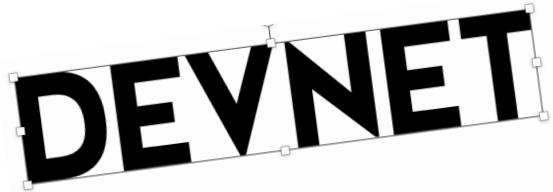


# DEVNET

Norway

Community November 2023

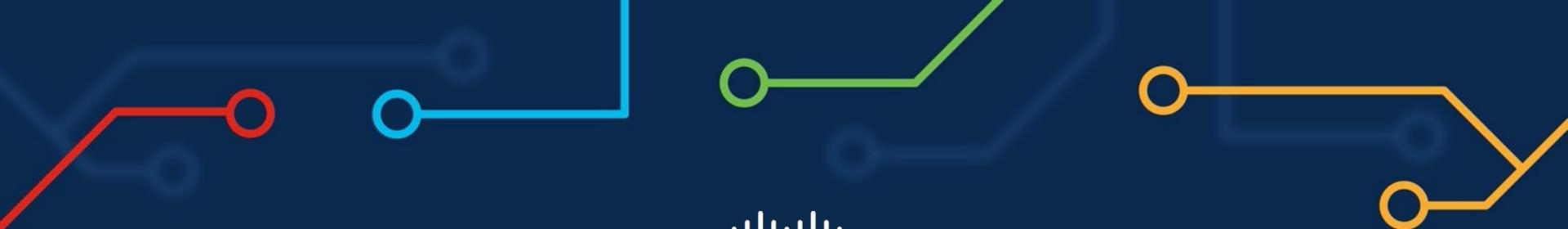


Norway  
Community



# 5th Meetup @Rebel Oslo





**cisco**  
**DEVNET**  
developer.cisco.com



See It



Learn It



Code It



# DevNet community November 2023

17:00 - 17:10	Welcome -Arjan Toxopeus
17:10 - 17:55	Tech Session – The Journey - Building a SuperCloud using Infrastructure as Code - Speaker: Arjan Toxopeus - Cisco Norge
18:00 - 18:05	Break
18:05 - 18:15	Tech Session – AI infrastructure details.
18.15 - 18:55	Tech Session – Network Operations in the Age of Artificial Intelligence - Speaker: John Capobianco- Developer Advocate Cisco
18.55 - 19.00	Close/Next gathering
19:00 - XX:XX	Skråplanet

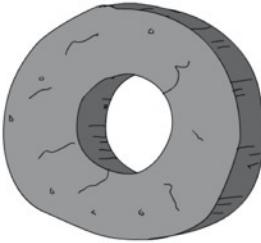


Where are we today?



The background features abstract, semi-transparent shapes in red, blue, green, and orange, consisting of thin lines and small circular nodes.

# State of the Union



### Stone Age

Spanning Tree  
VLANs



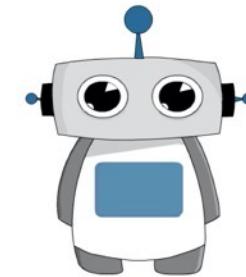
### Bronze Age

Routing Protocols  
WAN Design  
IP-magedon



### The Renaissance

SDN  
OpenFlow  
Controllers  
Overlays  
MP-BGP  
VXLAN  
Micro-Segmentation  
White Box



### Programmable Age

Cloud  
Python  
REST / APIs  
NETCONF / YANG  
“Fabrics”  
Network Function Virtualization (NFV)  
Containers  
DevOps  
NetDevOps!

# The Four Ages of Networking.....



IT'S  
ALIVE!!!

# Today's Network Engineer

# A "Traditional" Network Engineer Profile



## Network Skills

- Spanning-Tree
- Routing Protocols
- QoS
- VPN Design
- Spanning-Tree
- VOIP
- Fibre Channel
- Security Policy
- MPLS
- Did we mention Spanning-Tree?

## Programming Skills

- TCL
- EEM
- Expect Scripts

# A Profile of a NetDevOps Engineer!



## Network Skills

- Layer 2 & 3 Fundamentals
- Quality of Service
- Security and Segmentation
- Linux Networking
- Container Networking
- Cloud Networking
- IOT Networking
- Model Driven Programmability
- Network Function Virtualization

## Platform Skills

- Linux Administration
- Container Fundamentals
- Micro Service Platforms
- Cloud Fundamentals

