

Escape Story, von CLI Zwängen in die freie Welt der Netzwerk Automation

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About us



Björn Meuer

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Network Designs, Migration,
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David Meyer

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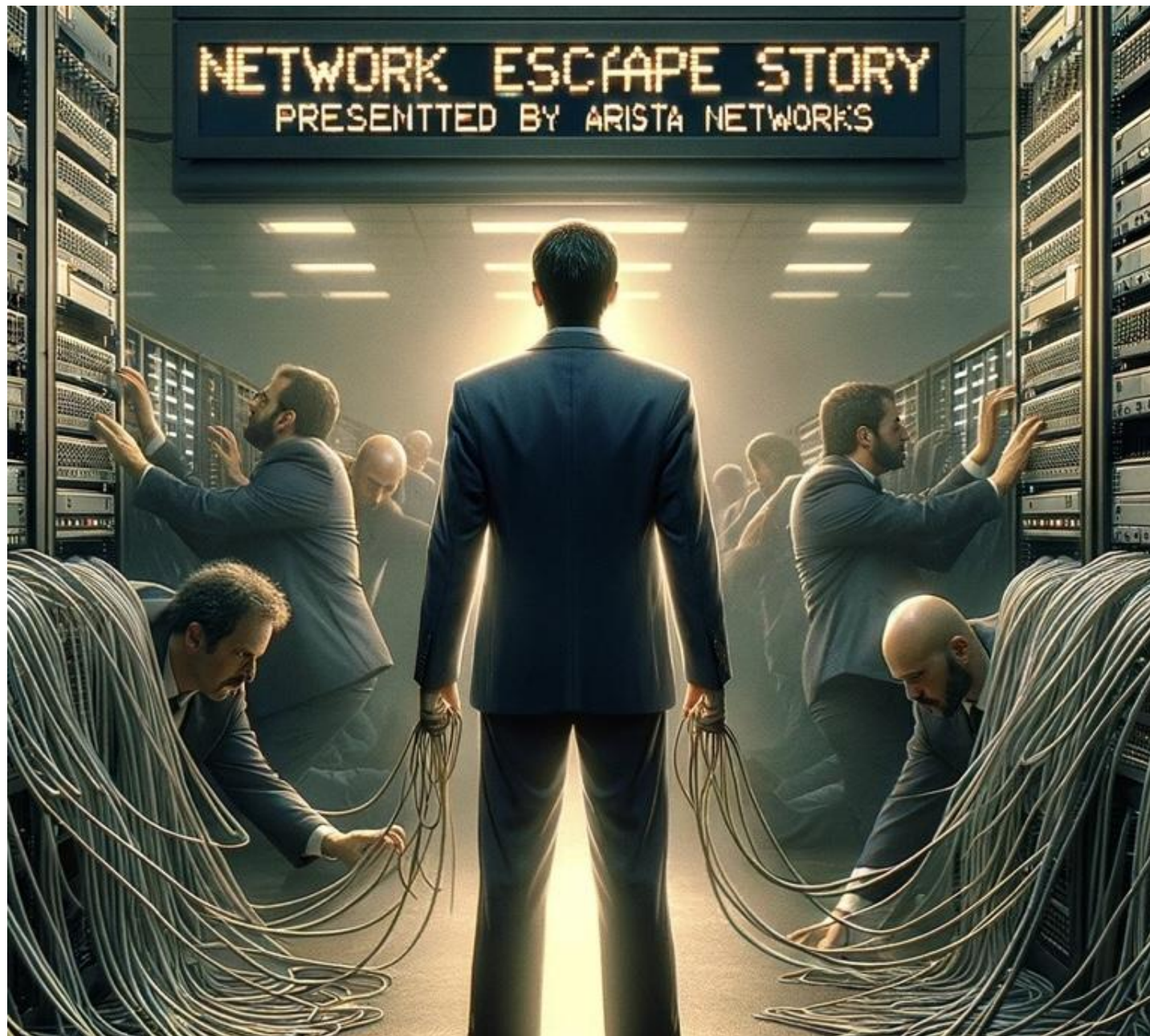
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Agenda

1 Arista Intro

2 History of Managing Networks

3 Modern Operation Model with Arista AVD & Ansible



Setting - Silicon Valley, 2004



“We're looking for a switch design that can tie together 100,000 servers, each at 1G, at a cost of \$100 per server.”
- Google, 2004

Protagonist & Antagonist



One great company with a single OS vs many...



