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#CiscoLive



The bridge to possible

# Delivering self-service with Cisco ACI and HashiCorp

Developers, help yourself!

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DEVNET-2108

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HashiCorp  
@kalenarndt



# Agenda

- Natilik Platform
- Challenges
- Continuous Deployment or Disappointment?
- Why Self-Service?
- Demo
- Outcomes

# Cisco Webex App

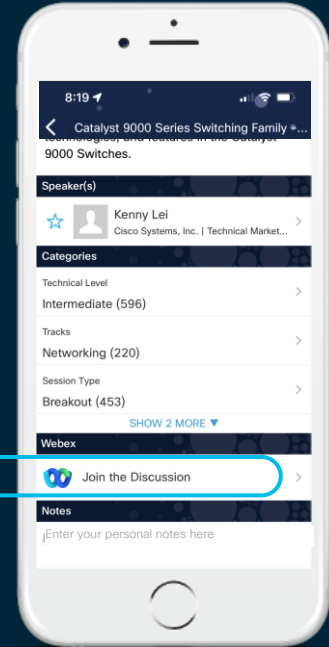
## Questions?

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

## How

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

Webex spaces will be moderated by the speaker until June 17, 2022.



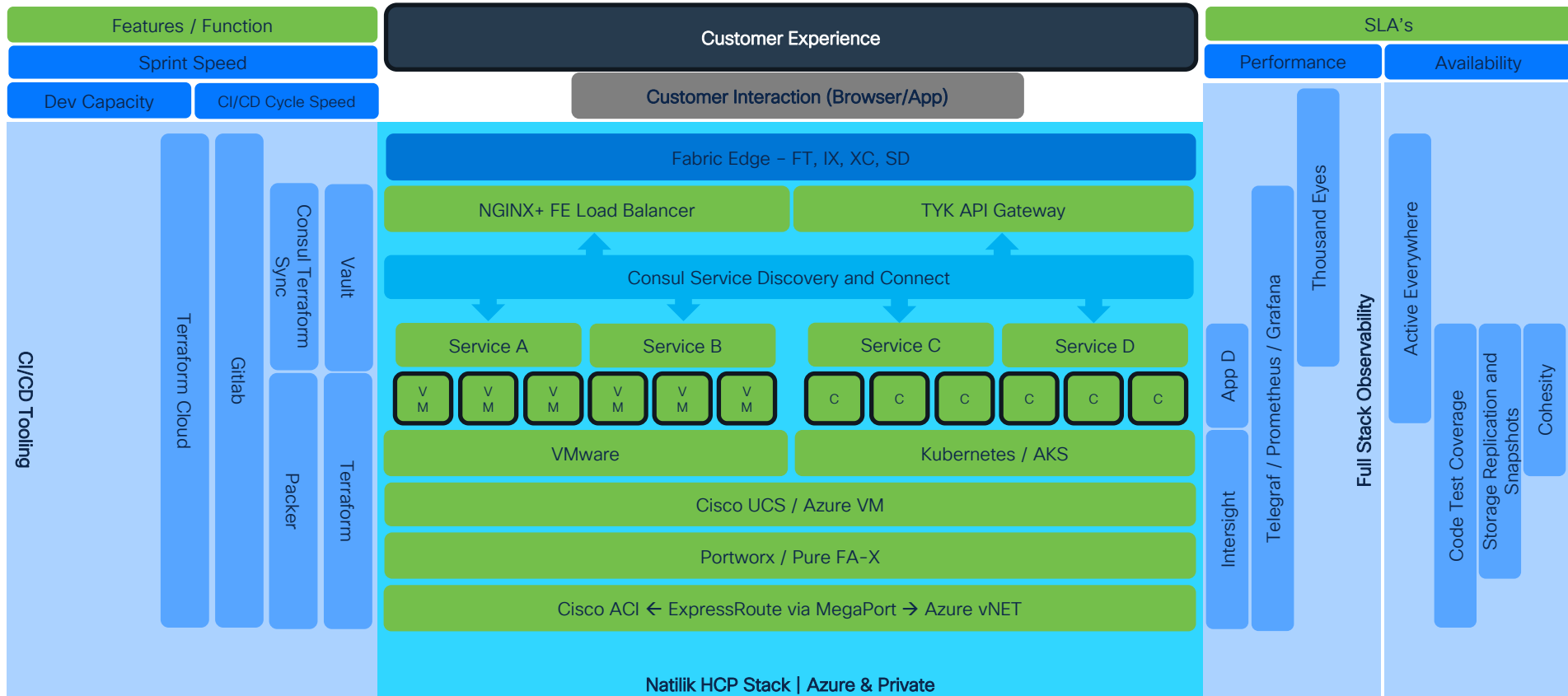
<https://ciscolive.ciscoevents.com/ciscolivebot/#DEVNET-2108>

# Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.



