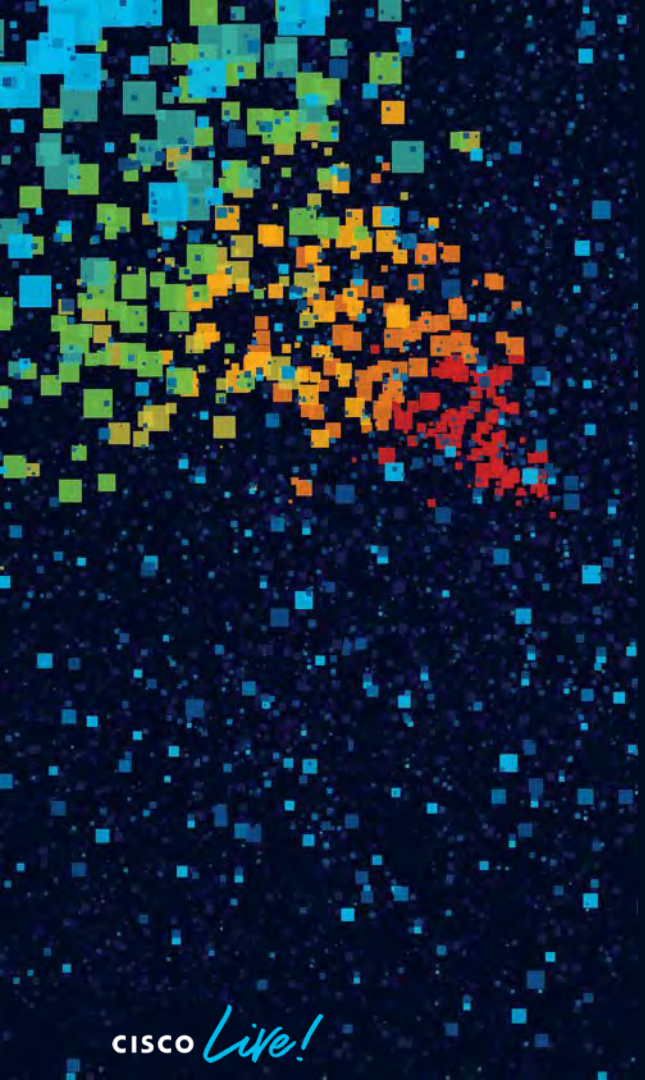
Container-based Applications

In Nexus 9000 switches

Tim Miller, DC Technical Solutions Architect, GVE
@broadcaststorm
DEVNET-DC

cisco Live!

cisco



Agenda

- What problem are we trying to solve?
- Nexus 9000/Open NX-OS Architecture
- Examples Use Cases
- Conclusion

© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

What's the Problem?

Solve Operational Challenges with Agility

Automation
- Config Mgmt Agents

Monitoring
- Prometheus
- Telegraf

- Distributed Processing
  - Localized collection in remote DC

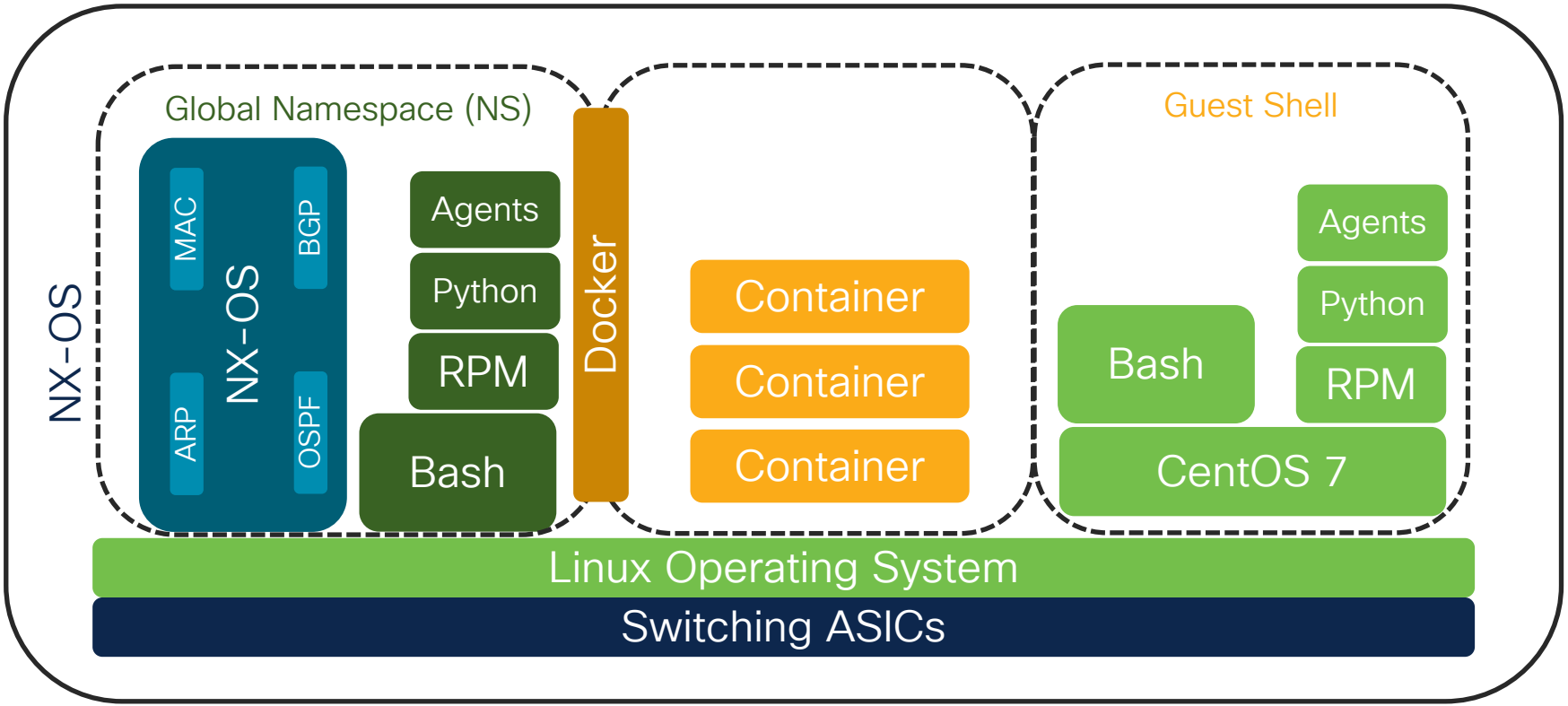
- Custom Scripting/Container
  - API based, customized metrics

