



You make **possible**



# Working 9 to 5 as a NetDevOps Engineer

A practical look at NetDevOps in action

Hank Preston, Principal NetDevOps Engineer  
@hfpreston

DEVNET-1291

**CISCO** *Live!*

Barcelona | January 27-31, 2020



# Cisco Webex Teams

## Questions?

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

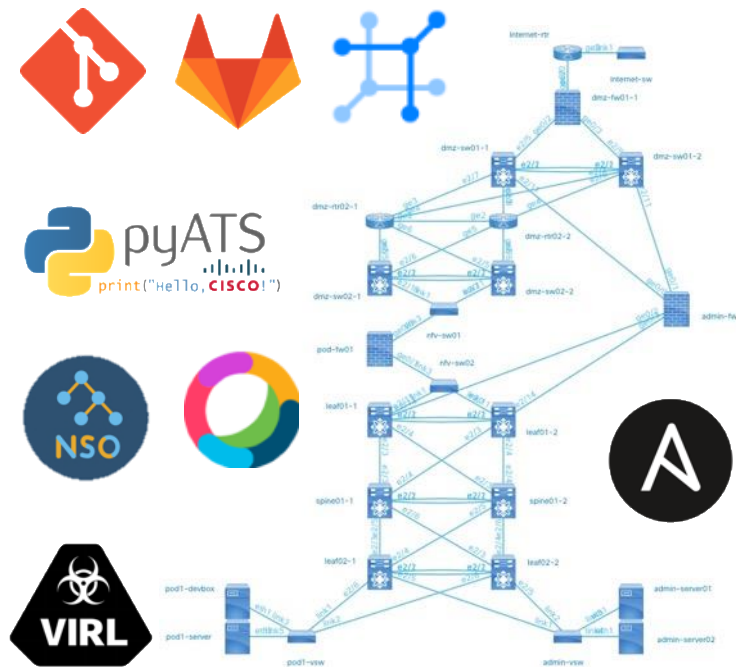
## How

- 1 Find this session in the Cisco Events Mobile App
- 2 Click “Join the Discussion”
- 3 Install Webex Teams or go directly to the team space
- 4 Enter messages/questions in the team space




# Agenda

- What is NetDevOps again?
- Life as a NetDevOps Engineer – Live Demo!
  - Network as Code, CICD, ChatOps
  - Open Source and Commercial



\* Please checkout DEVNET-1725 “How to be a Network Engineer in a NetDevOps Age” for a thorough introduction into the evolution of network engineering into NetDevOps



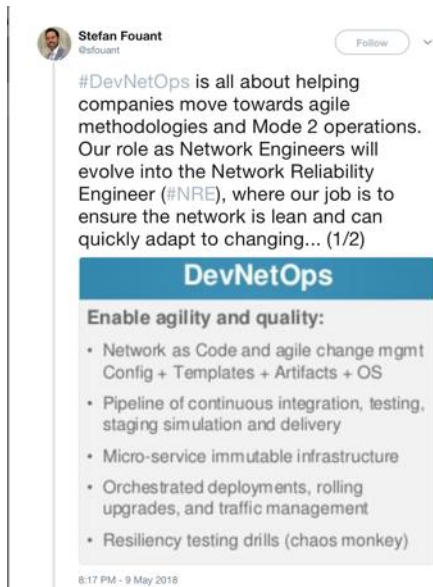
Wait... *What is NetDevOps  
you ask?*

## NetDevOps (n)

The application of  
DevOps principals to  
network engineering and  
operations.

# NetDevOps... also known as...

## DevNetOps



Stefan Fouant @sfouant

#DevNetOps is all about helping companies move towards agile methodologies and Mode 2 operations. Our role as Network Engineers will evolve into the Network Reliability Engineer (#NRE), where our job is to ensure the network is lean and can quickly adapt to changing... (1/2)

**DevNetOps**

Enable agility and quality:

- Network as Code and agile change mgmt  
Config + Templates + Artifacts + OS
- Pipeline of continuous integration, testing, staging simulation and delivery
- Micro-service immutable infrastructure
- Orchestrated deployments, rolling upgrades, and traffic management
- Resiliency testing drills (chaos monkey)