# Natilik Platform



# Challenges



Increased  
Risk

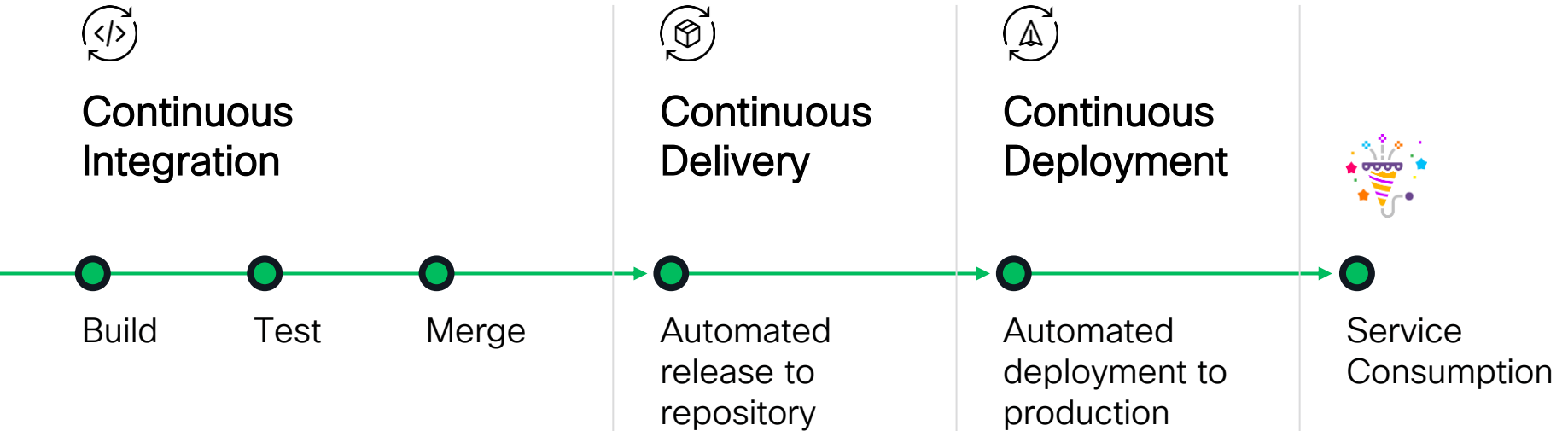


Slow  
Processes



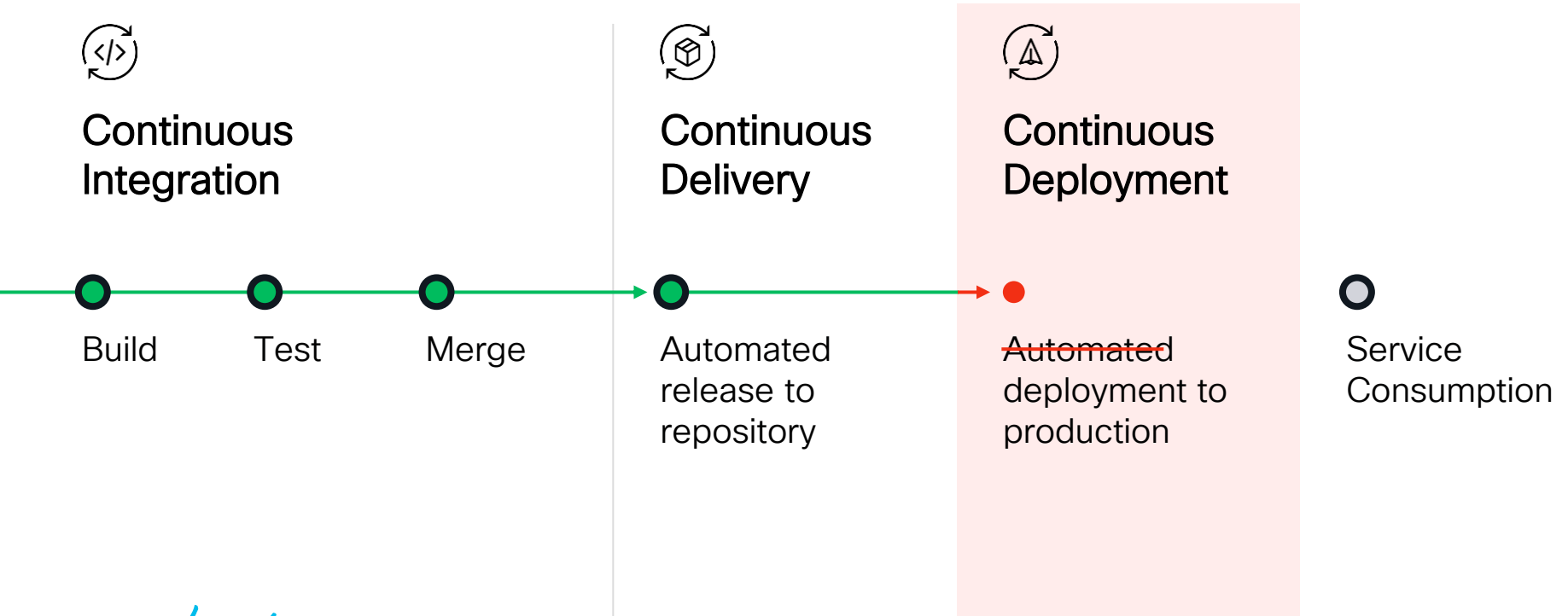
Lack of  
Standardization

# The DevOps Promise

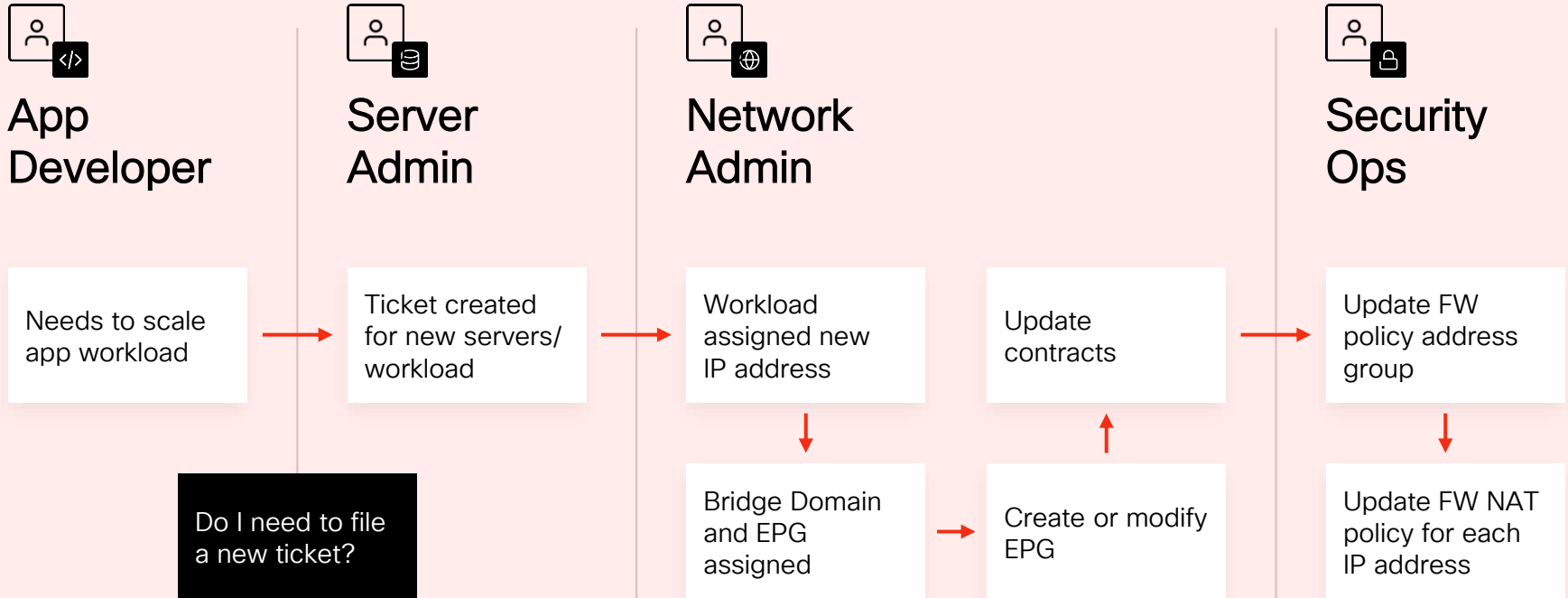




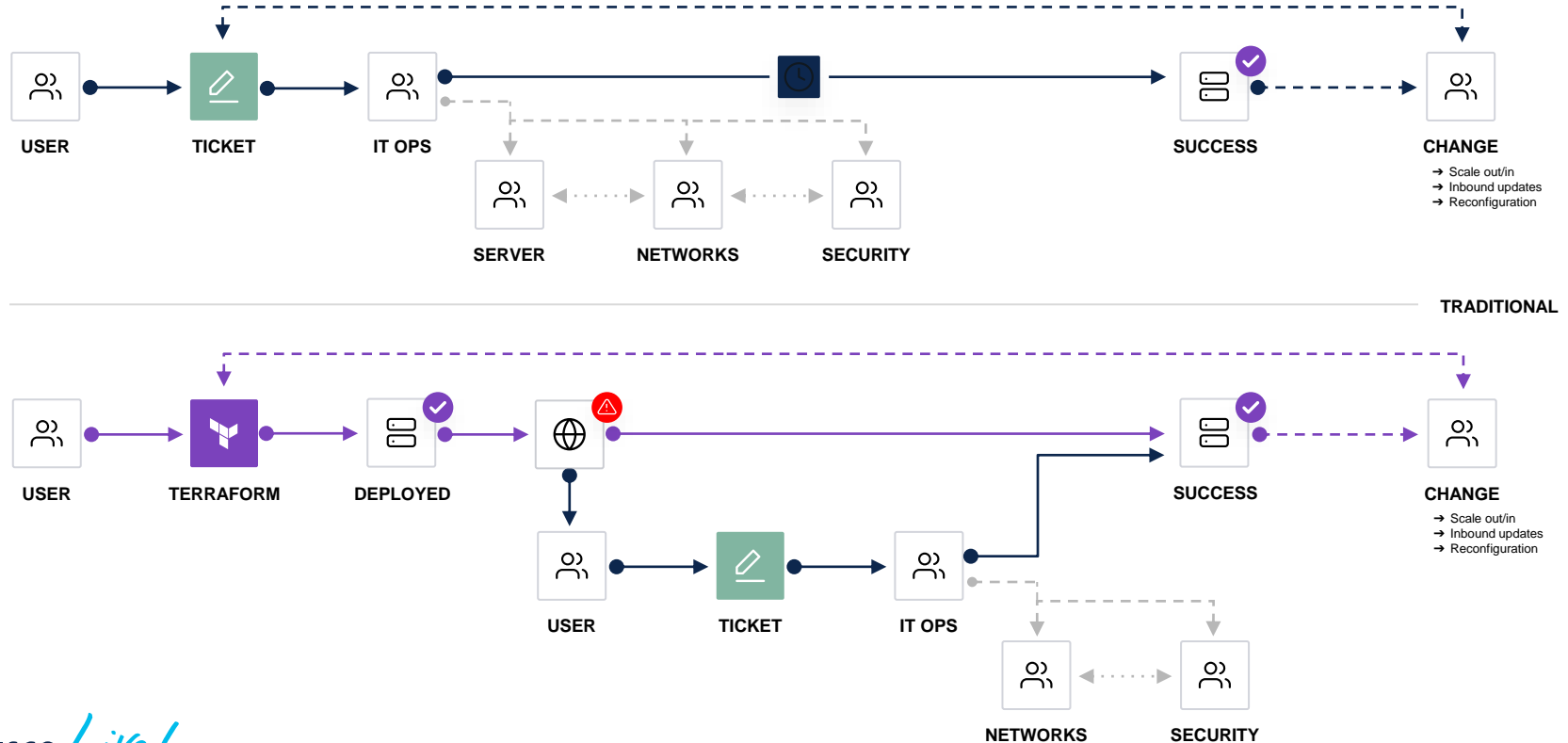
# The DevOps Reality



# Manual Ticket-based Workflow



# Day 0 & Day 1 Network Infrastructure Automation



# Network Infrastructure Automation

Achieve repeatable  
application  