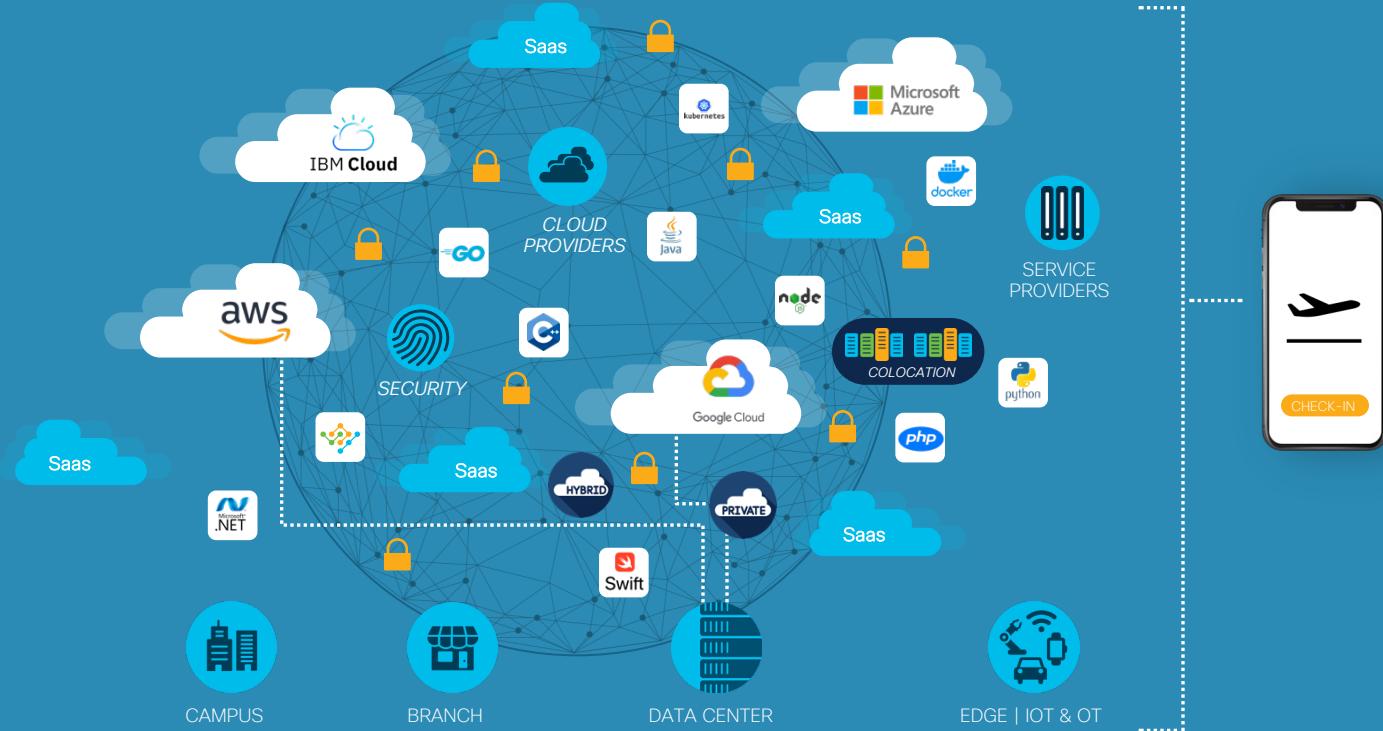
## Programming Skills

- Data Formats (ex: JSON, YAML, etc)
- Python and APIs (ex: REST, NETCONF, etc)
- Source Control (ex: git, GitLab, etc)
- Configuration Management (ex: NSO, Ansible, Puppet, etc)

App is no  
longer an app,  
it's **a mesh of**  
**microservices**



# Hybrid, Multicloud, App Centric infrastructure is now the de facto way of operating



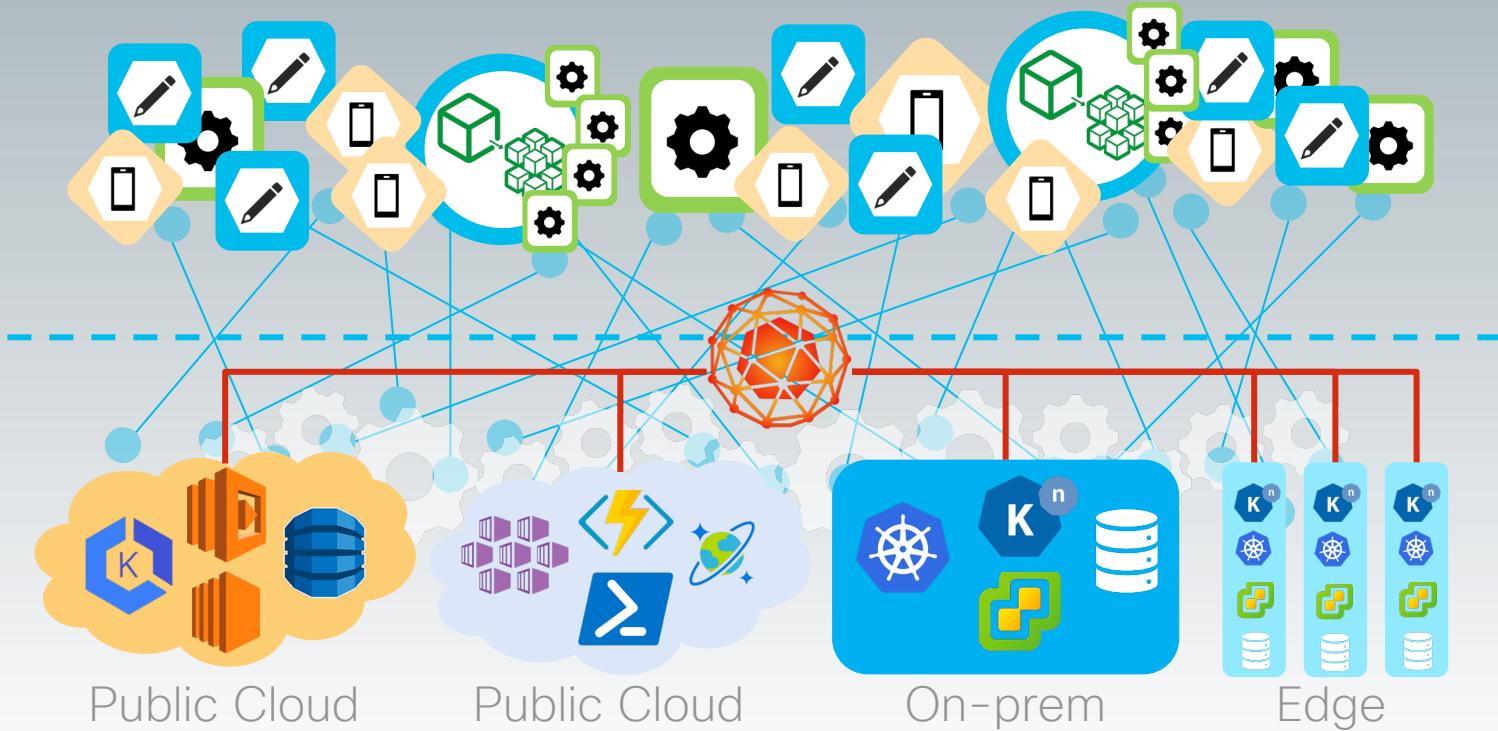
# Hybrid platforms are complex

A Hybrid Multicloud Platform is required to deliver flexibility and business autonomy

