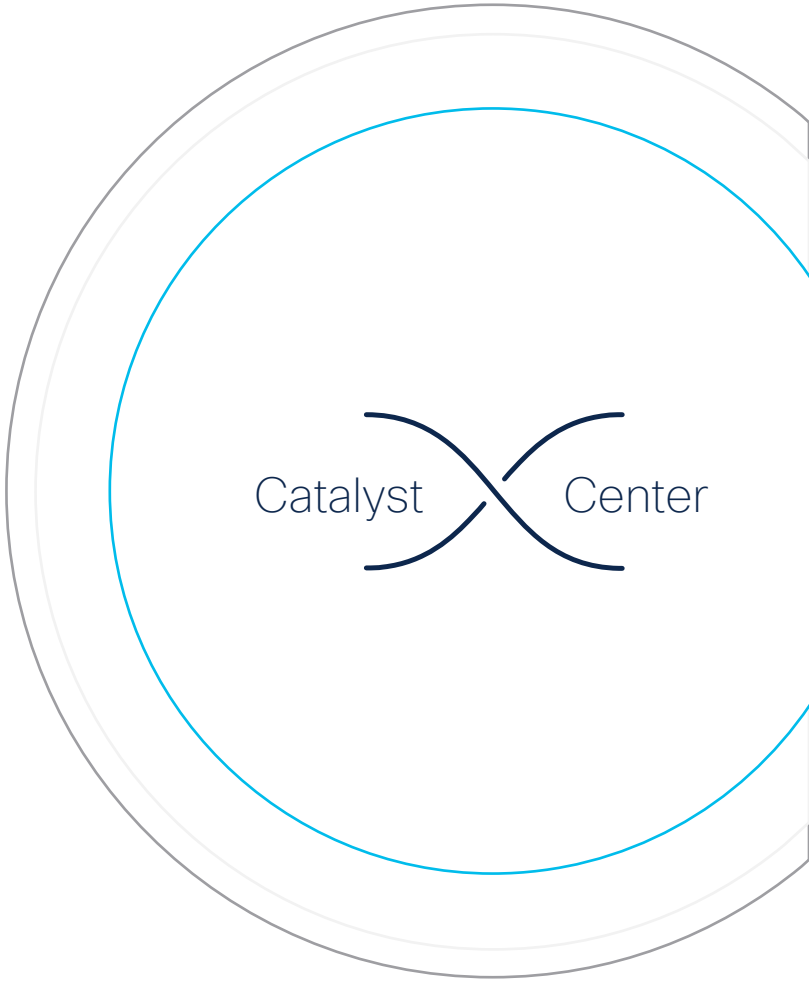
Release VA Launchpad 1.0.4

Related Links and Documentation

Release Notes for VA Launchpad 1.0.4

File Information	Release Date	Size
Manual mode cloud formation template for DNA Center deployment. DNA_Center_VA_InstanceLaunch_CFT-1.0.4.yml Advisories	27-Jan-2023	0.00 MB
Launchpad desktop frontend web service container. Required for Launchpad application through which user can do auto mode deployment. Launchpad-desktop-client-1.0.4.tar.gz Advisories	27-Jan-2023	846.01 MB
Launchpad desktop backend service container. Required for Launchpad application through which user can do auto mode deployment. Launchpad-desktop-server-1.0.4.tar.gz Advisories	27-Jan-2023	444.95 MB

Manual Mode with AWS Marketplace

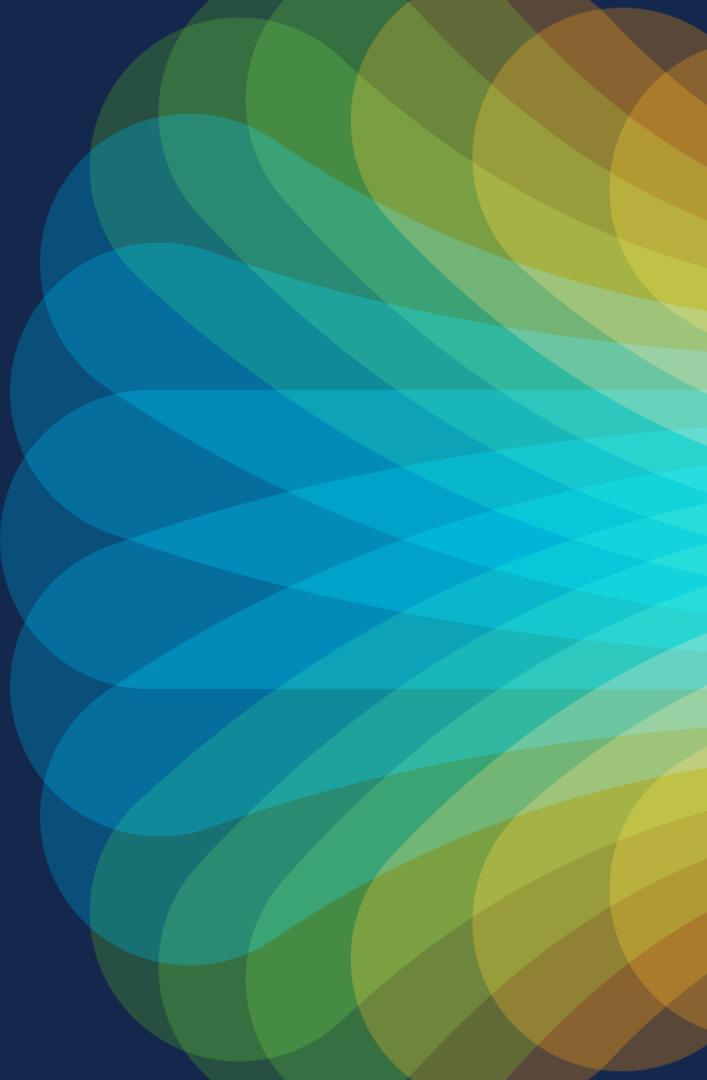


Steps to Deploy using Manual Mode

AWS Marketplace

AWS Infrastructure	VPC, Security Groups, VPN-GW, IPSec Tunnel/Connectivity
Subscribe	AWS Marketplace – Cisco DNA Center
Launch with EC2	Select VPC, Security Groups, Keypair, IP Address
Inject Cloud Config in EC2	Catalyst Center IP, DNS, NTP, Proxy

Demo
AWS Marketplace



Console Home Info

Reset to default layout | + Add widgets

Recently visited Info

- AWS Marketplace Subscriptions
- S3
- CloudWatch
- IAM
- EC2
- CloudFormation
- VPC
- AWS Private 5G
- CloudFront
- Support

View all services

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
4 Upcoming and past 7 days

Other notifications
4 Past 7 days

Go to AWS Health

Build a solution Info

Start building with simple wizards and automated workflows.

- Launch a virtual machine — With EC2 (2 mins)
- Start migrating to AWS — With AWS MGN (2 mins)
- Register a domain — With Route 53 (3 mins)
- Host a static web app — With AWS Amplify Console (2 mins)

Recent AWS blog posts Info

FEB 8 — End-to-End Observability for SAP on AWS : Part 1 Overview

FEB — How to Accelerate Interface

Explore AWS Info

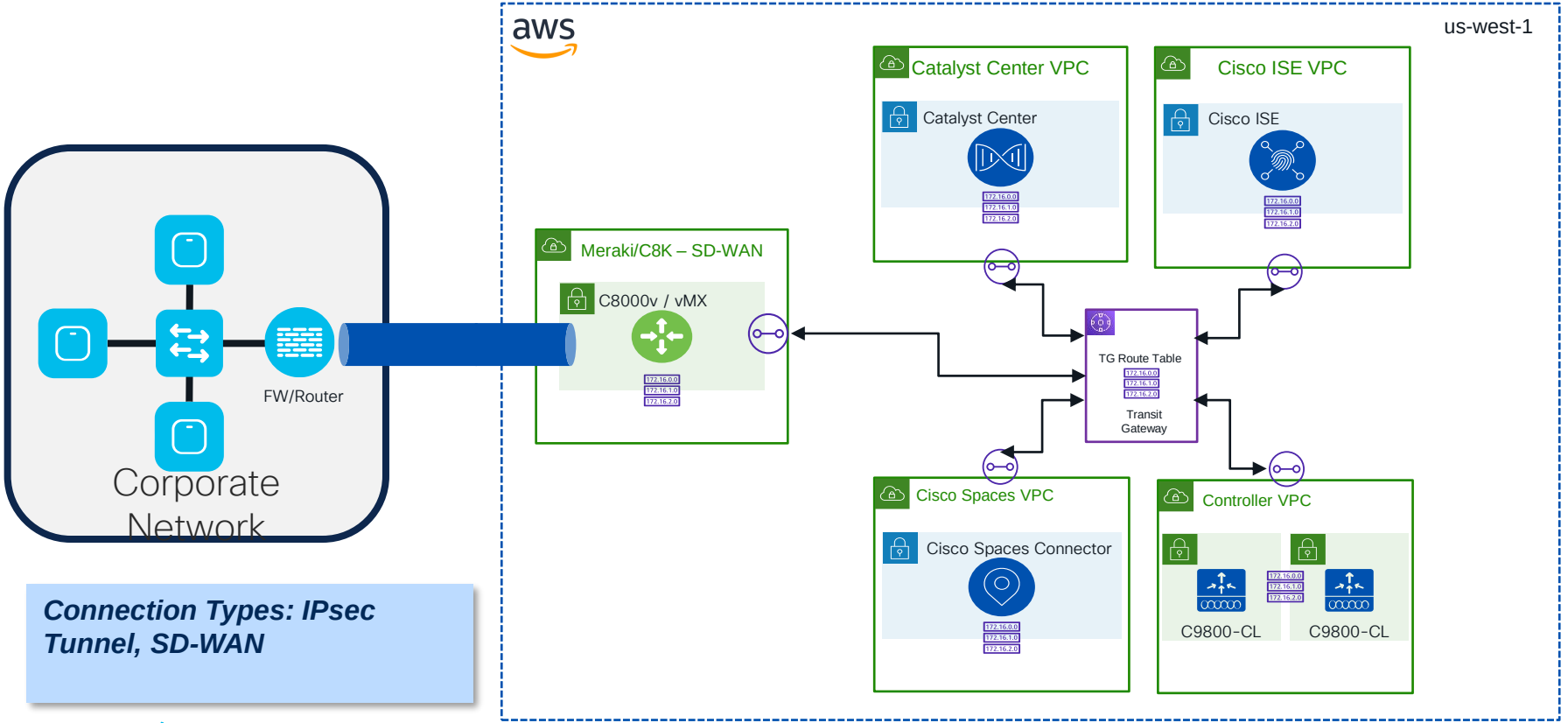
AWS Support
Save time and move faster with expert guidance and assistance.