8:17 PM - 9 May 2018

## NetOps



IntelligentVizinc @intelligentviz

NetMagus is a web/UI based netOps automation framework designed to abstract away the complexities of operating Ansible and to also provide a centralized visual automation experience for Multi-Vendor point products #DevOps #NetOps #Cisco #Velocloud #Arista -

Intelligent Visibility, North Carolina, Experts Cisco Arista Ve...  
Intelligent Visibility is a leader in Advanced Managed Services, cloud/data center, compute/storage, assessment services, advanced professional services, and devops/netops automatio...  
intelligentvisibility.com

3:08 AM - 14 Aug 2018

## SuperNetOps



F5 Networks EMEA @F5NetworksEMEA

Are you a #NetOps engineer, architect or leader? #SuperNetOps initiative will change your career. See why here.  
[devcentral.f5.com/articles/highb...](https://devcentral.f5.com/articles/highb...)

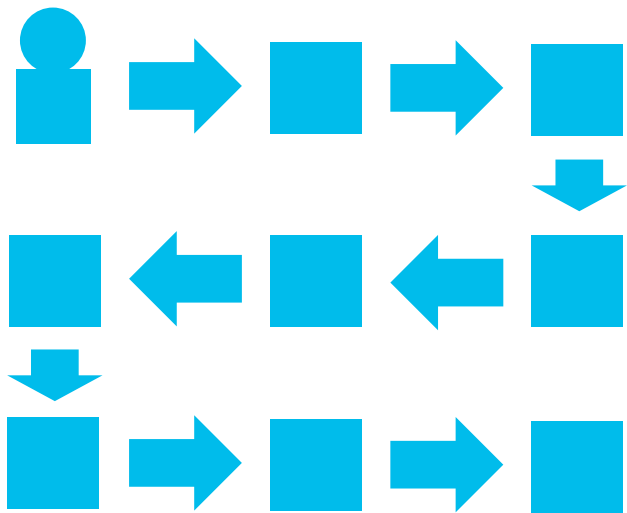
Enabling NetOps to deliver automation and agility for application deployments.

WE MAKE APPS GO FASTER

11:00 AM - 1 May 2018

## Network Reliability Engineering (NRE)

# Today's Network Realities

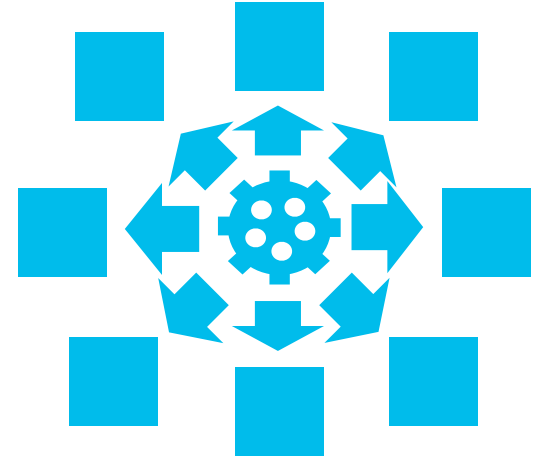
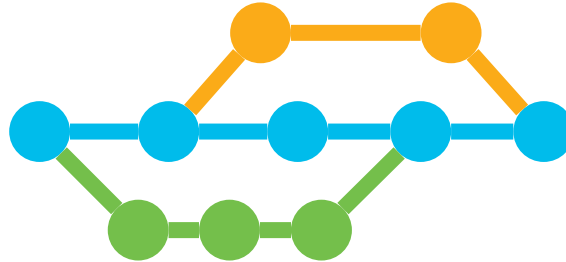
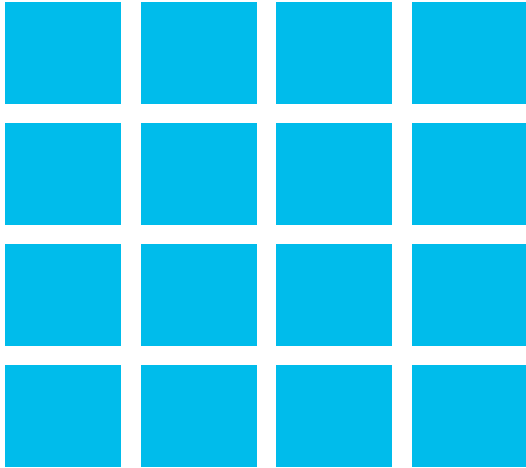