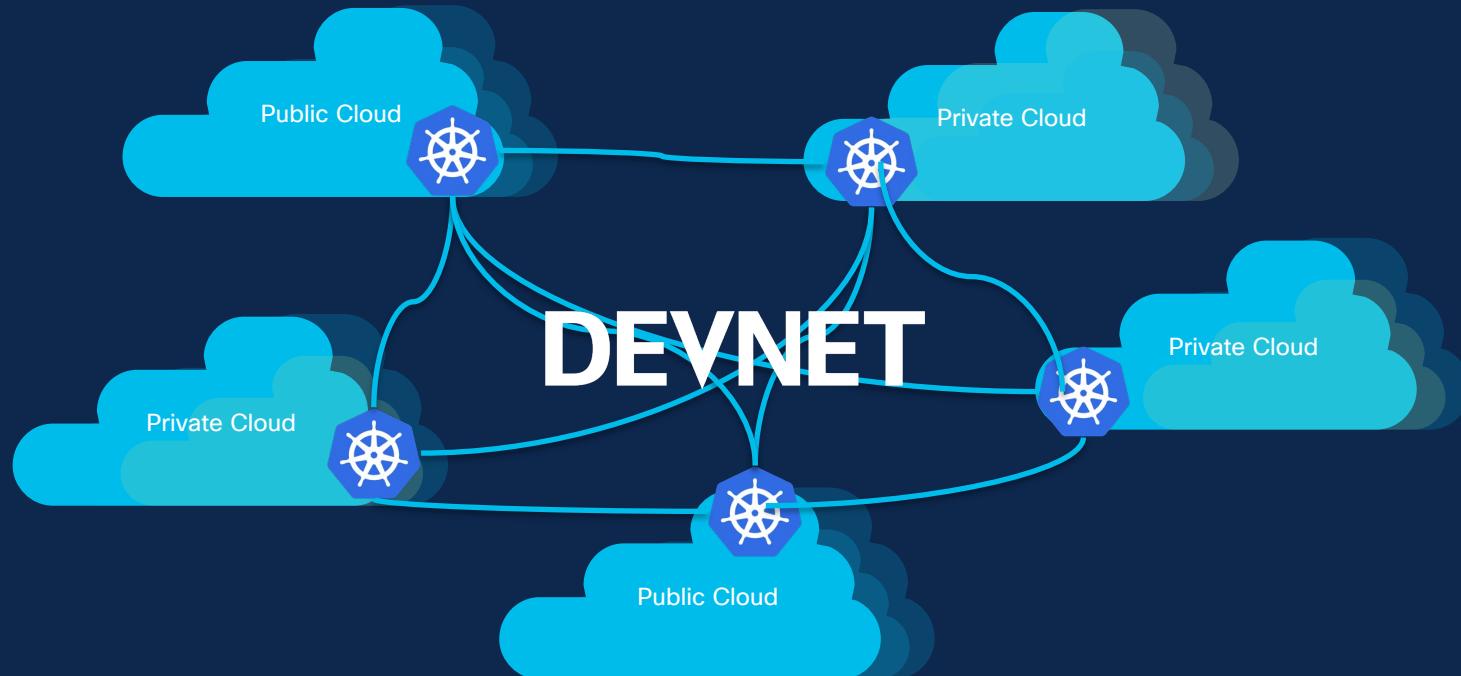
Application

Workload

Platform

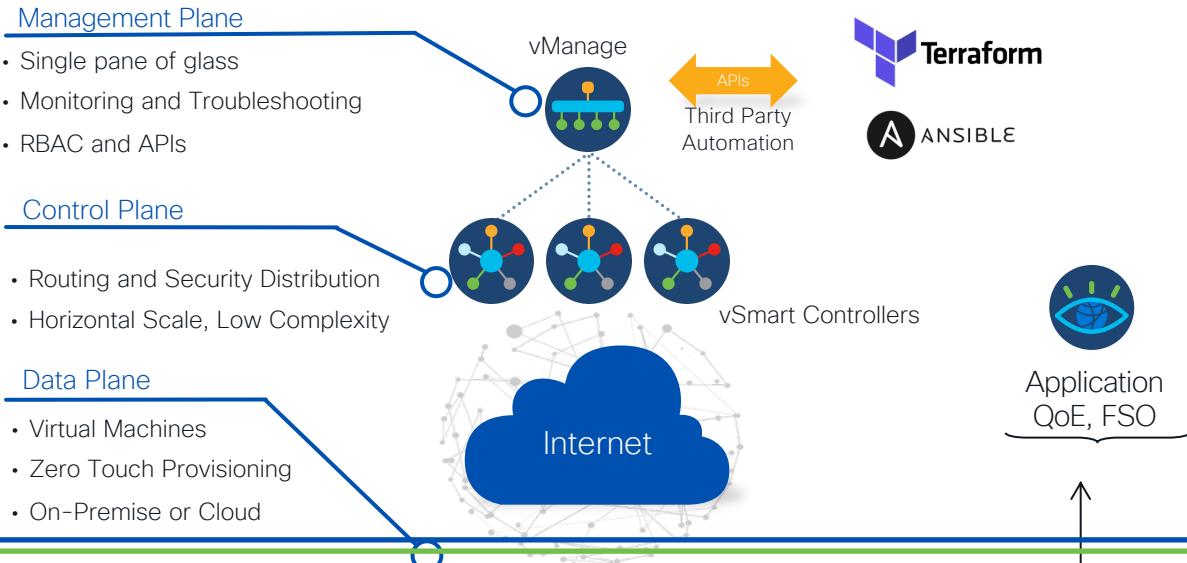


# Super Cloud Operating model?



# Cisco SD-WAN: Target Architecture