AWS Support

How to Deploy Catalyst Center on AWS

	Cisco Launchpad App (Auto Mode)	CloudFormation Template (Manual Mode)	AWS Marketplace (Manual Mode)
Ease of Deploying AWS + CC	Launchpad creates AWS Infra Launchpad Installs Catalyst Center	Manual Creation of AWS Infra Manual Creation – Catalyst Center	Manual Creation of AWS Infra Manual Creation – Catalyst Center Insert Cloud Init Config
Single Pane of Glass	Launchpad helps Deploy Globally Launchpad helps Manage Globally	Does not exist Through AWS Console	Does not exist Through AWS Console
Security	Launchpad creates Security Groups Launchpad creates Audit Role	Manual creation of Tunnel Manual creation of Security Group	Manual creation of Tunnel Manual creation of Security Group
Observability/ Serviceability	Launchpad Creates CloudWatch Launchpad – RCA – AWS and CC	Manual creation of Alerts Manual Troubleshooting of AWS	Manual creation of Alerts Manual Troubleshooting of AWS
NFS Server	Launchpad brings up Cloud NFS VM	Manual creation of NFS Server	Manual creation of NFS Server
Time Taken	Quick Time to Value 75 mins + Firewall Ports	Days to weeks	Days to weeks

Cisco on AWS – End to End Possible!



How many of you would like to deploy multiple Cisco Products as a solution stack on AWS?

Show of Hands

Enterprise Readiness

Backup & Restore

High Availability (HA)

Backup/Restore

Backup & Restore across all Form Factors

Physical Appliance

- Same method
- Backup on NFS Server
- Restore on Physical Appliance

VA on AWS

- Same as Physical Appliance
- NFS can be on AWS Cloud or
- On-premises

VA on ESXi

New

- Using Physical Disk of ESXi server
- Data Retention
- NFS Server also supported

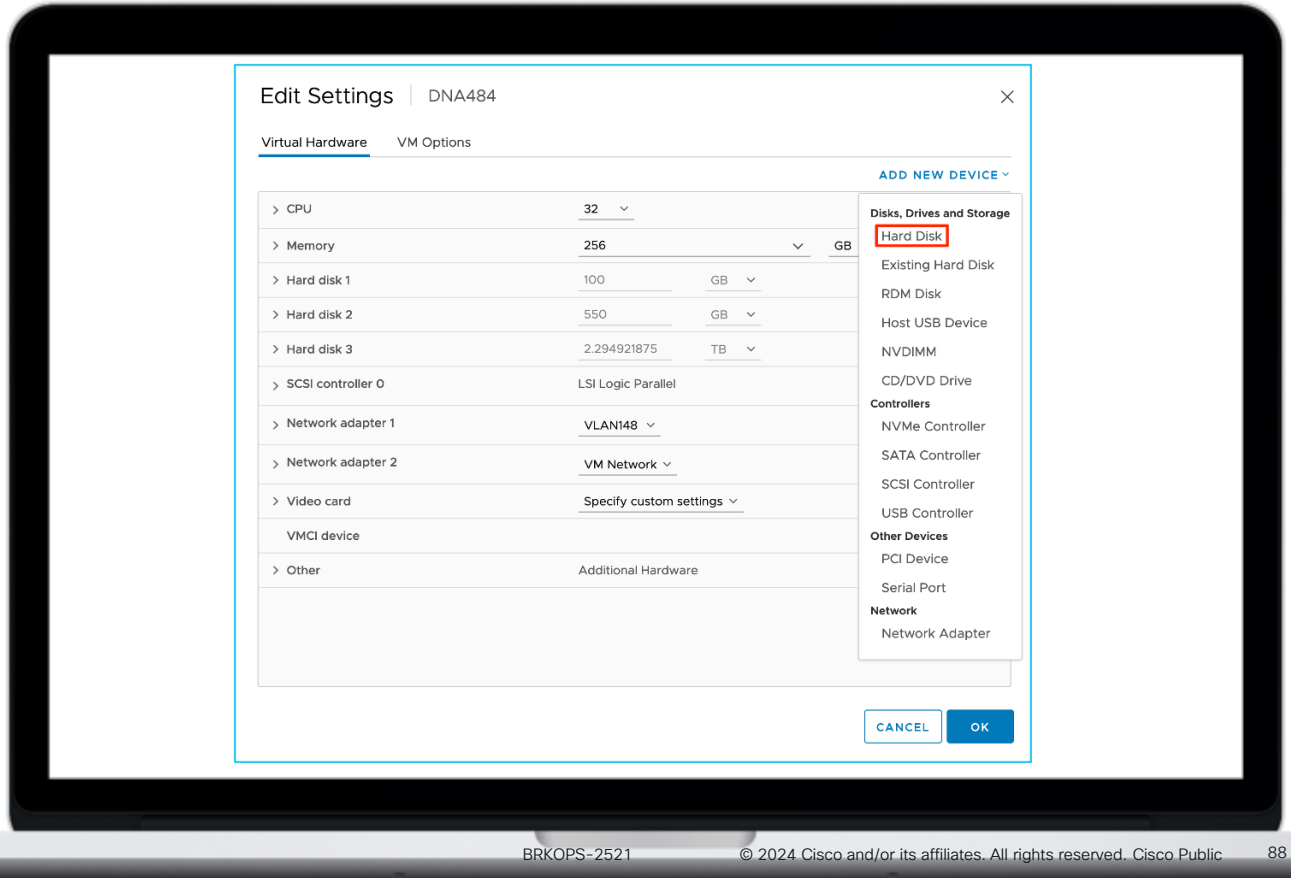
Need to be same Catalyst Center version for Backup & Restore

Steps to Create Backup/Restore on ESXi

1

Select Hard Disk as New Device

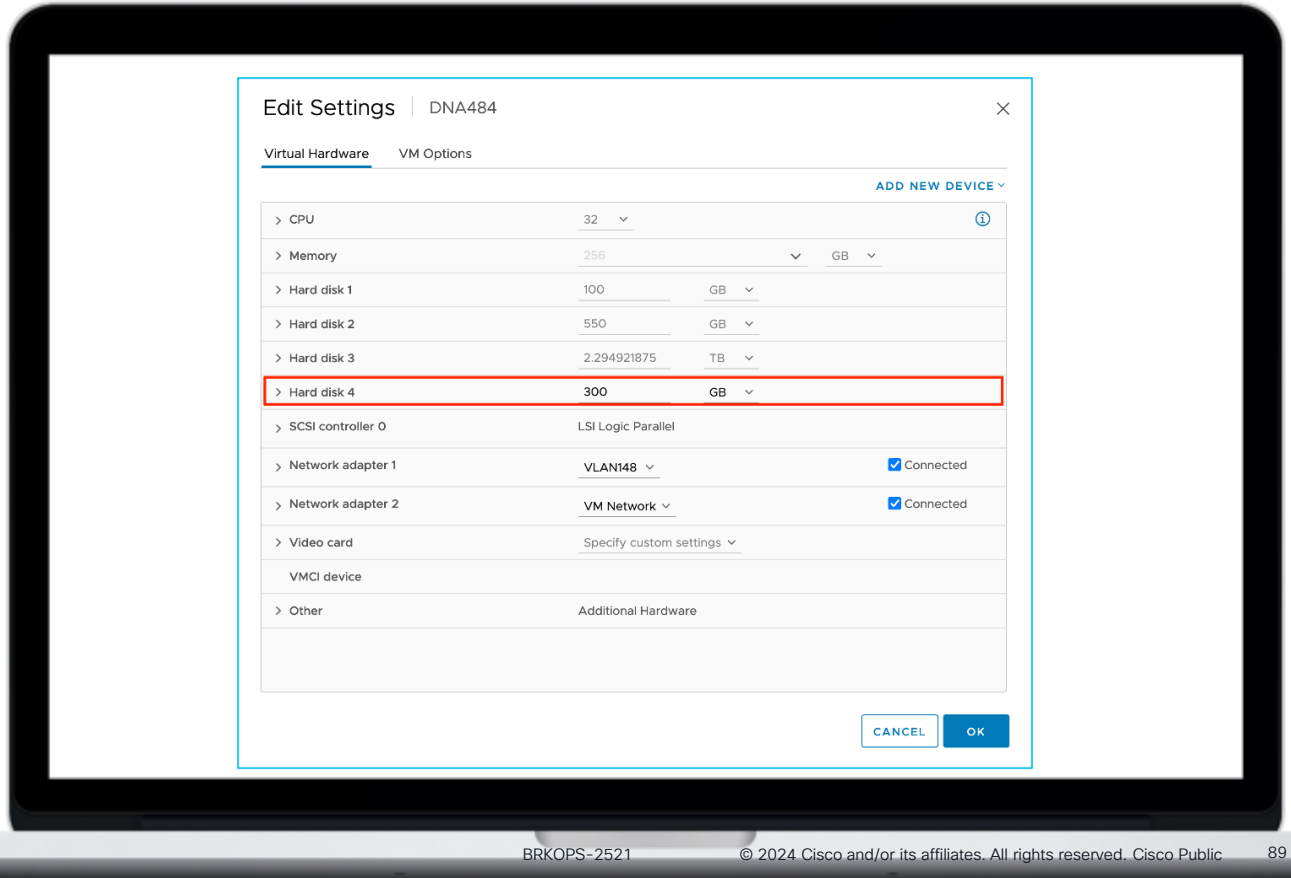
This is the Disk where Backup will be stored