deployment lifecycles

## Day 0 & Day 1 (Provisioning)

Infrastructure as Code (IaC) for provisioning:  
**Terraform**



## Day 2 (Self-Service)

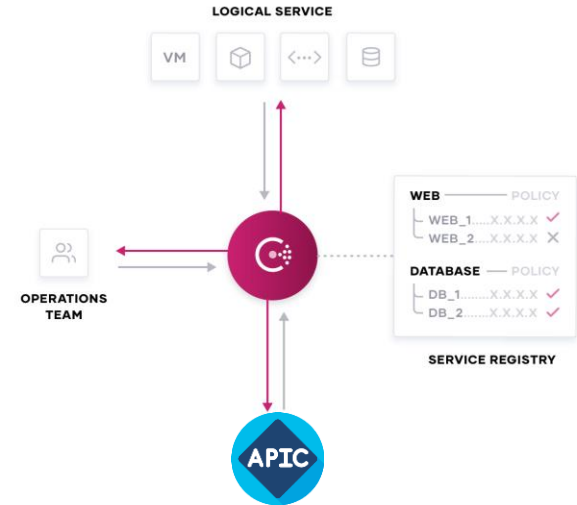
IaC integration to facilitate network automation:  
**Consul-Terraform-Sync (CTS)**



# What is Consul?

Provides the foundation for cloud network automation as a central service registry for service-based networking in the cloud operating model

- ✓ **Service registry & health monitoring** to provide a real-time directory of all services with their health status
- ✓ **Network middleware automation** with service discovery for dynamic reconfiguration as services scale up, down or move
- ✓ **Zero trust network with service mesh** to enable identity-based security enforced at the endpoints via sidecar proxies



# What is Terraform?

Provides the foundation for cloud infrastructure automation using infrastructure as code for provisioning and compliance in the cloud operating model.