Idea - EOS - A Fully Programmable Platform

Extensions



GitHub

splunk



paloalto
NETWORKS

NUTANIX

Streaming Telemetry



gRPC

eAPI (JSON)

REST

APIs

NETCONF



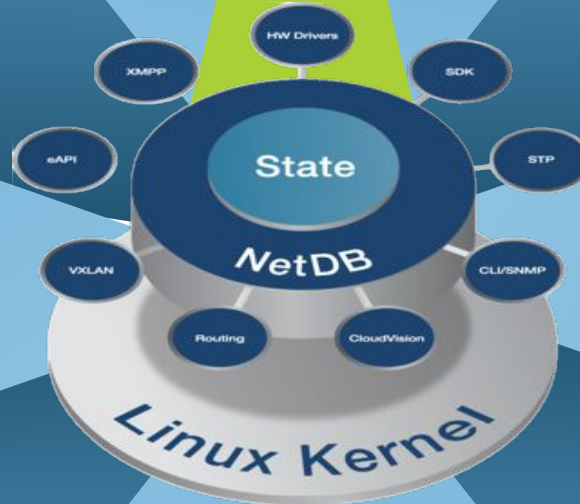
Programming Environments



python



EOS SDK



DevOps Utilities



CHEF



ANSIBLE



SALTSTACK



puppet

Virtual Machines



yum
yellowdog updater modified



Package Managers



docker

Containers

Historically deploying network infrastructure

1995

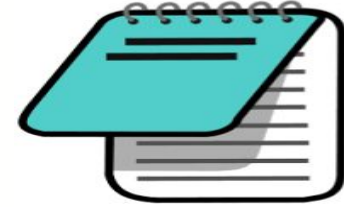


```
192.168.0.134 - PuTTY
login as: admin
Using keyboard-interactive authentication.
Password:

r3#conf t
Enter configuration commands, one per line. End with CNTL/Z.
r3(config)#ip ssh pubkey-chain
r3(config-ssh-pubkey)#username admin
r3(config-ssh-pubkey-user)#key-string
r3(config-ssh-pubkey-data)#pDw9x8Qm1553k0chDNFuW2ZE0gUL+MetDatI/DrgMIURVcU
r3(config-ssh-pubkey-data)#exit
r3(config-ssh-pubkey-user)#exit
r3(config-ssh-pubkey)#exit
r3(config)#
```