Steps to Create Backup/Restore

2

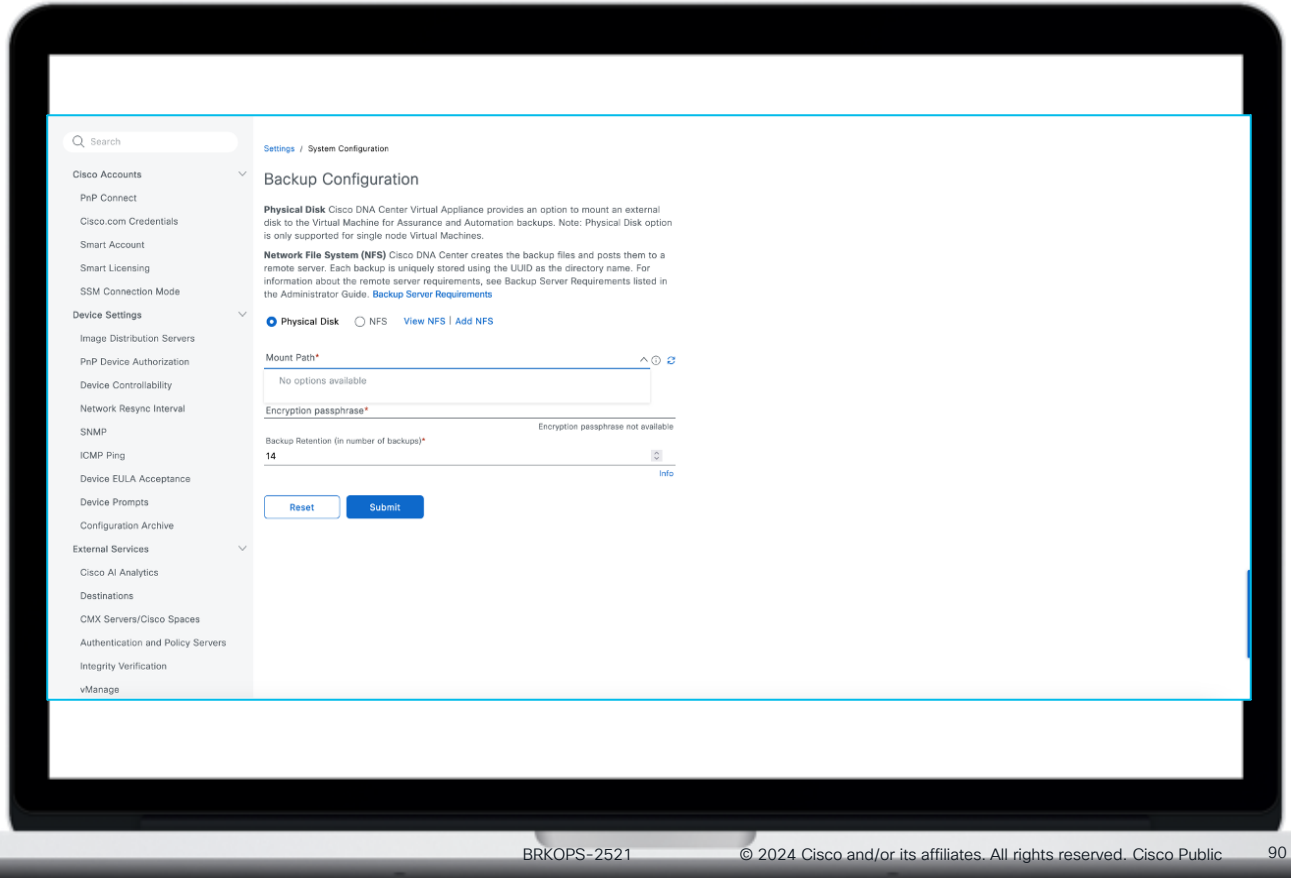
Allocate Space for this new Disk



Steps to Create Backup/Restore

3

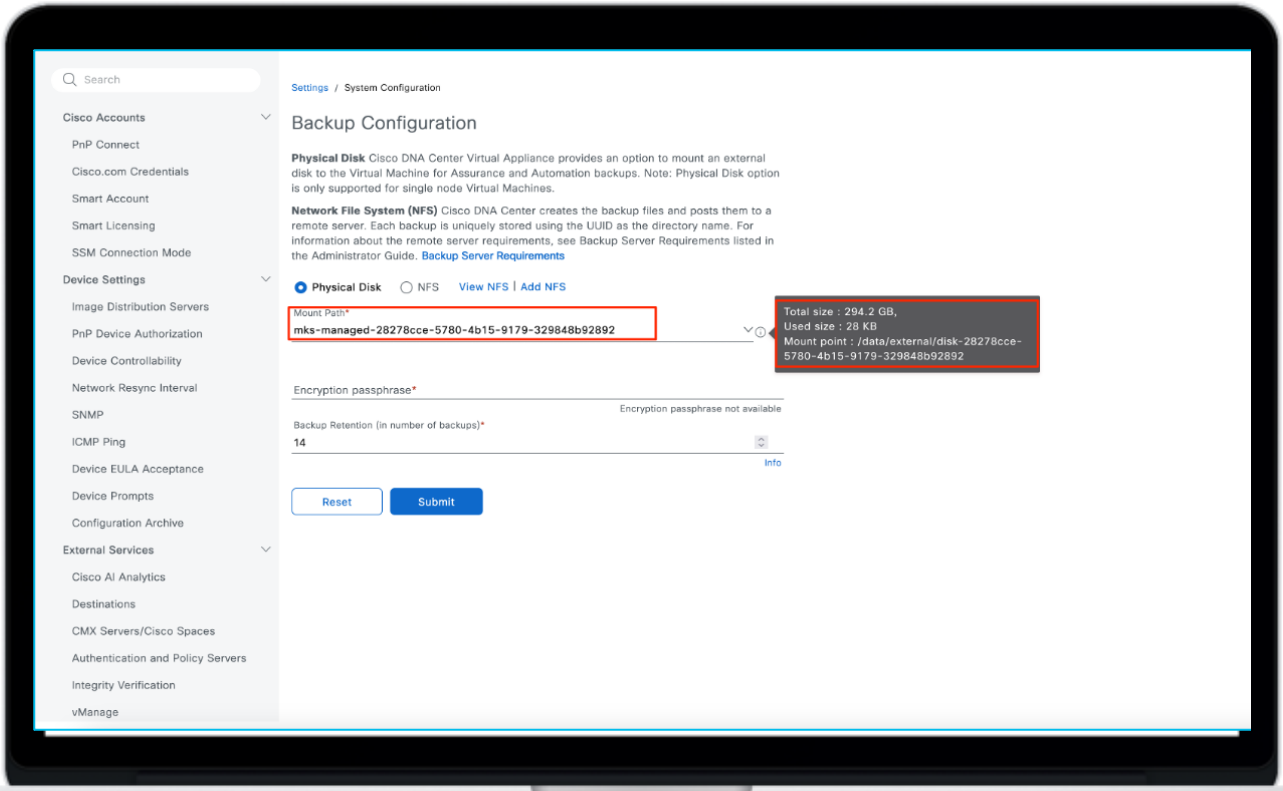
Mount Path is Empty before Creating New Disk