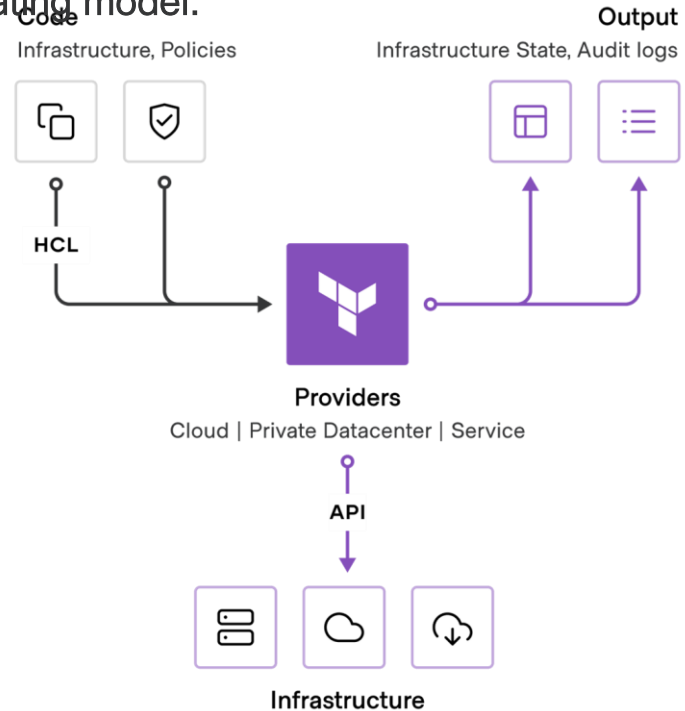
## Use Cases:

- ✓ Collaborative infrastructure as code
- ✓ Compliance & Management
- ✓ Self-Service infrastructure

 **2000+**  
Providers

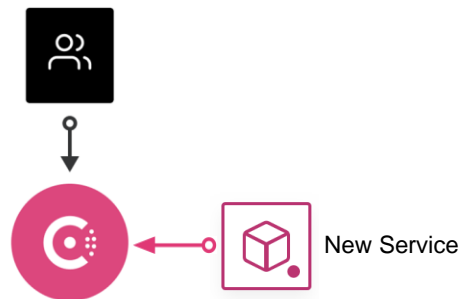
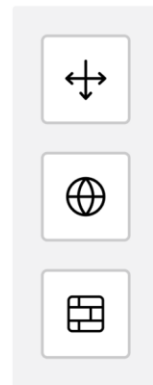
 **Millions**  
Weekly D/Ls

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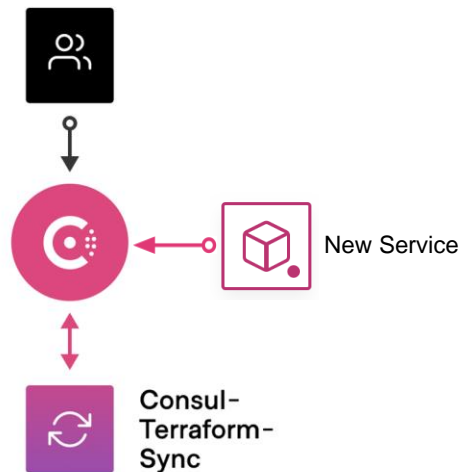
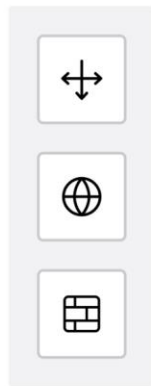
# Consul-Terraform-Sync (CTS)

Consul catalogue updated with  
new service  
registrations/changes.