**Sequential and Manual  
Infrastructure Provisioning**



**Snowflake Infrastructure with  
Organic Configurations**

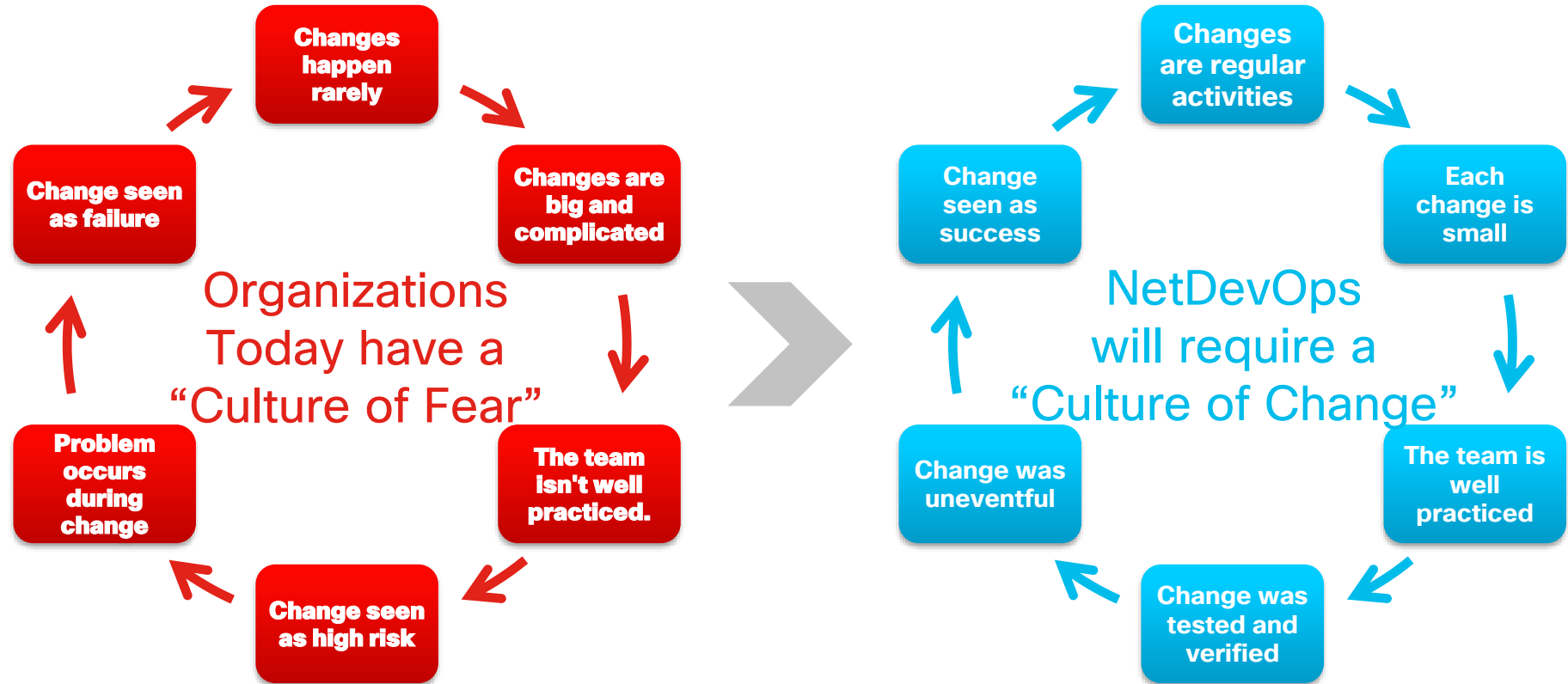
# NetDevOps Will Deliver



**Consistent Version Controlled Infrastructure deployed  
with Parallel & Automated Provisioning**



# Moving to a NetDevOps Culture and Mindset



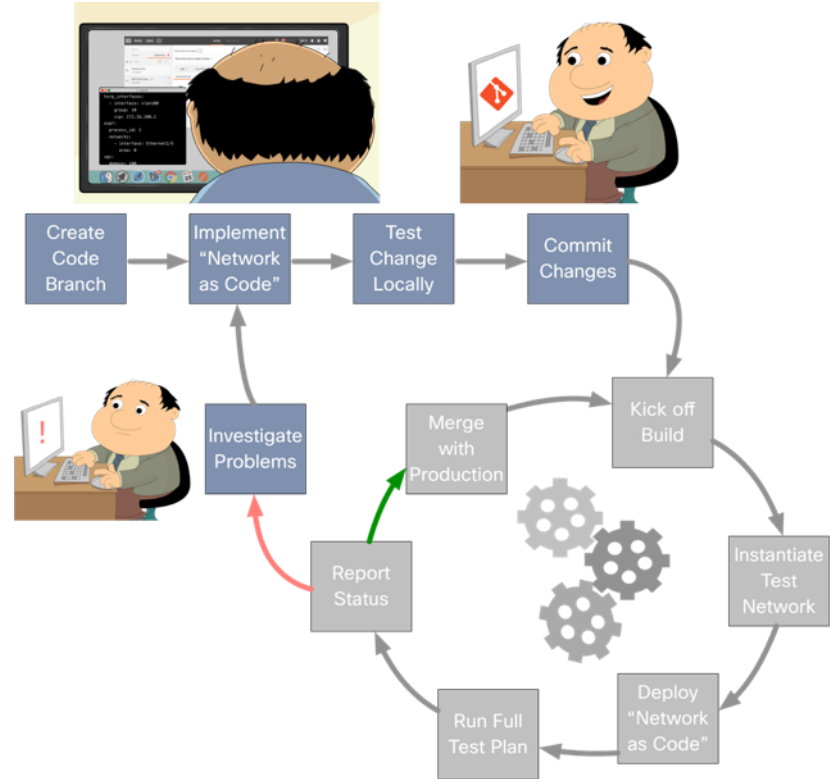
# NetDevOps Configuration, Automation & Monitoring Principles

- **Network as Code** and **Configuration Management** strategies
- **Continuous Development** approach to network changes.
- **Continuous health and improvement** approach to monitoring.



# Continuous Delivery Pipeline for Network Configuration

- Network Configuration stored in Source Control
- Changes are proposed in code “branches”
- CI/CD Build Servers deploy and test proposed configurations
- Successful configurations automatically deployed to “Production”