Steps to Create Backup/Restore

4

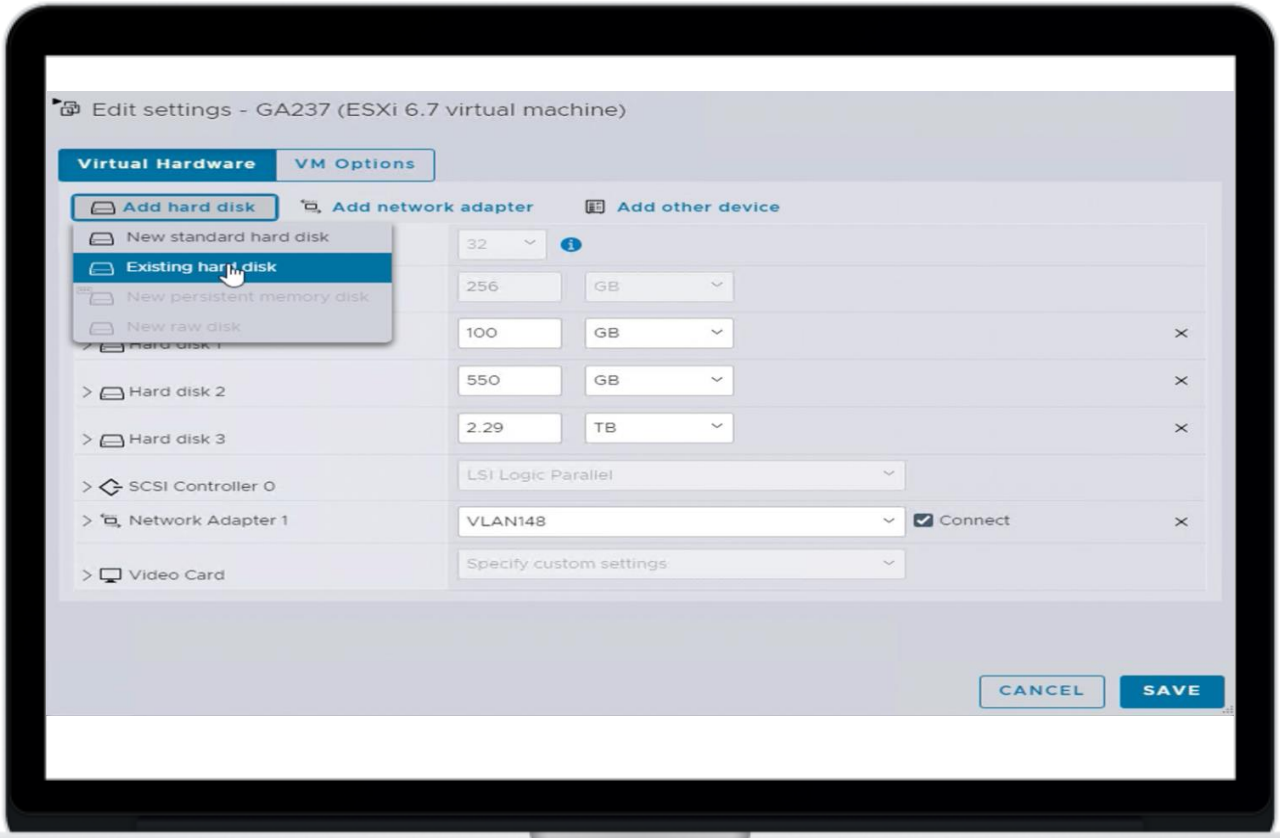
Mount Path Shows the New Disk



Steps to Create Backup/Restore

5

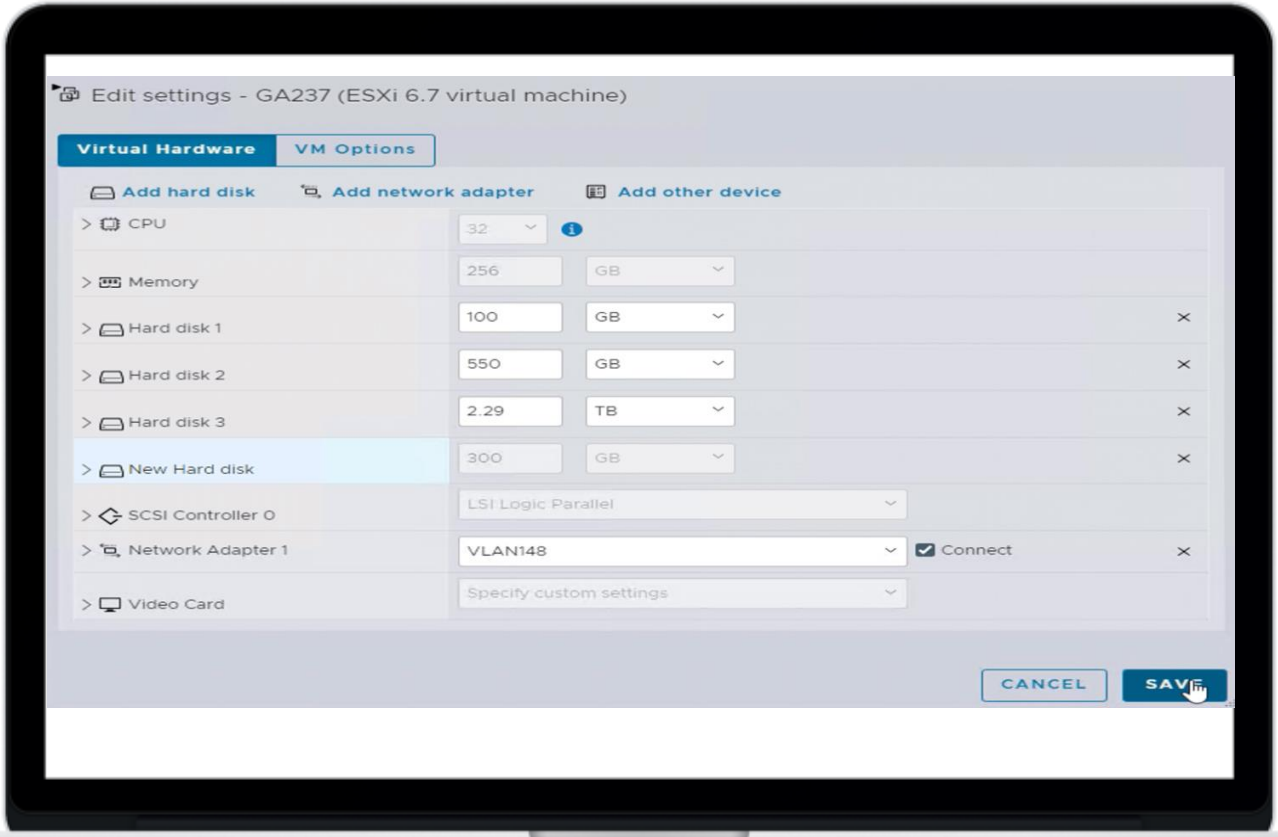
Create Existing disk



Steps to Create Backup/Restore

6

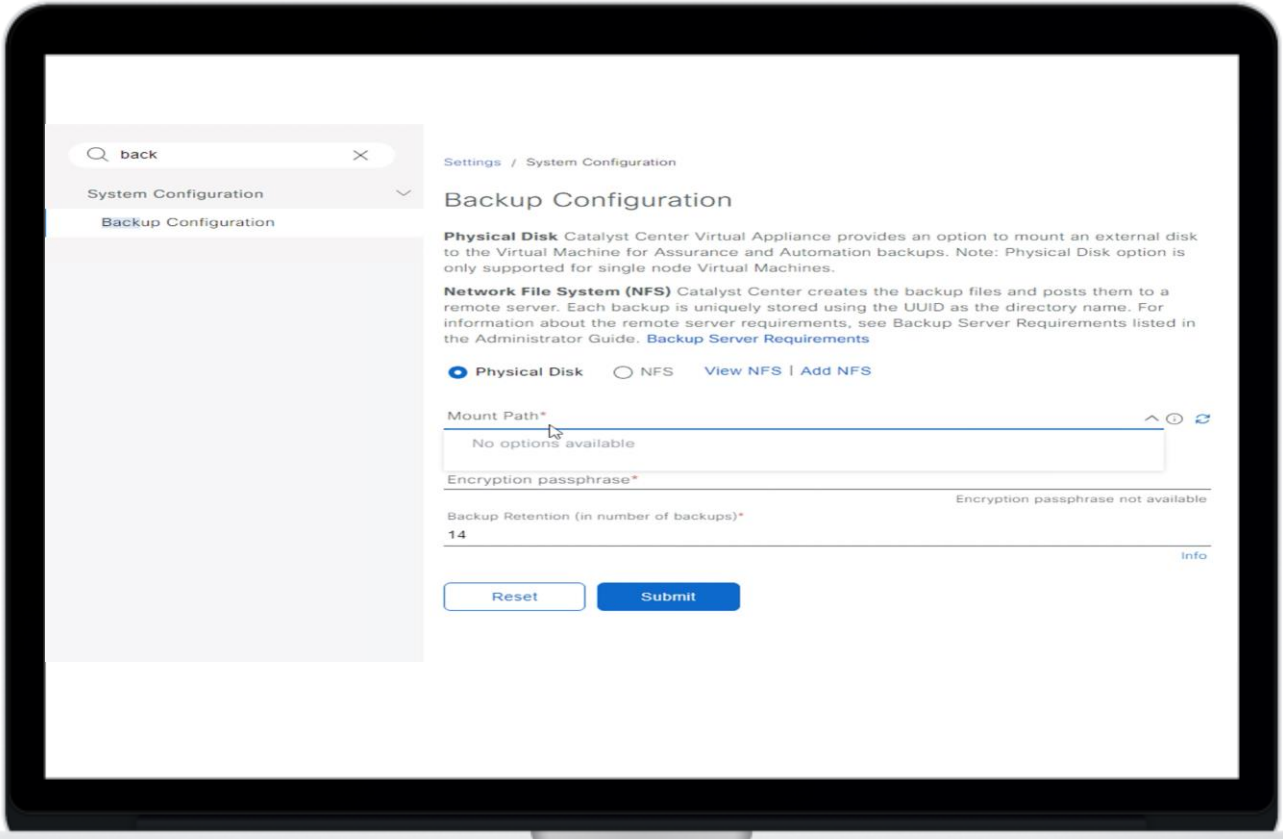
New disk added



Steps to Create Backup/Restore

7