# Consul-Terraform-Sync (CTS)

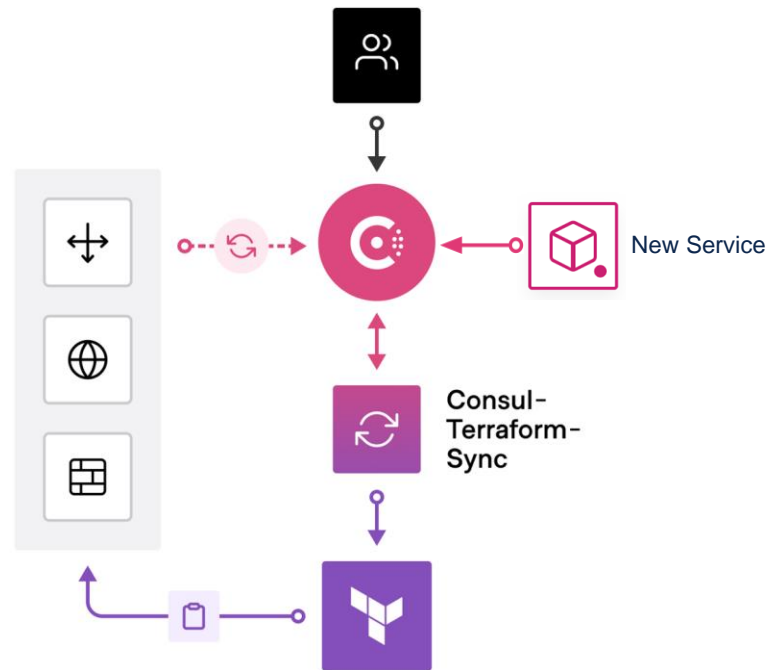
CTS pulls service information from Consul catalogue





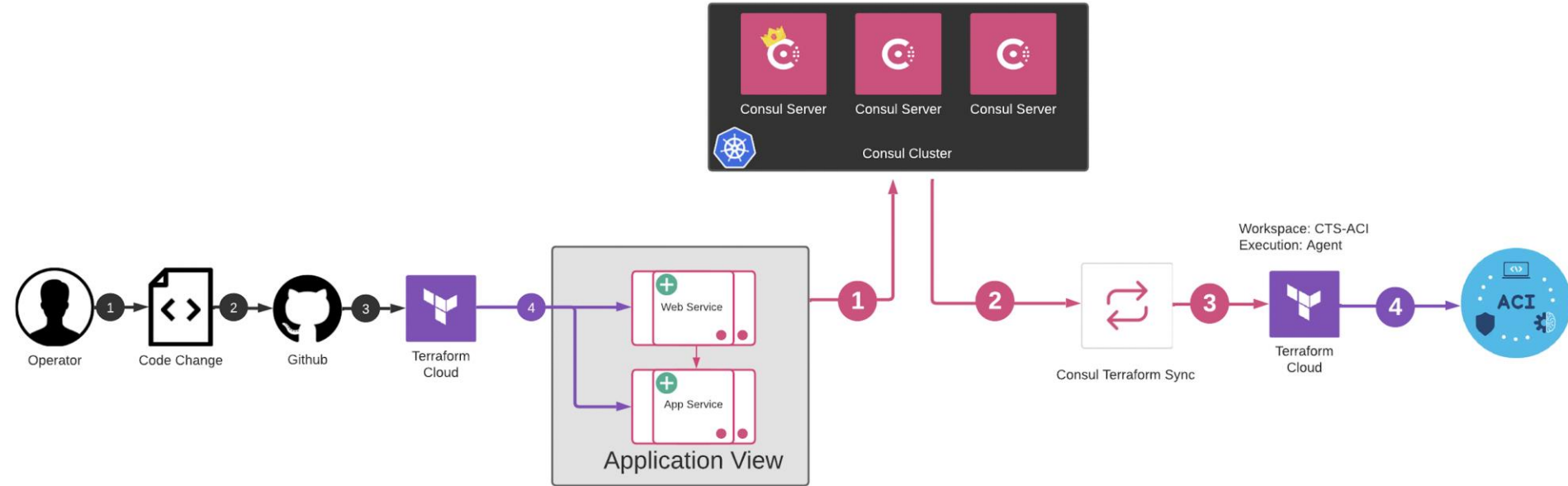
# Consul-Terraform-Sync (CTS)

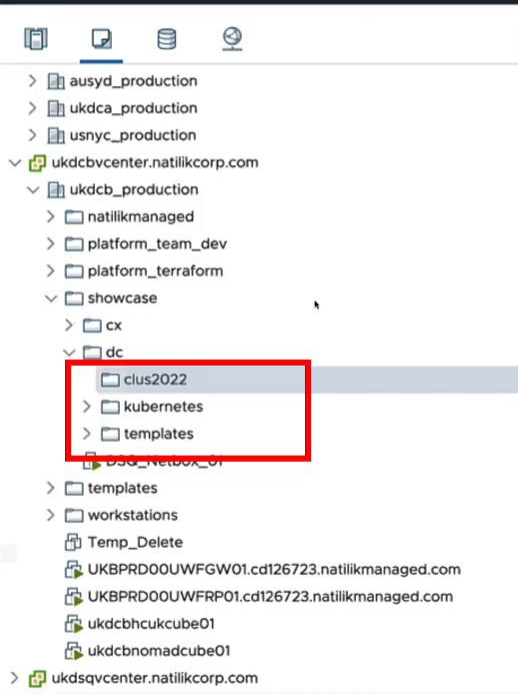
CTS generates new Terraform manifest and initiates a Terraform Cloud run to apply changes.