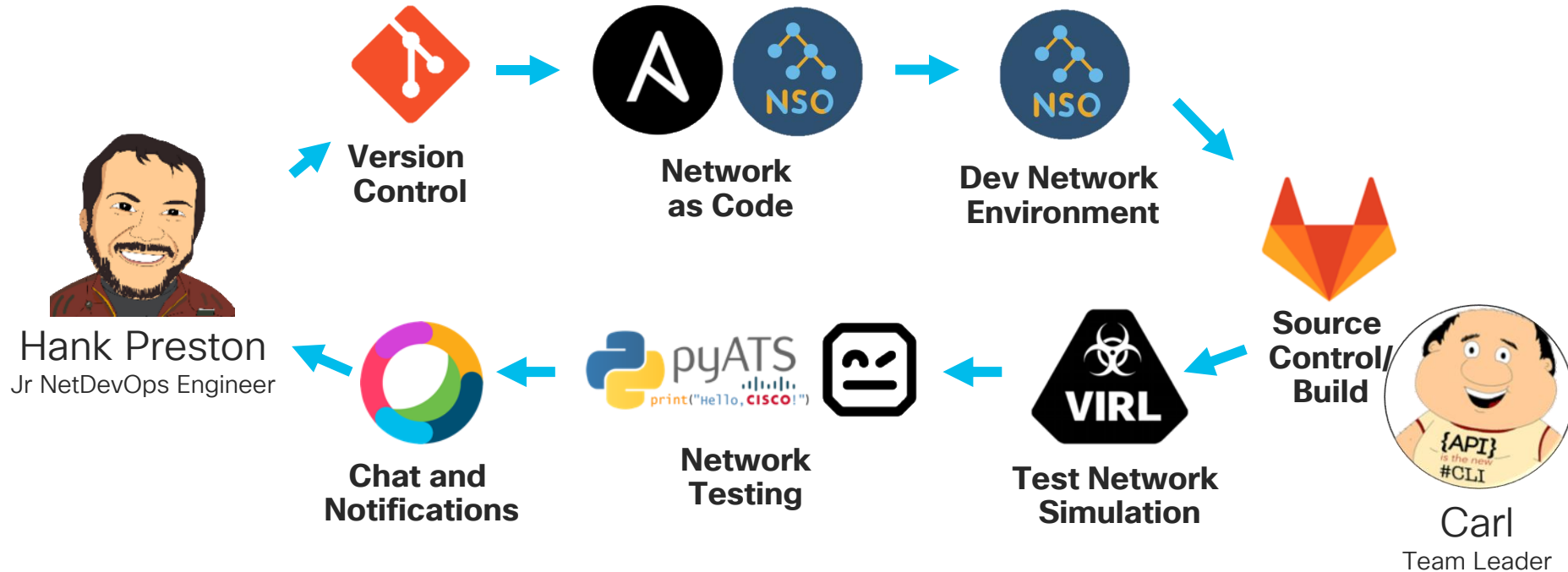


A cartoon illustration depicting a science experiment. On the left, a large, balding man with a purple shirt and grey jacket sits in a tan machine. In the center, a man with a large red beard and white lab coat, wearing grey gloves, celebrates with his arms raised. To the right, a man with a yellow beard and white lab coat looks on. Behind him is a large blue control panel with various gauges and a lever. In the top left corner, a black rectangular area contains a yellow lightning bolt. A speech bubble from the celebrating man contains the text 'IT'S ALIVE!!!'. At the bottom, the text 'Demo Time!' is written in a stylized blue font.