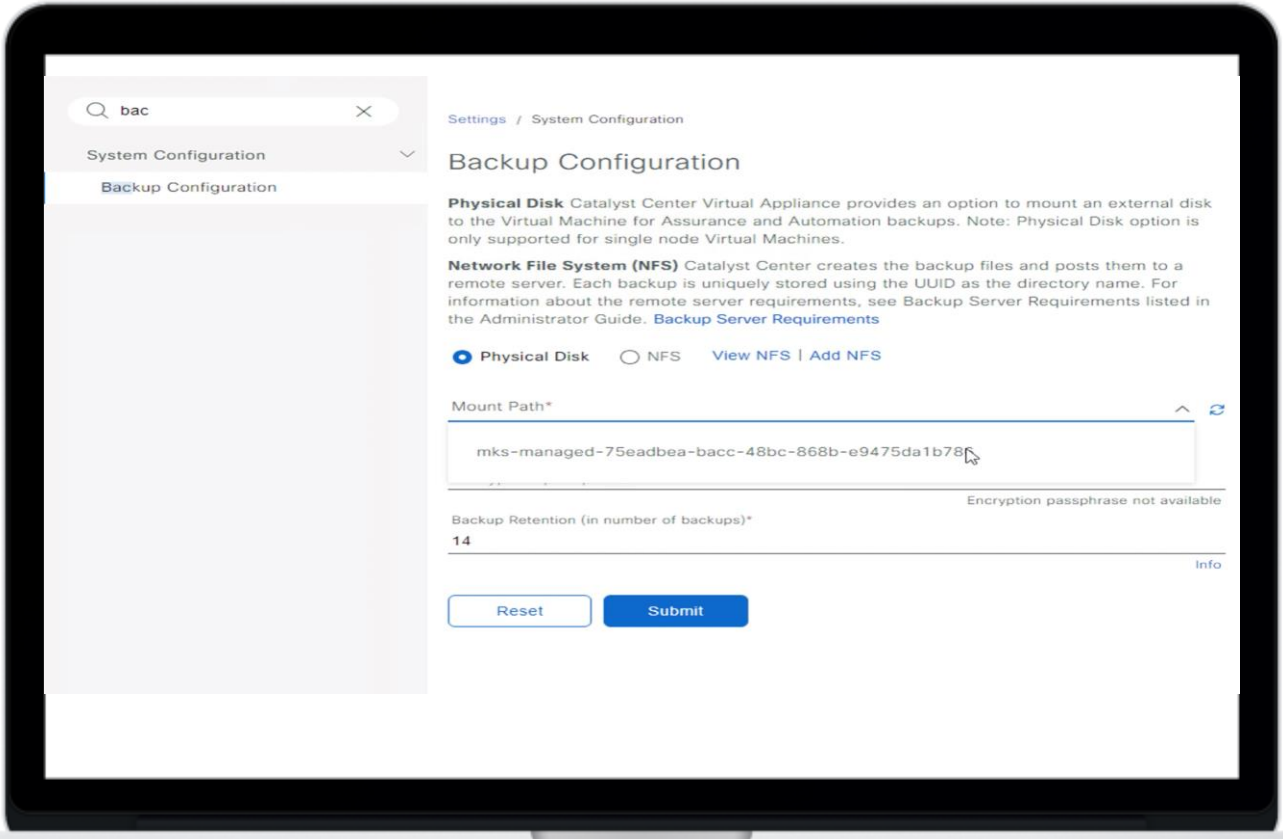
Before rebooting VA



Steps to Create Backup/Restore

8

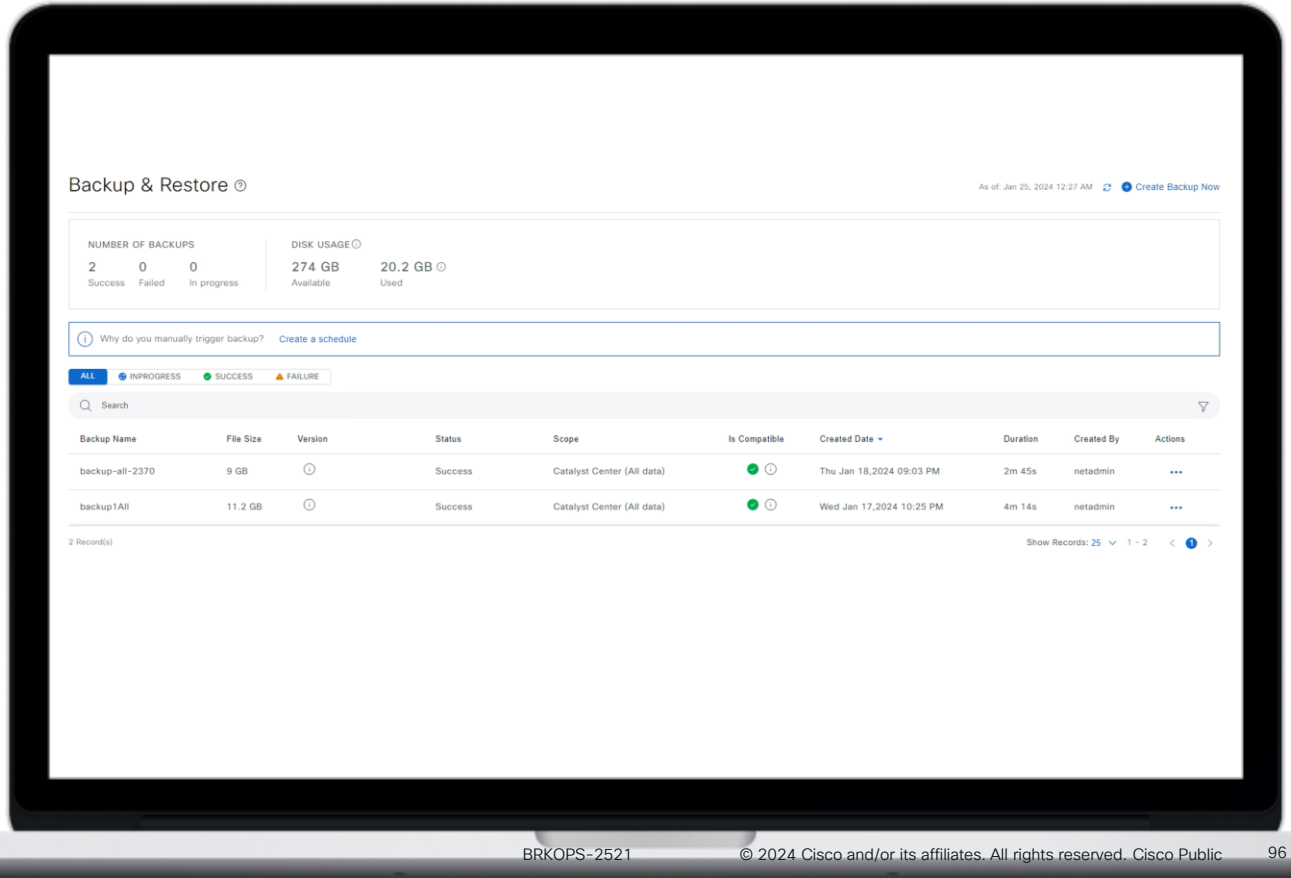
After rebooting



Steps to Create Backup/Restore

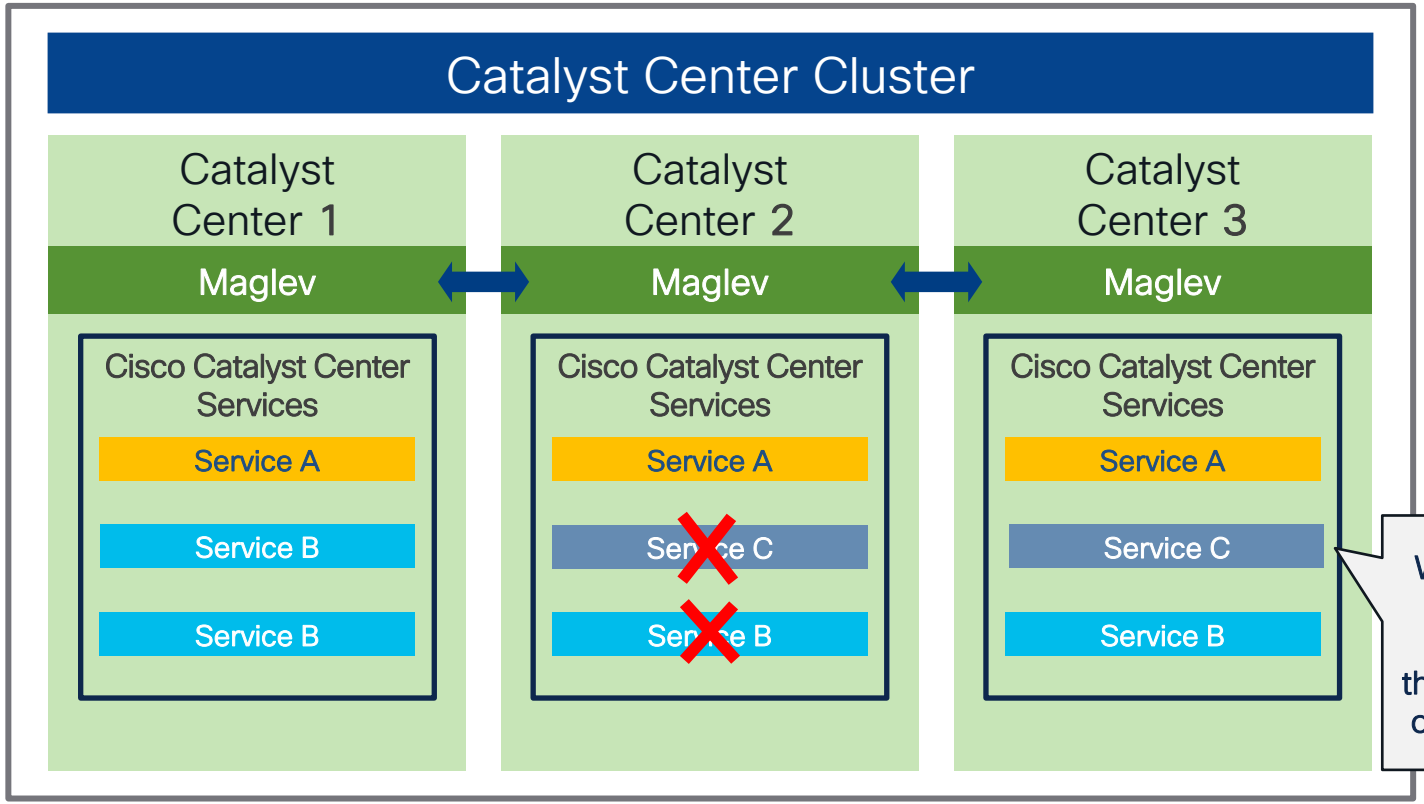
9

Back files from other VA



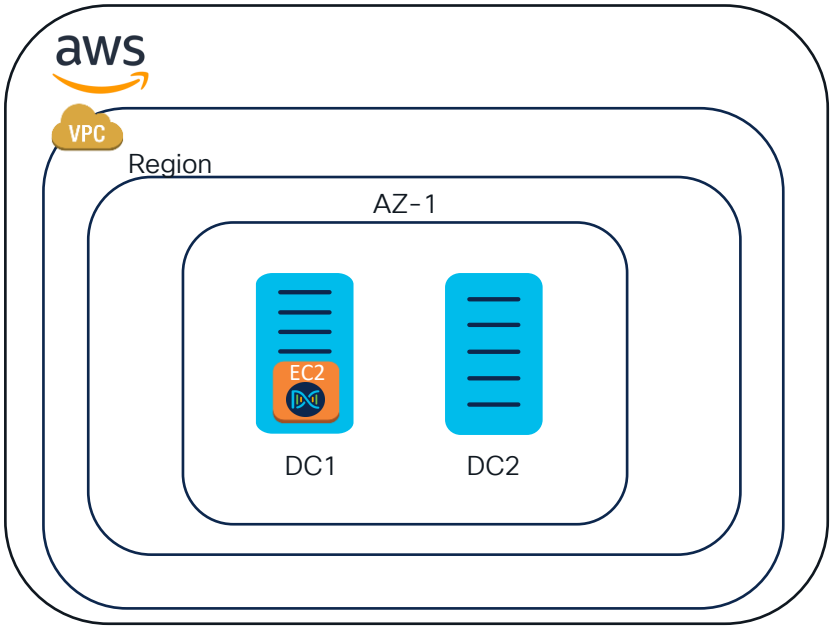
High Availability (HA)

How does HA work in Physical Appliance?