# Demo

# Demo





### clus2022 ACTIONS

Summary Monitor Configure Permissions VMs

Virtual Machines: 0

CPU USAGE  
0 Hz

MEMORY USAGE  
0 B

STORAGE USAGE  
0 B

#### Custom Attributes

Attribute	Value
Pure Flash Array Key Count	
Pure Flash Array Key0	
Pure1Count	
Pure1Key0	
4 items	

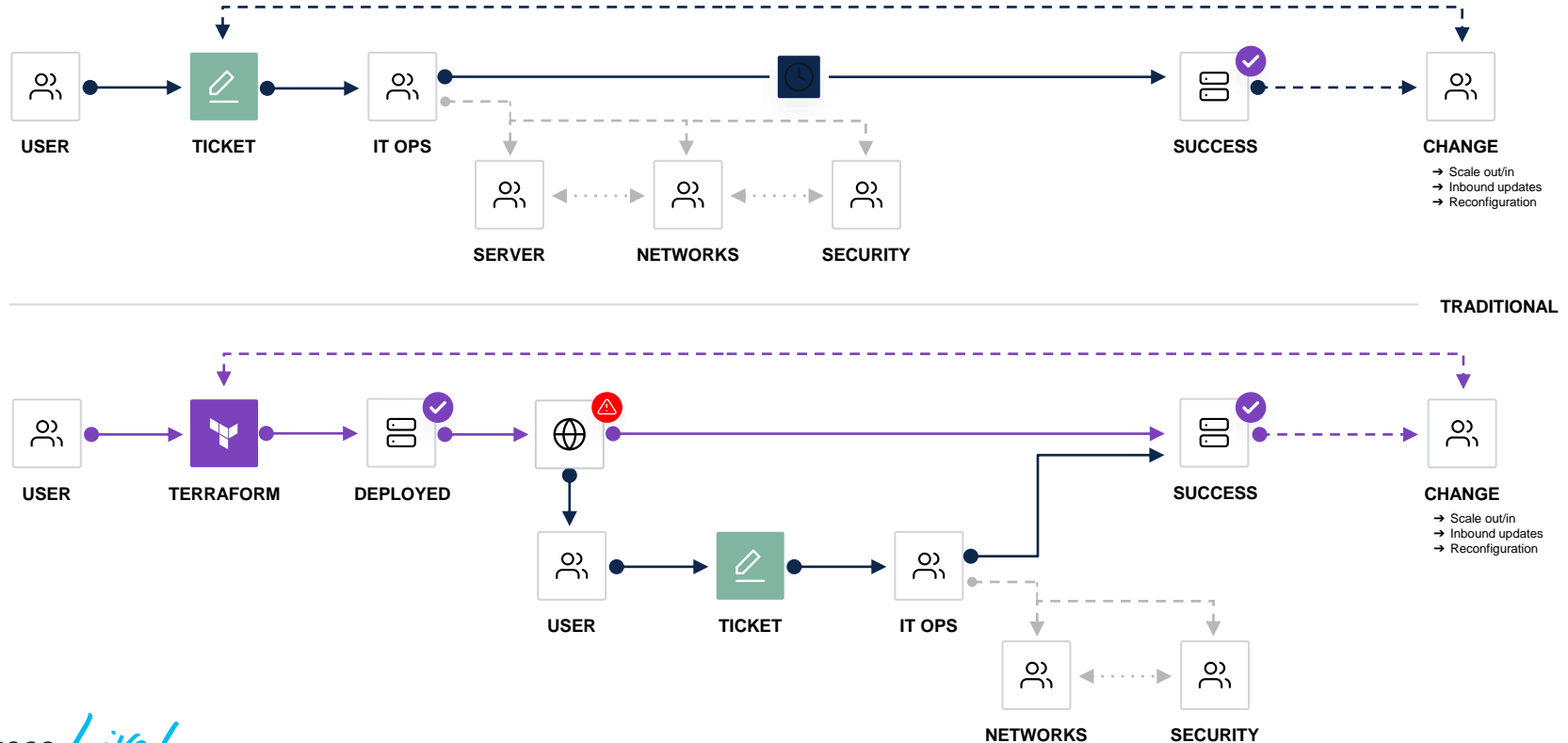
Edit...