Deploying network infrastructure not long ago

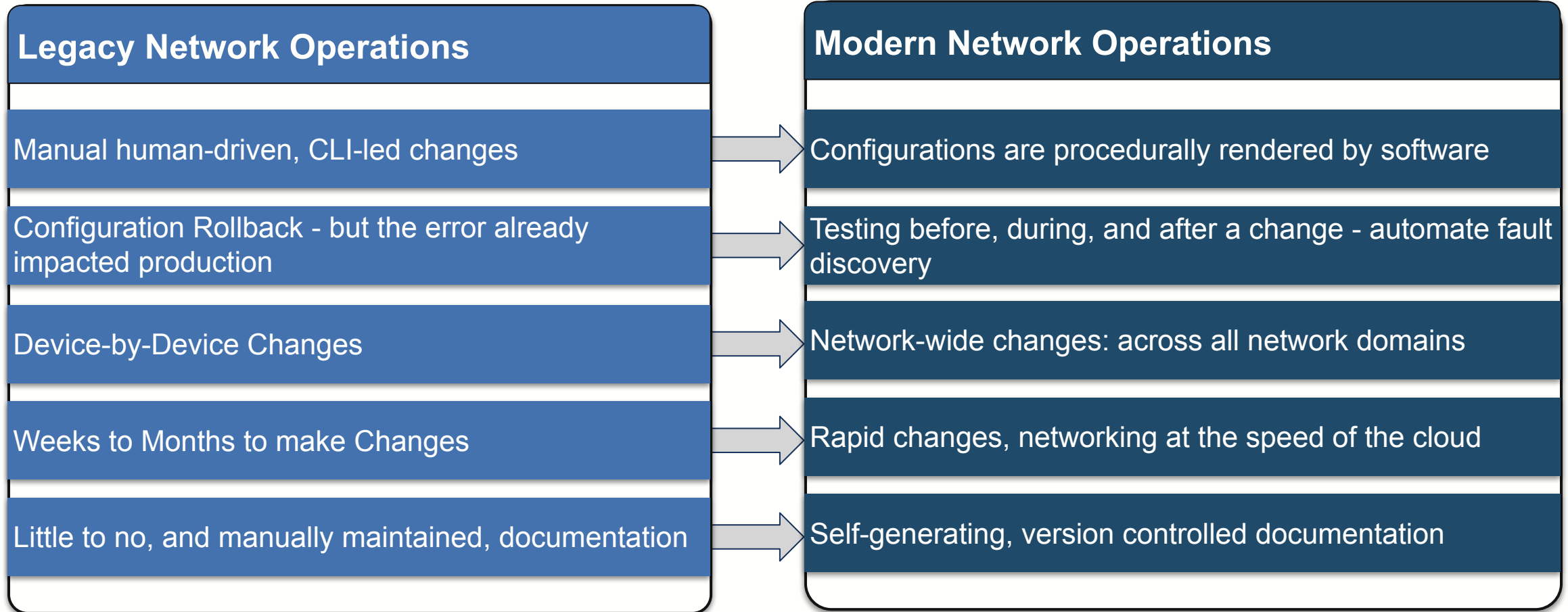
2022



And when things go wrong.....



Moving to a Modern Network Operating Model



Arista Validated Designs (AVD)



What is it?

- An extensible data model that defines Arista's Universal Cloud Network (UCN) architecture as "code" built upon best practices
- All built into an Ansible Collection

What does it do?

- Procedural generation of network configurations based on data models, reducing repetitive work and errors

What are some benefits?

- Foundation for Infrastructure-as-Code
- Automatic generation of documentation and validation tests
- Faster time to production
- Reduced risk of configuration error
- Consistent global configuration changes across the network

Arista Validated Designs – Open Source

arista.avd 4.5.0



Certified
Since November/2020



70 Releases

93 Contributors

ARISTA

Arista Validated Designs

avd.arista.com

python ansible jinja2 playbook
arista avd eos cloudvision cvp
eapi cloudvision-portal

Readme
Apache-2.0 license
Activity
Custom properties
217 stars
32 watching
164 forks
Report repository

Releases 70
v4.5.0 Latest
on Dec 15, 2023
+ 69 releases

Packages 6
ansible-avd/universal
ansible-avd/dev
ansible-avd/base
+ 3 packages

Contributors 93
+ 79 contributors

December 24, 2023 – January 24, 2024

Period: 1 month

Overview

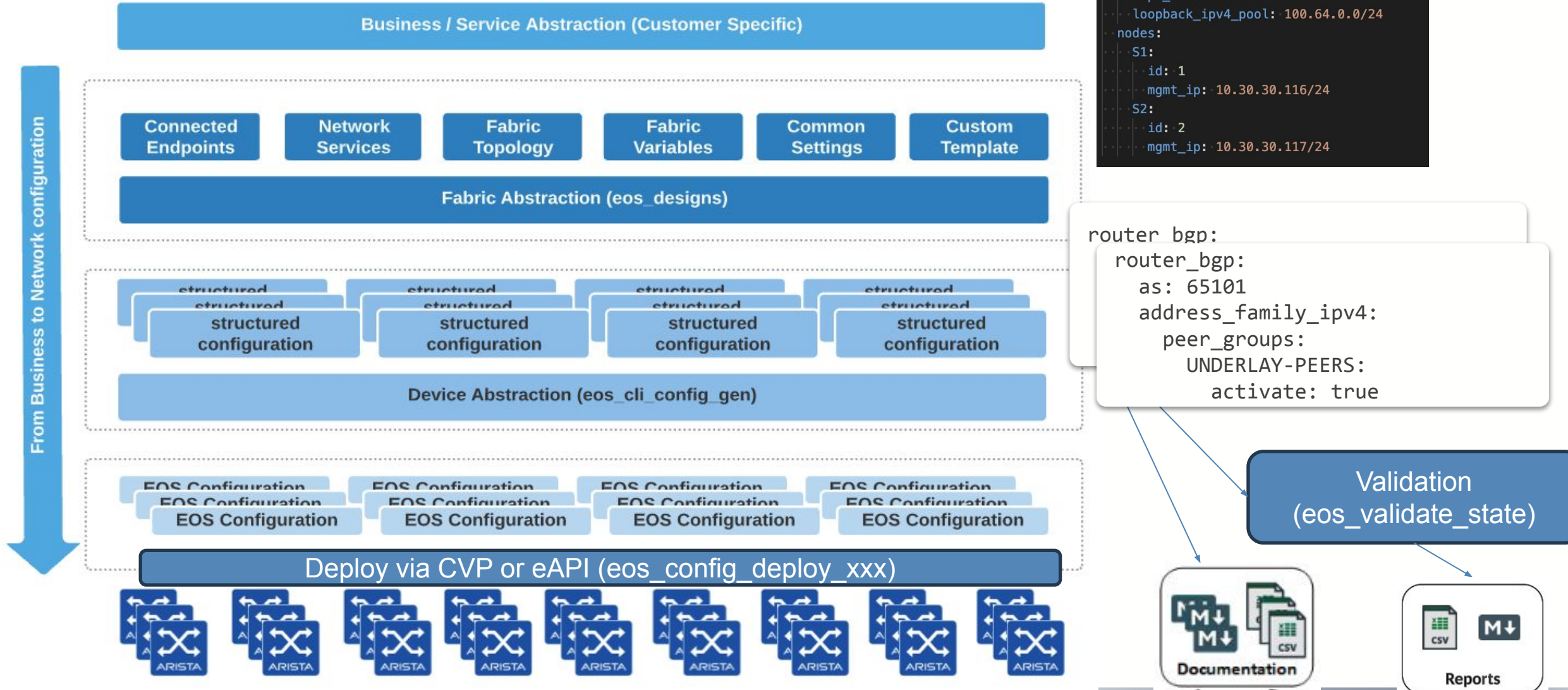
58 Active pull requests 43 Active issues