How does HA work in AWS?

Using AWS's Native HA Capabilities
Infrastructure availability from 99% to 99.99%.



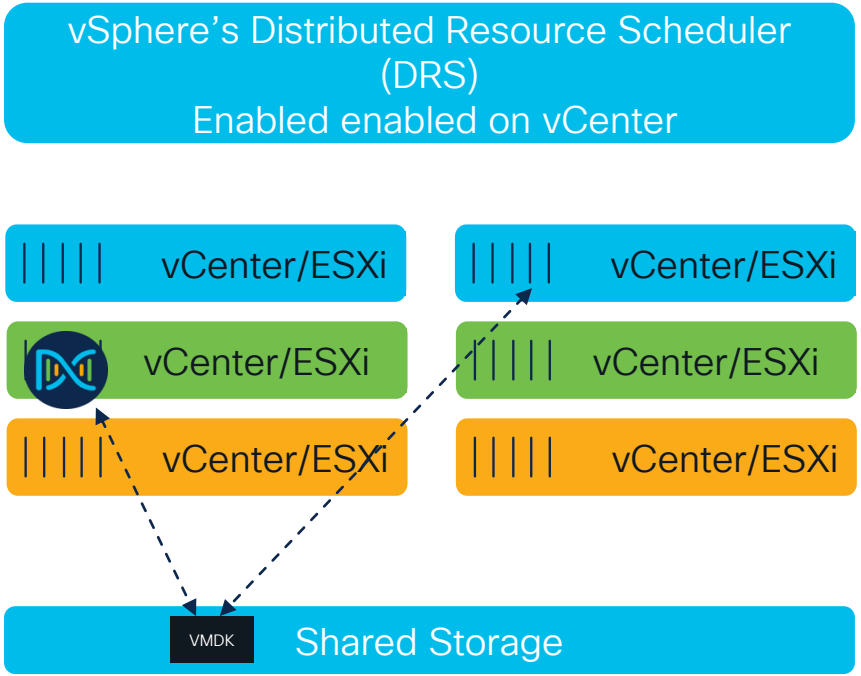
Multiple DCs

Redundant Infrastructure

Low Latency

How does High Availability work in ESXi?

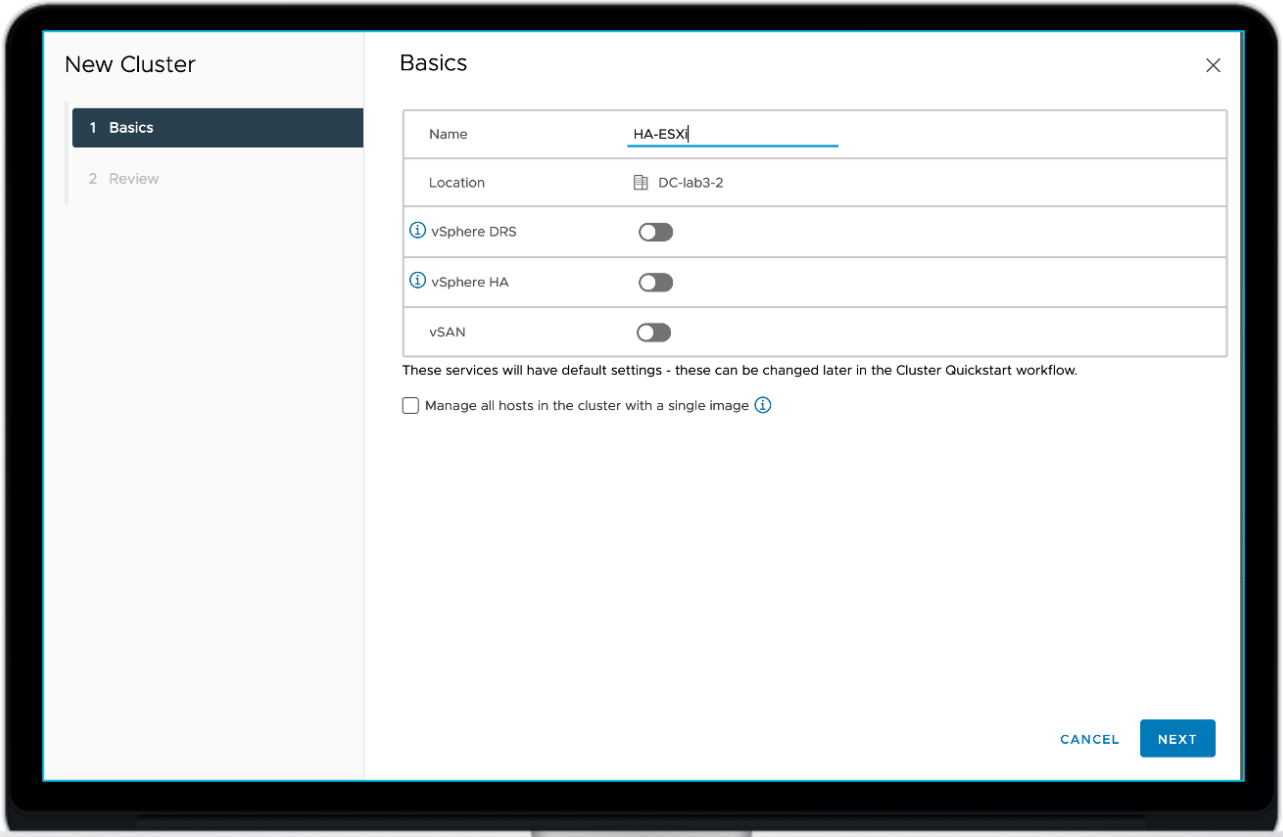
- Cluster ESXi Hosts
- Resources Check
- vMotion
- Migration Options