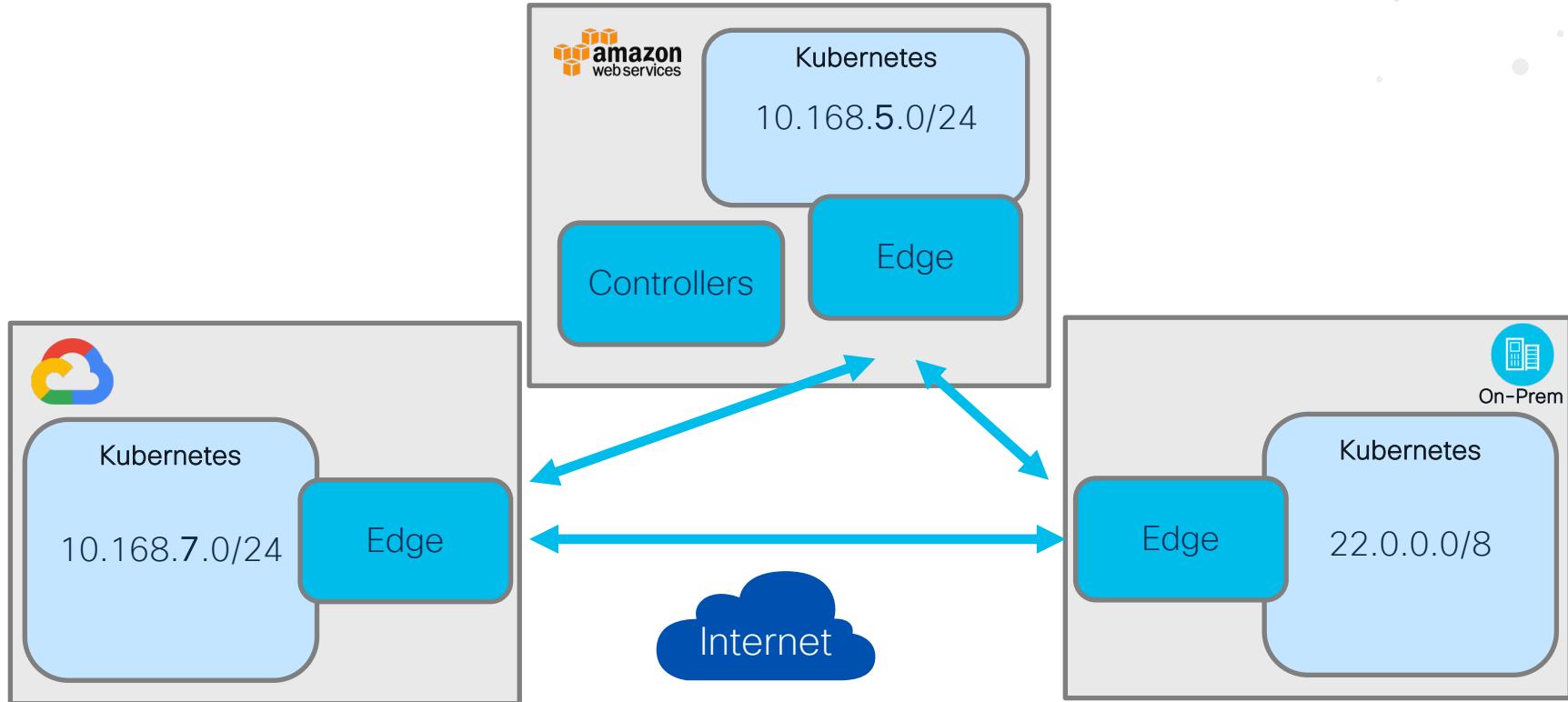
## Controller Architecture

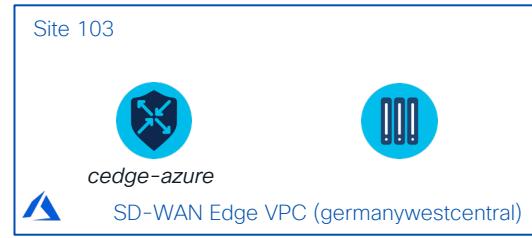
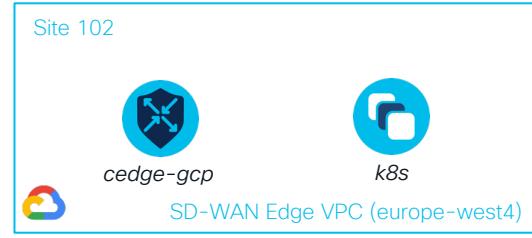
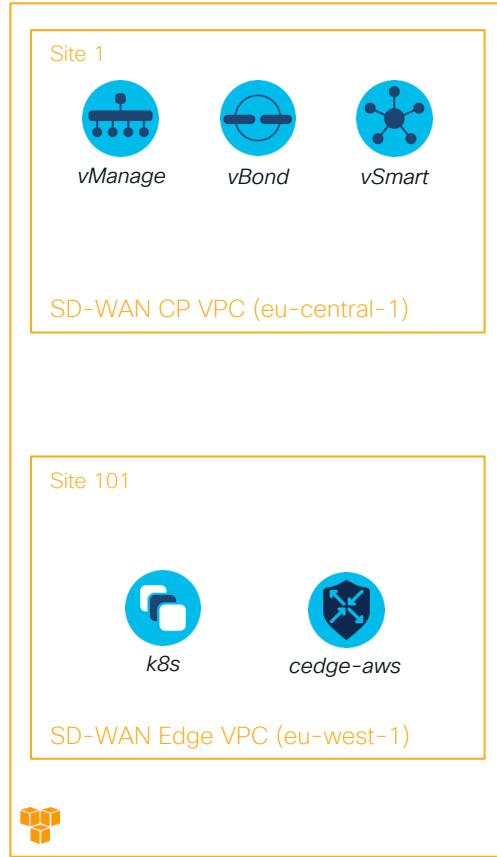