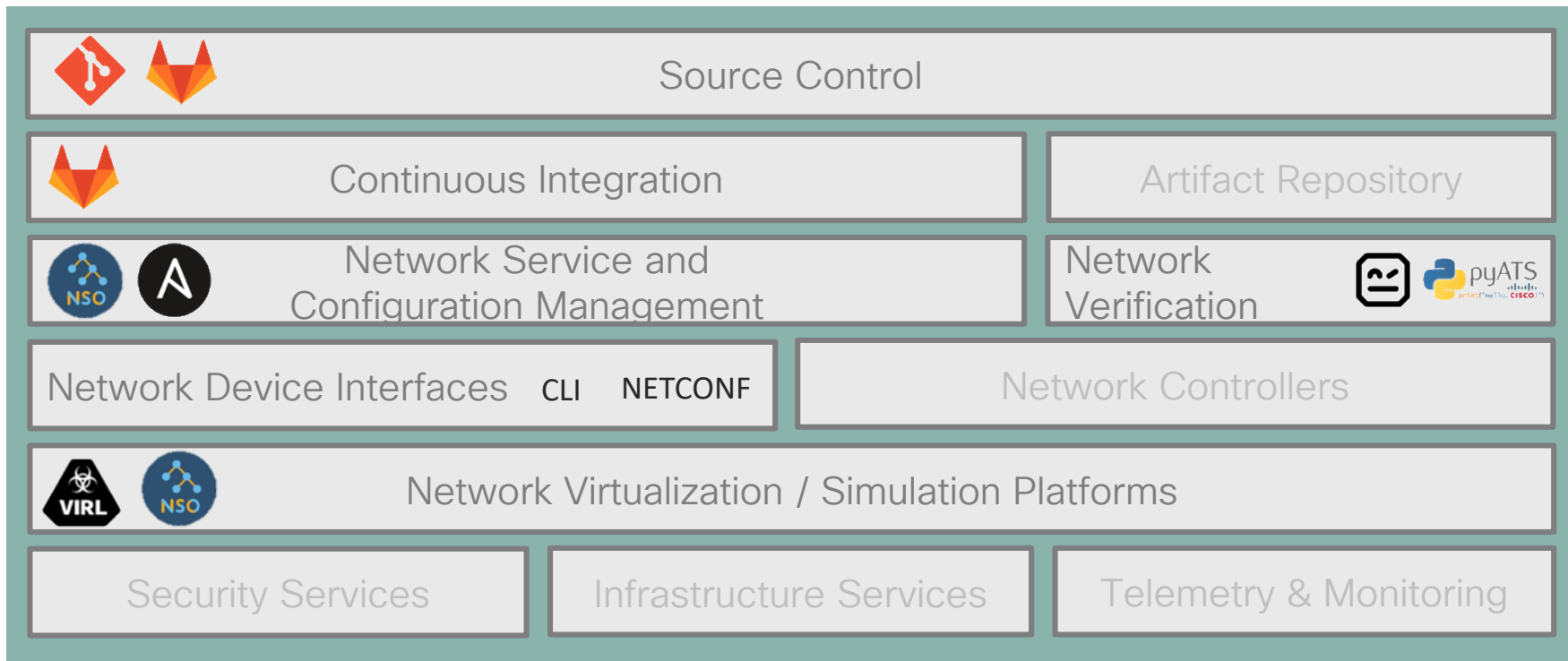
**IT'S  
ALIVE!!!**

***Demo Time!***

# NetDevOps Configuration Pipeline Environment

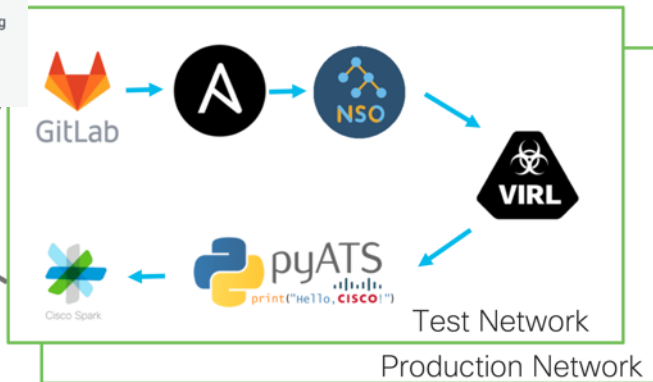
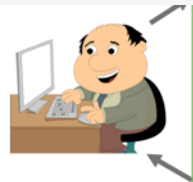


# The NetDevOps Tool Chest



# Try the Demo Yourself!

- Want to try the demo yourself?
  - Reserve a FREE Sandbox at <http://cs.co/sbx-multi>
  - Find the CICD Lab Setup instructions at <http://bit.ly/2HtgpKp>

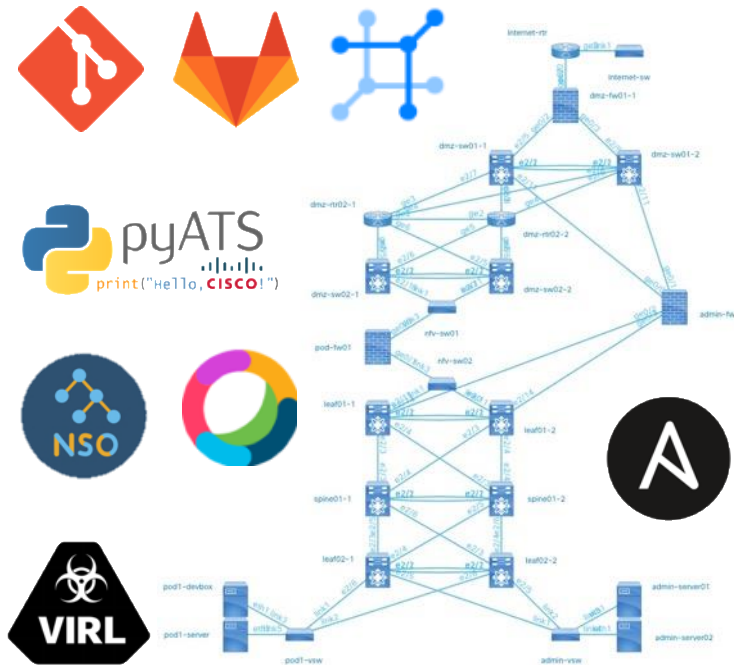


# Finishing Up



# Agenda

- What is NetDevOps again?
- Life as a NetDevOps Engineer – Live Demo!
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# What do do next?

- NetDevOps Readings

- [Embrace NetDevOps, Say Goodbye to a "Culture of Fear"](#)
- [NetDevOps Goes Beyond Infrastructure as Code](#)
- [What does "Network as Code" Mean?](#)
- [A Network Engineers Journey in Programmability](#)
- [NetDevOps and the Rise of the Programmable Network](#)

- NetDevOps Learning Resources

- [Network Programmability Basics Video Course](#)
- [NetDevOps Learning Labs](#)
- [NetDevOps Live!](#)

- NetDevOps Videos

- [How to be a Network Engineer in a Programmable Age](#)
- [Network as Code in Action](#)
- [Benefits of Configuration Management](#)

# Got more questions? Stay in touch!



**Hank Preston**



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@hfpreston



<http://github.com/hpreston>

**cisco** *Live!*



**[developer.cisco.com](https://developer.cisco.com)**



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[facebook.com/ciscocodevnet/](https://facebook.com/ciscocodevnet/)