#### Tags

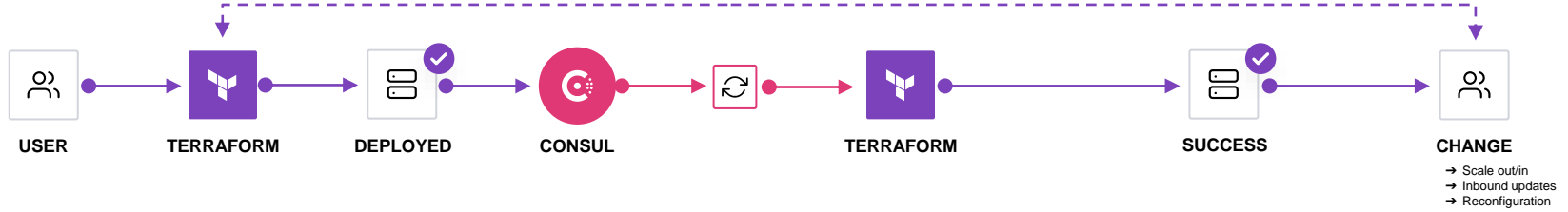
Assigned Tag	Category	Description
No items to display		

Assign... Remove...

# Day 0-1-2 Maturity Patterns



# With Consul-Terraform-Sync



# Consul-Terraform-Sync with Cisco ACI Outcomes



## Before

### Manual Ticket-based

- Multiple engineers involved
- 3-7 days depending on workload
- Wasted idle resources



## After

### Consul-Terraform-Sync

- No human involvement
- ~150 second provisioning time
- Automatic clean up

# Cisco Learning and Certifications

From technology training and team development to Cisco certifications and learning plans, let us help you empower your business and career. [www.cisco.com/go/certs](https://www.cisco.com/go/certs)

Pay for Learning with  
Cisco Learning Credits

(CLCs) are prepaid training  
vouchers redeemed directly  
with Cisco.



## Learn

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IT learning hub that guides teams  
and learners toward their goals

### Cisco Digital Learning

Subscription-based product, technology,  
and certification training

### Cisco Modeling Labs

Network simulation platform for design,  
testing, and troubleshooting

### Cisco Learning Network

Resource community portal for  
certifications and learning



## Train

### Cisco Training Bootcamps

Intensive team & individual automation  
and technology training programs

### Cisco Learning Partner Program

Authorized training partners supporting  
Cisco technology and career certifications

### Cisco Instructor-led and Virtual Instructor-led training

Accelerated curriculum of product,  
technology, and certification courses



## Certify

### Cisco Certifications and Specialist Certifications

Award-winning certification  
program empowers students  
and IT Professionals to advance  
their technical careers

### Cisco Guided Study Groups

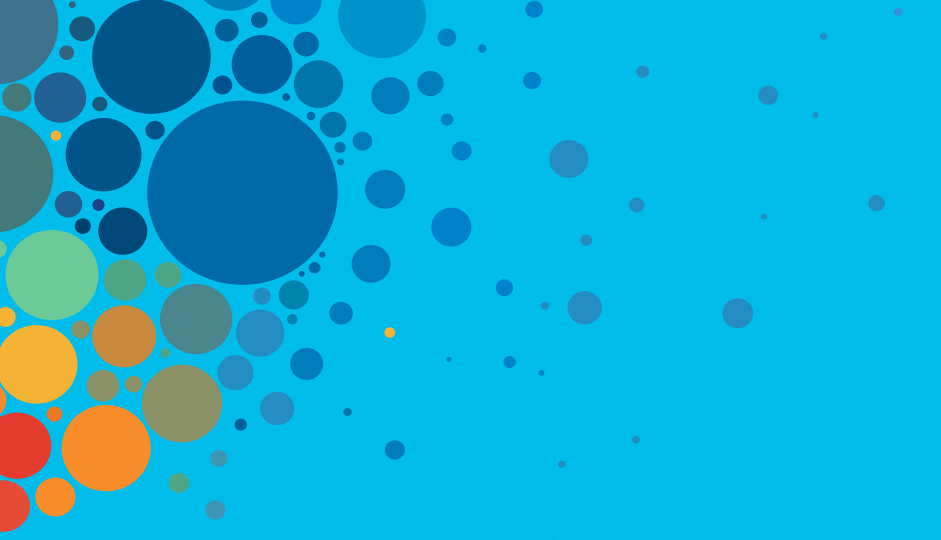
180-day certification prep program  
with learning and support

### Cisco Continuing Education Program

Recertification training options  
for Cisco certified individuals

Here at the event? Visit us at **The Learning and Certifications lounge at the World of Solutions**





# Continue your education

- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](https://www.CiscoLive.com/on-demand)



The bridge to possible

# Thank you

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