## Platform Support

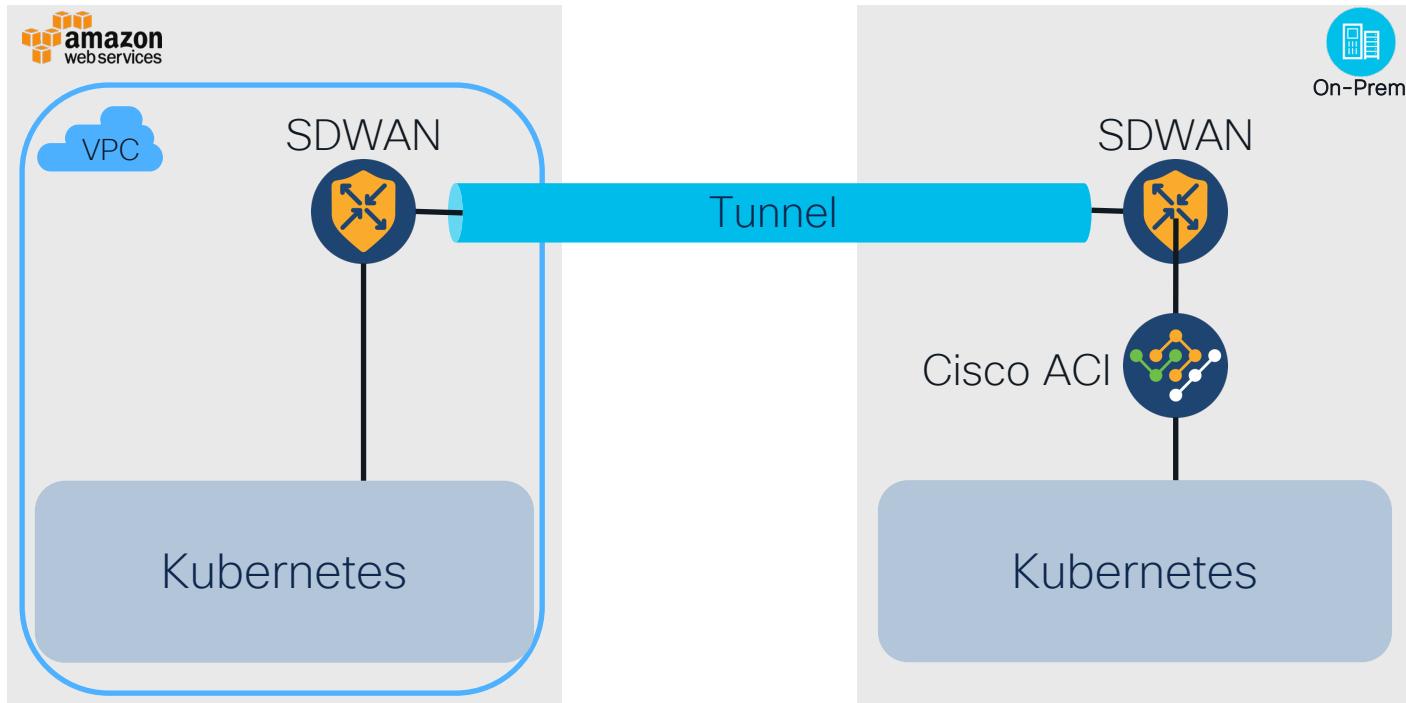


# Networking In Multi-Cloud

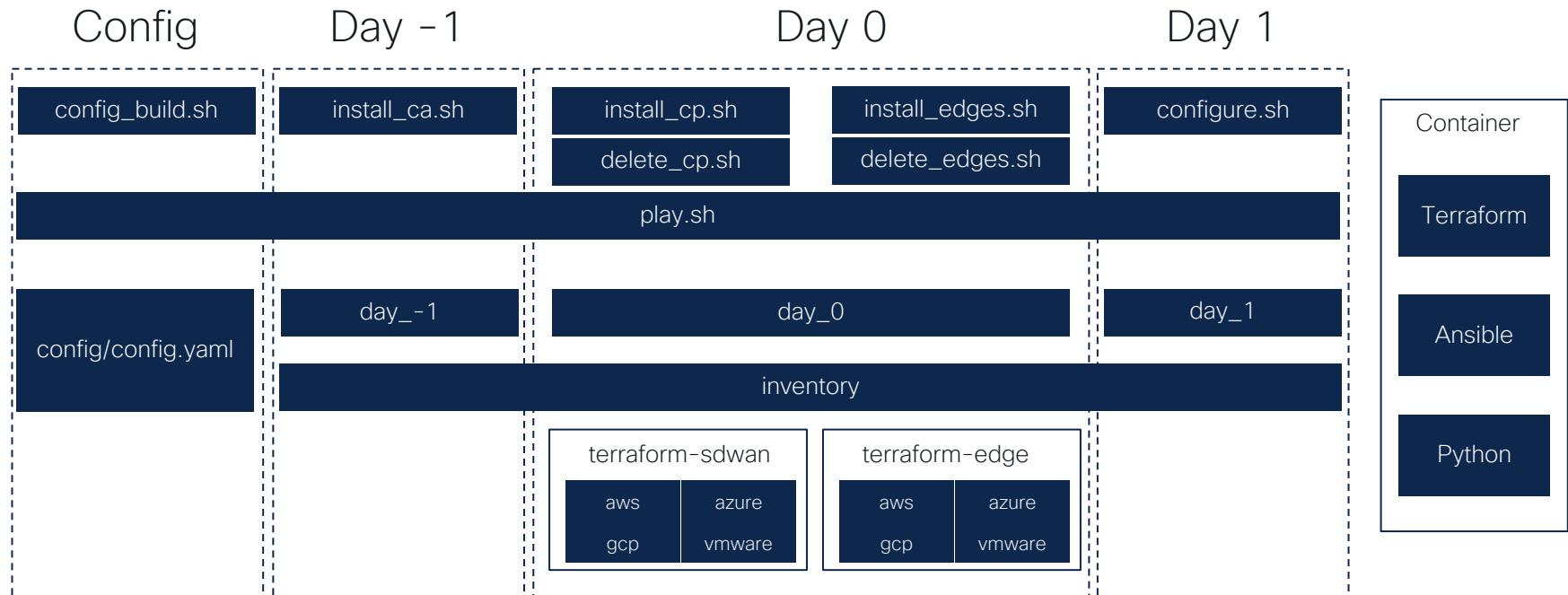


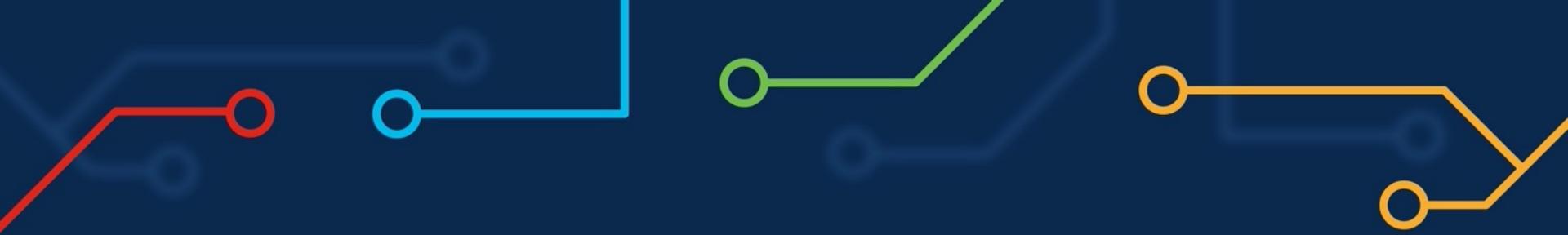


# Connectivity Overview



# Automation Code Base Architecture





Demo

SD-WAN as Code deployment

# Use Case series- The Journey

DevOps journey based on article from Julio Gomez



<https://github.com/juliogomez/devops>

The journey:

Simple 3-tier application -> version control -> container/docker

MiniDC -> Kubernetes -> service mesh -> monitoring

Moving our app to the cloud -> helm package manager

CI-CD Pipeline -> Multicloud -> **SuperCloud**

# My Hero Voting system

localhost:15080

Superhero & Villians

Results More about Captain Cloud More Info

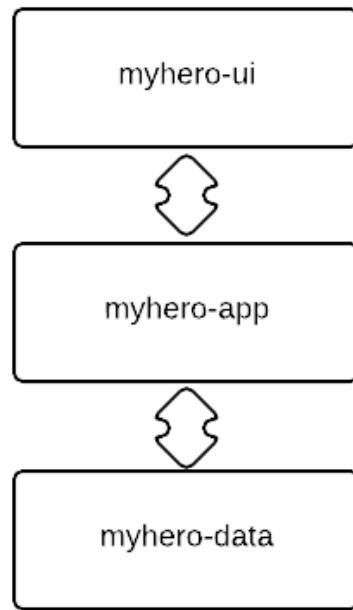
Make your voice heard!

Here at Superhero and Villians, Inc, we highly value our customer opinions when deciding what hero's should star in our next movie or comic. Please take a moment and place your vote for who YOU think deserves a place at the top.