<http://github.com/CiscoDevNet>

# Learn more about the new DevNet Certifications and how you can prepare now!

Associate Level

Specialist Level

Professional Level

Expert Level

Engineering



Software



Future  
Offering

# Start Here | Upcoming Cisco DevNet Certifications

- Start at **Meet DevNet**

DEVNET-2864: Getting ready for Cisco DevNet Certifications

Offered daily at 9am, 1pm & 4pm at Meet DevNet

- Attend a **brownbag session**

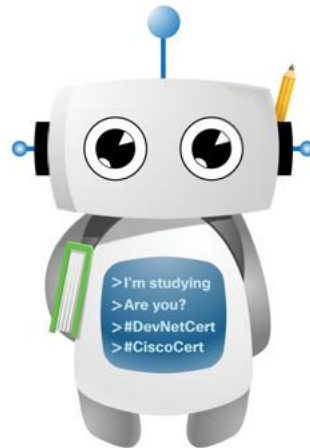
DEVNET-4099: DevNet Certifications: Bringing software practices & software skills to networking

Offered daily 12:15-12:45 in the DevNet Zone Theater

- Visit the **Learning@Cisco** booth
- Scan this code to **sign up** for the latest updates or go to <http://cs.co/20eur02>

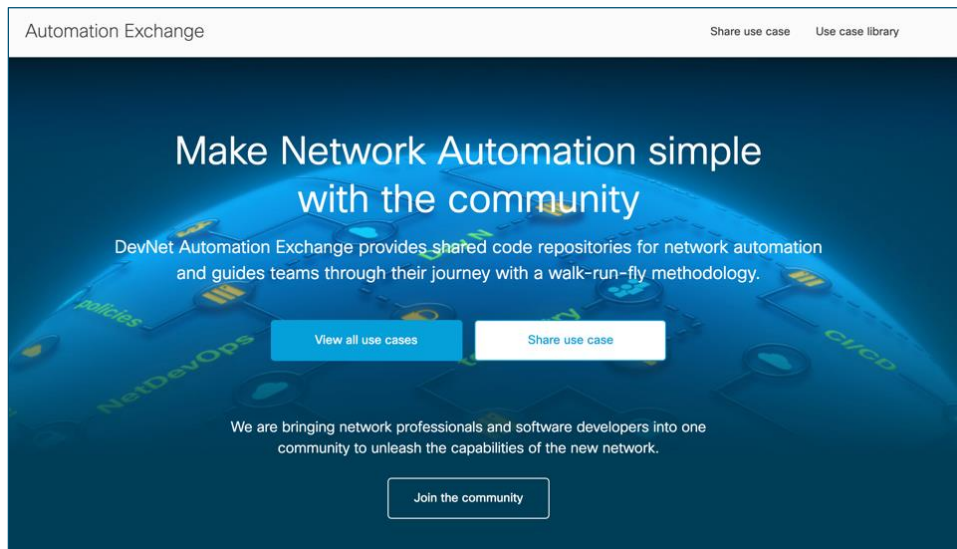


**cisco** *Live!*



# Find shared code repositories of use cases for network automation & more

Don't miss our 5 Automate Infrastructure demos in the DevNet Zone!



## Start at **Meet DevNet**

DEVNET-3010 [a-j] Learn how to make Network Automation Simple with the Community

Offered Monday 2pm & 5pm, Tuesday & Wednesday 10am, 2pm & 5pm, and Thursday 10am & 5pm at Meet DevNet

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Scan this code or go to the URL to **learn more**



<http://cs.co/20eur01>

# Complete your online session survey



- Please complete your session survey after each session. Your feedback is very important.
- Complete a minimum of 4 session surveys and the Overall Conference survey (starting on Thursday) to receive your Cisco Live t-shirt.
- All surveys can be taken in the Cisco Events Mobile App or by logging in to the Content Catalog on [ciscolive.com/emea](https://ciscolive.com/emea).

Cisco Live sessions will be available for viewing on demand after the event at [ciscolive.com](https://ciscolive.com).

# Continue your education



Demos in the  
Cisco Showcase



Walk-In Labs



Meet the Engineer  
1:1 meetings



Related sessions





Thank you





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