Steps to Create HA for VA on ESXi

1

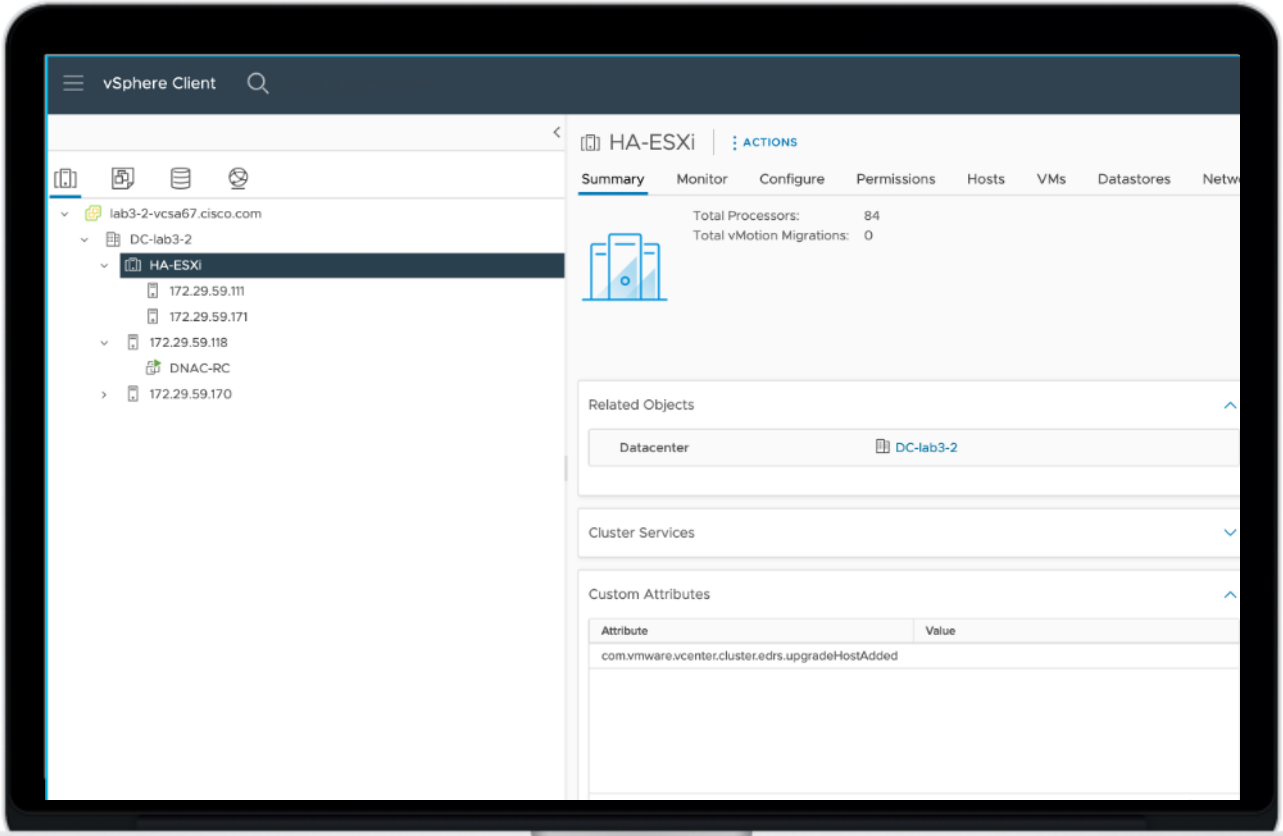
Creating New Cluster



Steps to Create HA for VA on ESXi

2

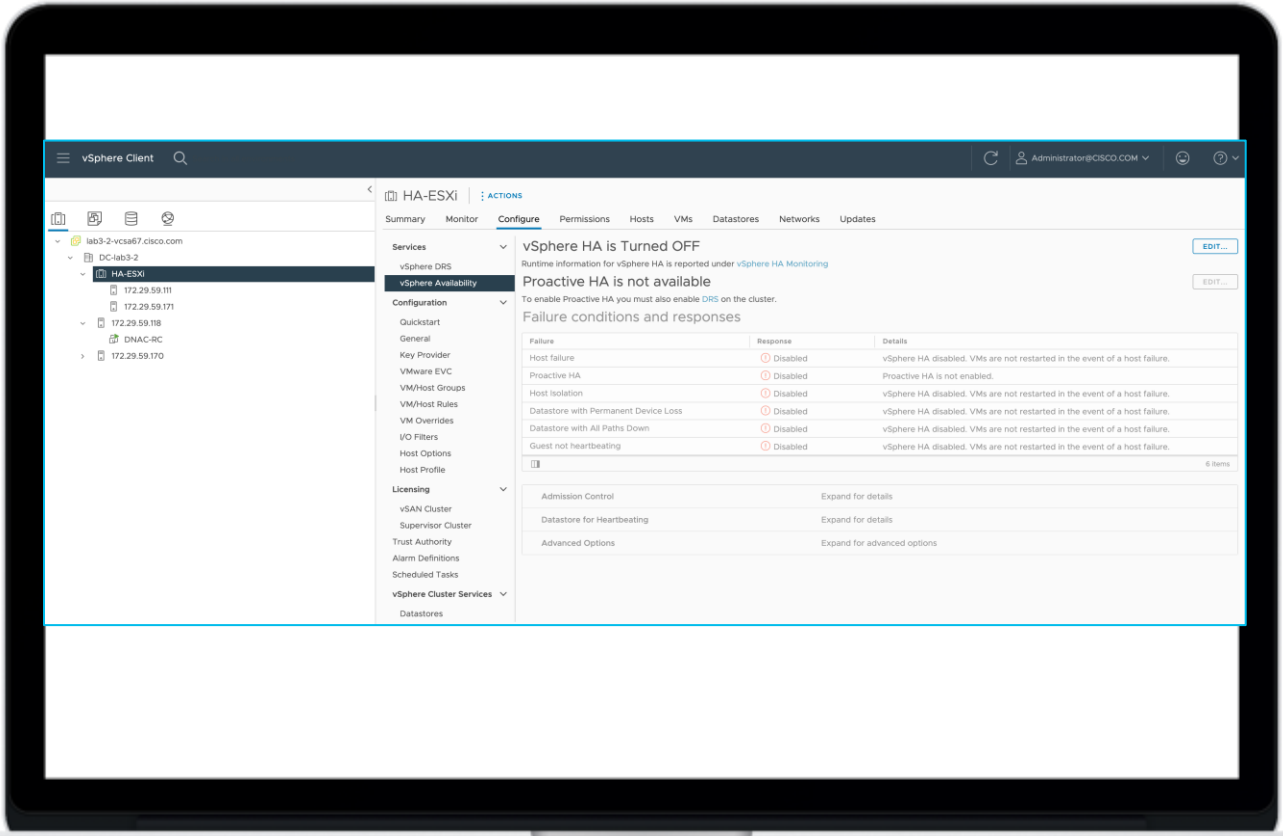
Add ESXi hosts to the cluster



Steps to Create HA for VA on ESXi

3

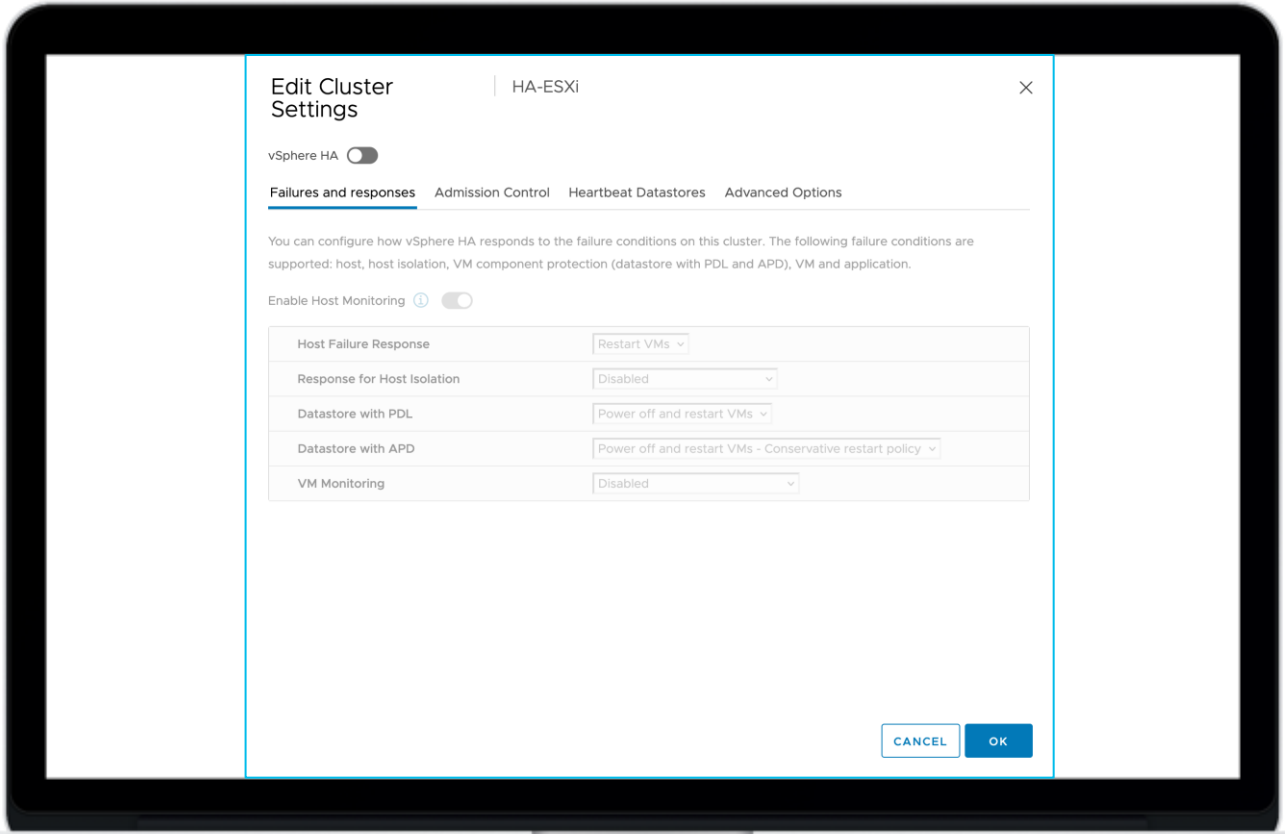
Setup HA vSphere



Steps to Create HA for VA on ESXi

4

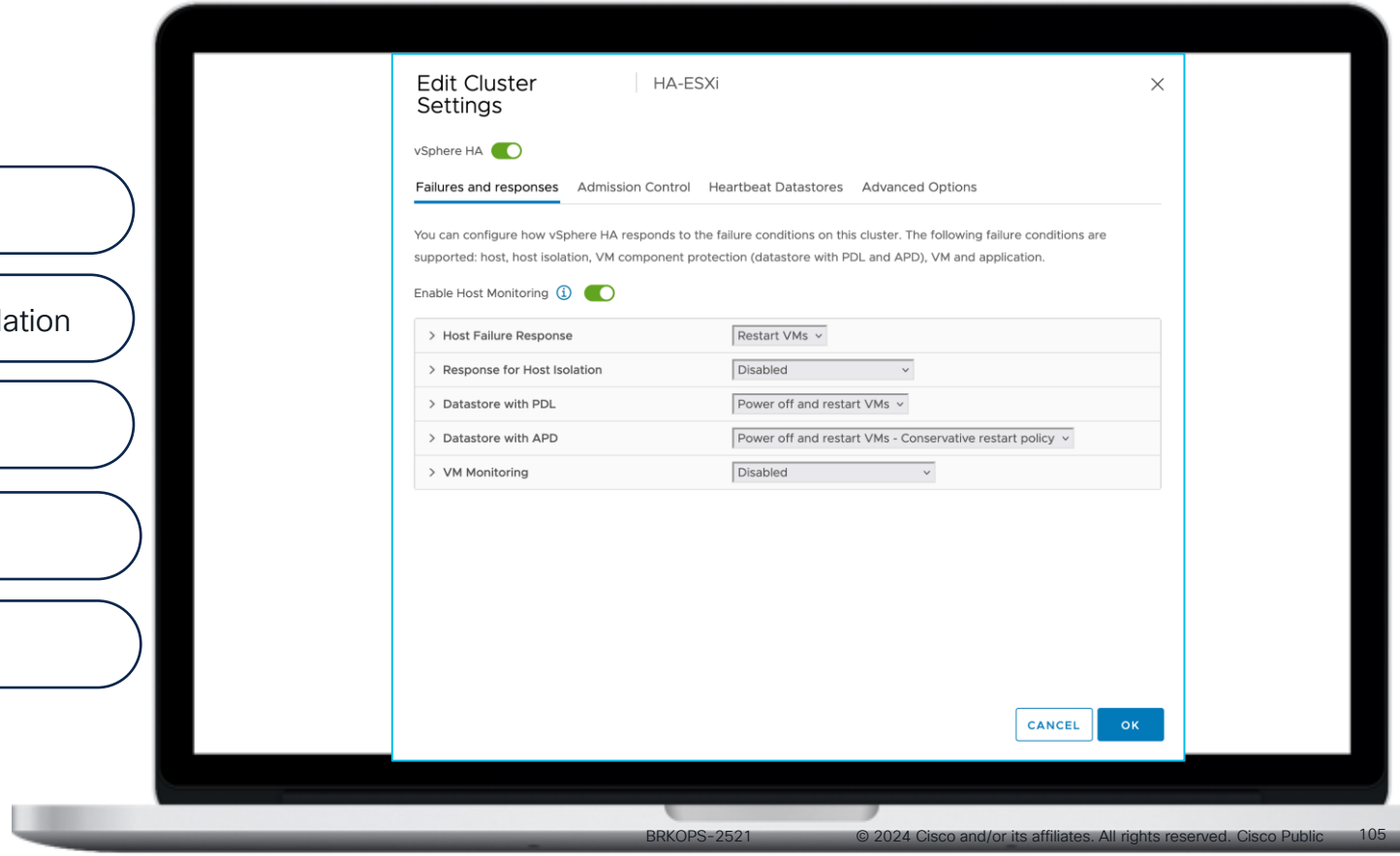
Enabling the vSphere HA



Steps to Create HA for VA on ESXi

5

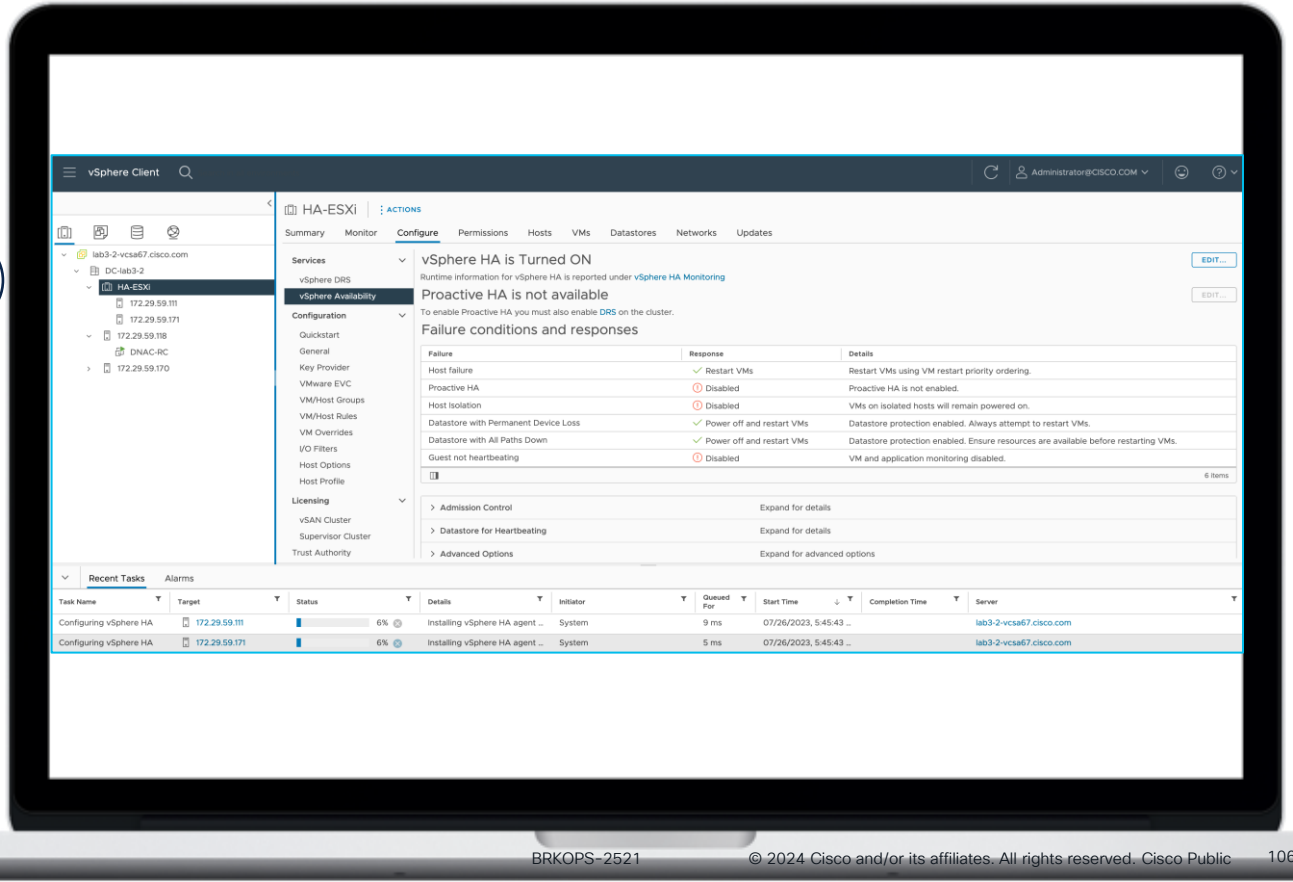
- Host Failure Response
- Response for Host Isolation
- Datastore with PDL
- Datastore with APD
- VM Monitoring



Steps to Create HA for VA on ESXi

6

vSphere HA is On



Resources

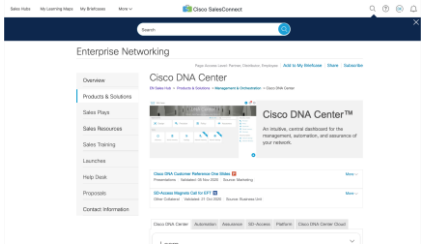
Catalyst Center Resources

	Guides	Release Notes	FAQ	YouTube Community Page
Physical 	Installation Guide – 2.3.5, 2.3.7 Admin Guide – 2.3.5, 2.3.7 User Guide – 2.3.5, 2.3.7	RN – 2.3.5 RN – 2.3.7.4	FAQ	http://cs.co/catalyst-center-youtube