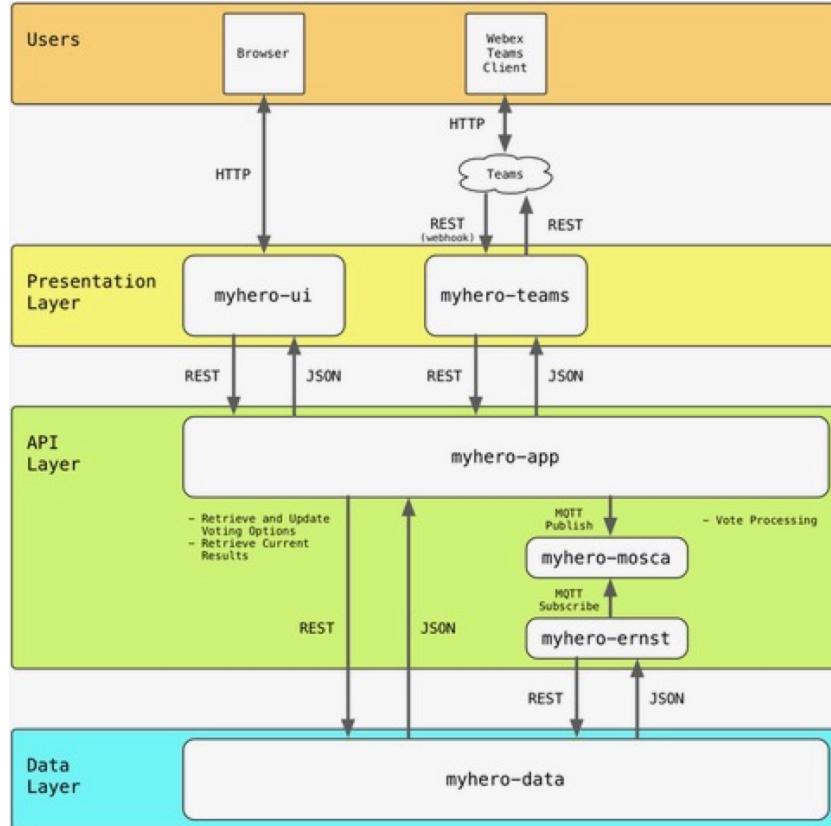
- Making wearing costumes cool again!

SUPERHEROES  
VILLAINS INC.