46 Merged pull requests	12 Open pull requests	25 Closed issues	18 New issues
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Excluding merges, **19 authors** have pushed **46 commits** to devel and **46 commits** to all branches. On devel, **2,186 files** have changed and there have been **22,296 additions** and **17,126 deletions**.



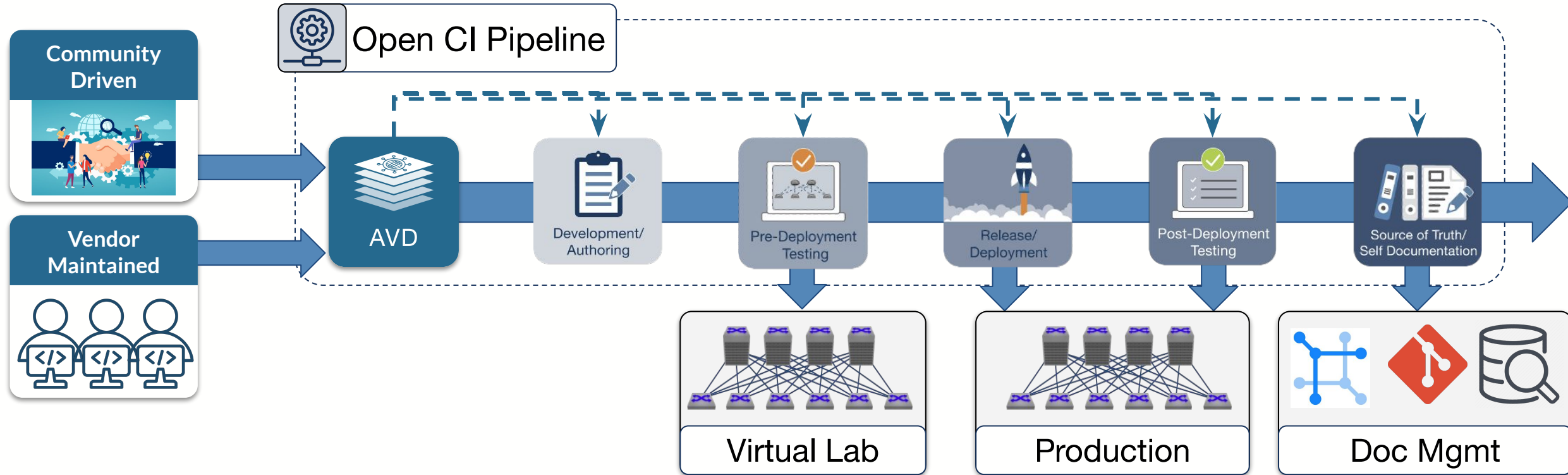
Arista Validated Designs – Extensible Automation Framework



Arista Validated Designs – Use Cases

- Day 0
 - Build Design and validate in test environment
 - Quickly make design changes and test again
 - Prepare all configuration well in advance
- Day 1
 - Bring up your network in minutes
 - Run tests against the production environment
 - Full documentation of the production environment
- Day 2
 - Easily rollout new services in minutes (test environment -> production)
 - Keep all devices compliant as per design
 - Always have an up to date documentation
 - Always have an updated tests

Next step: Arista Validated Designs and CI



Complete Lifecycle of Network Provisioning -- Flexibility with Open Data Models
Multi-Domain Automation: DC, Campus, WAN -- Comprehensive Workflow

Q & A



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ARISTA
Thank You
www.arista.com