aws	Deployment Guide – 2.3.5 Admin Guide – 2.3.5 Ordering Guide	RN – 2.3.5	FAQ	http://cs.co/va-launchpad http://cs.co/va-manual http://cs.co/va-landingpage http://cs.co/va-blog1
vmware	Deployment Guide – 2.3.7.3 Admin Guide – 2.3.7.4	RN – 2.3.7.4	FAQ	http://cs.co/catalyst-center-youtube

Collaterals, Videos, and other Resources

Want to Present?

Salesconnect



Want to Learn?

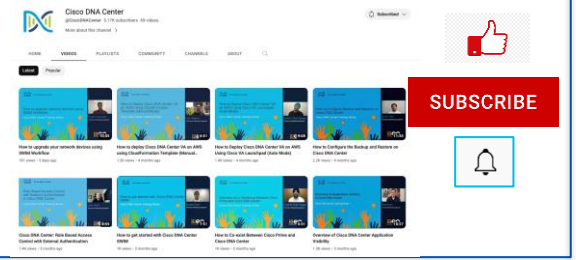
Catalyst Center on YouTube

http://cs.co/catalyst-center-youtube

6.88K Subscribers

~ 82 videos

Playlists



Want to ask Questions?

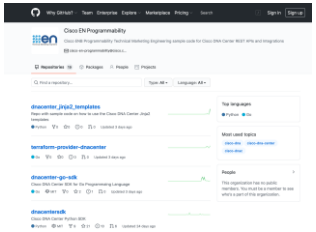
Communities

Cisco DNA Community

Want to Automate?

DevNet

GitHub

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The bridge to possible
Thank you
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Let's go