## High Level 3 Tier design



# Detailed 3-tier design





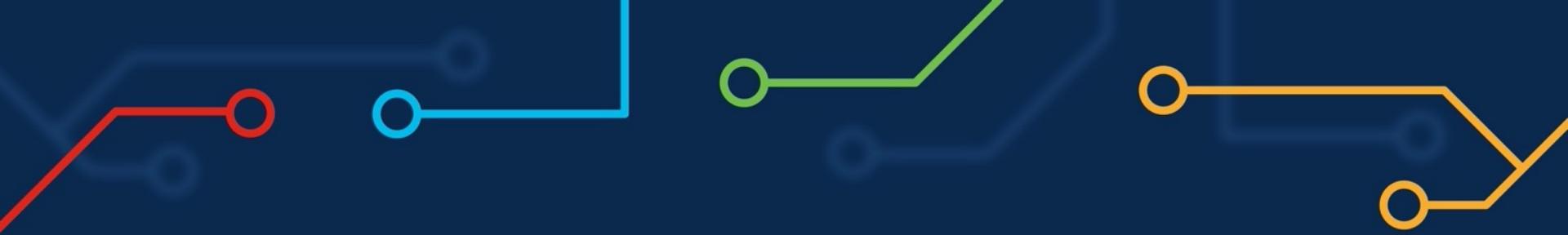
Demo

Building the app using Docker

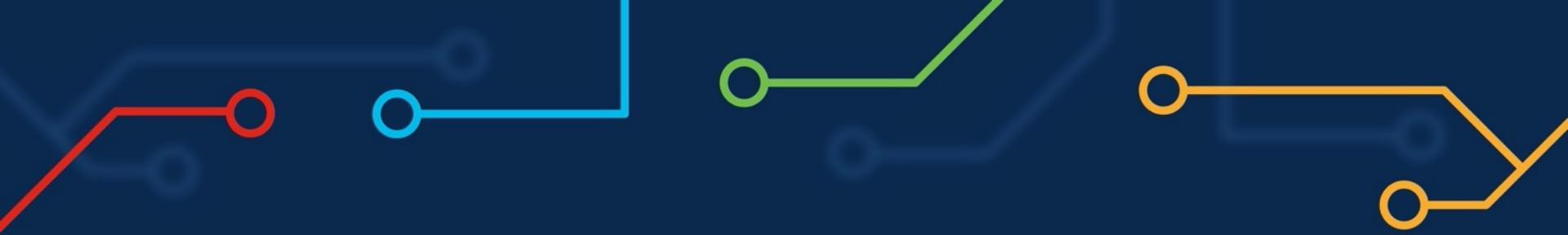


Demo

Building the app on Google Cloud Kubernetes

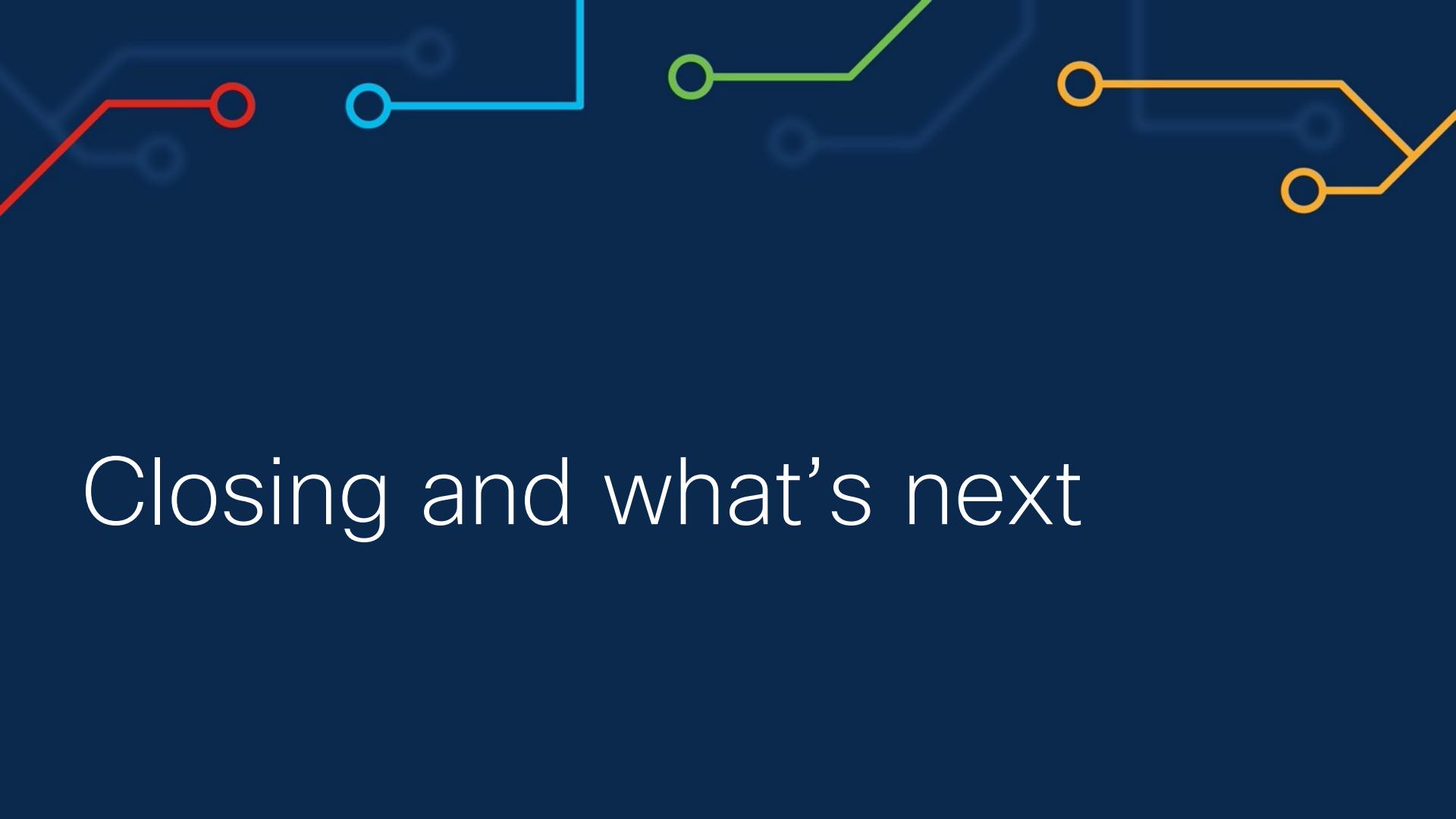


Break



Tech Session: John Capobianco

Network Operations in the Age of Artificial Intelligence



The background features four distinct colored lines (red, cyan, green, orange) on a dark blue gradient. Each line consists of a series of small, open circles connected by straight segments. The red line is on the far left, followed by cyan, green, and orange on the right. The green line has a single segment that slopes upwards towards the top right corner of the slide.

Closing and what's next

# Any Other Business

- DevNet is DevNet! Updates coming soon!
- DevNet Community channel (Slack?) coming soon.
- DevNet Norway Community Github  
<https://github.com/atoxopeu/DevNetNorwayCommunity>

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Simple 3-tier application -> version control -> container/docker

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CI-CD Pipeline -> Multicloud -> **SuperCloud**



Join at  
**slido.com**  
**#470 038**

Passcode:

**devnet**





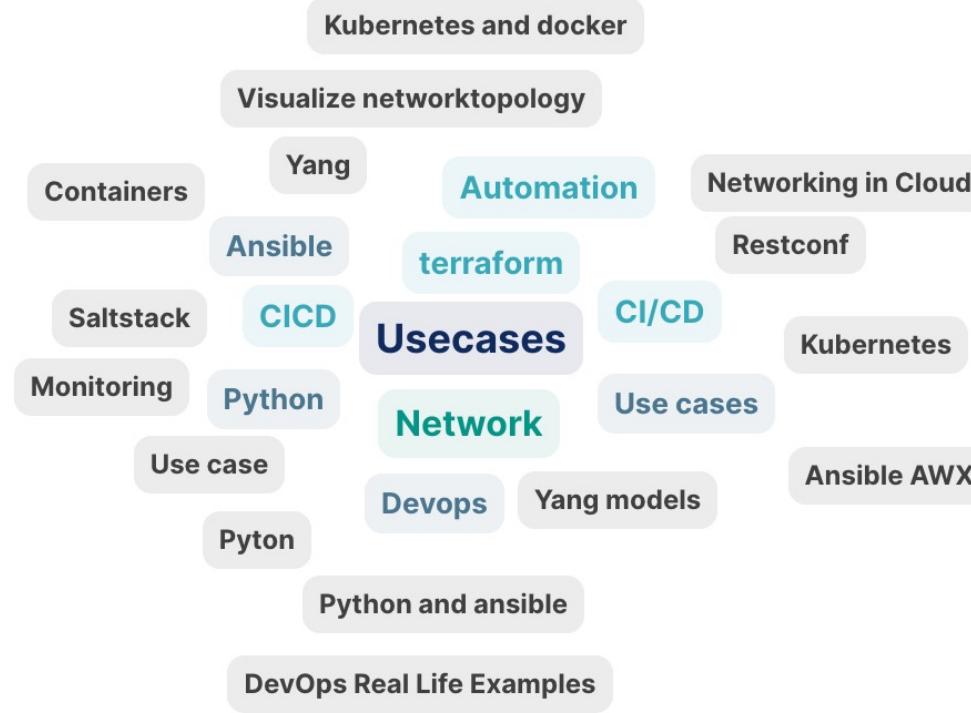
# What topics are most relevant for you that you would like to hear about?

[Share](#) ▾

Wordcloud Poll

47 responses

18 participants



# Next session 15th of February 2024

Proposed topics:

Kubernetes networking (CNI, ServiceMesh)

Platform Engineering

CI/CD pipelines

Use Case??

Please contact me!



Interested ??