- Or, whatever!
  - Leverage external registries

© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

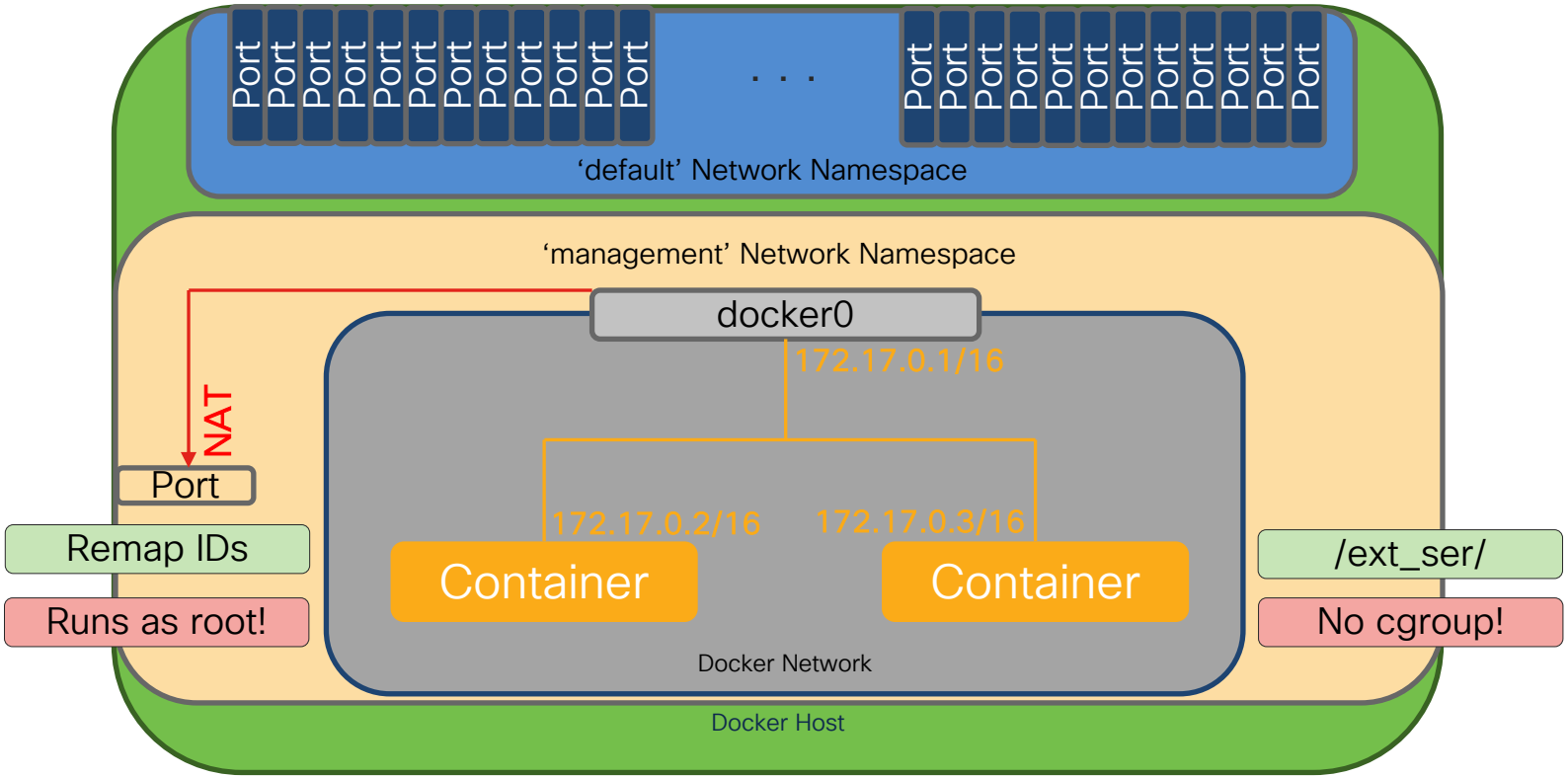
Open NX-OS Architecture

Open NX-OS Architecture



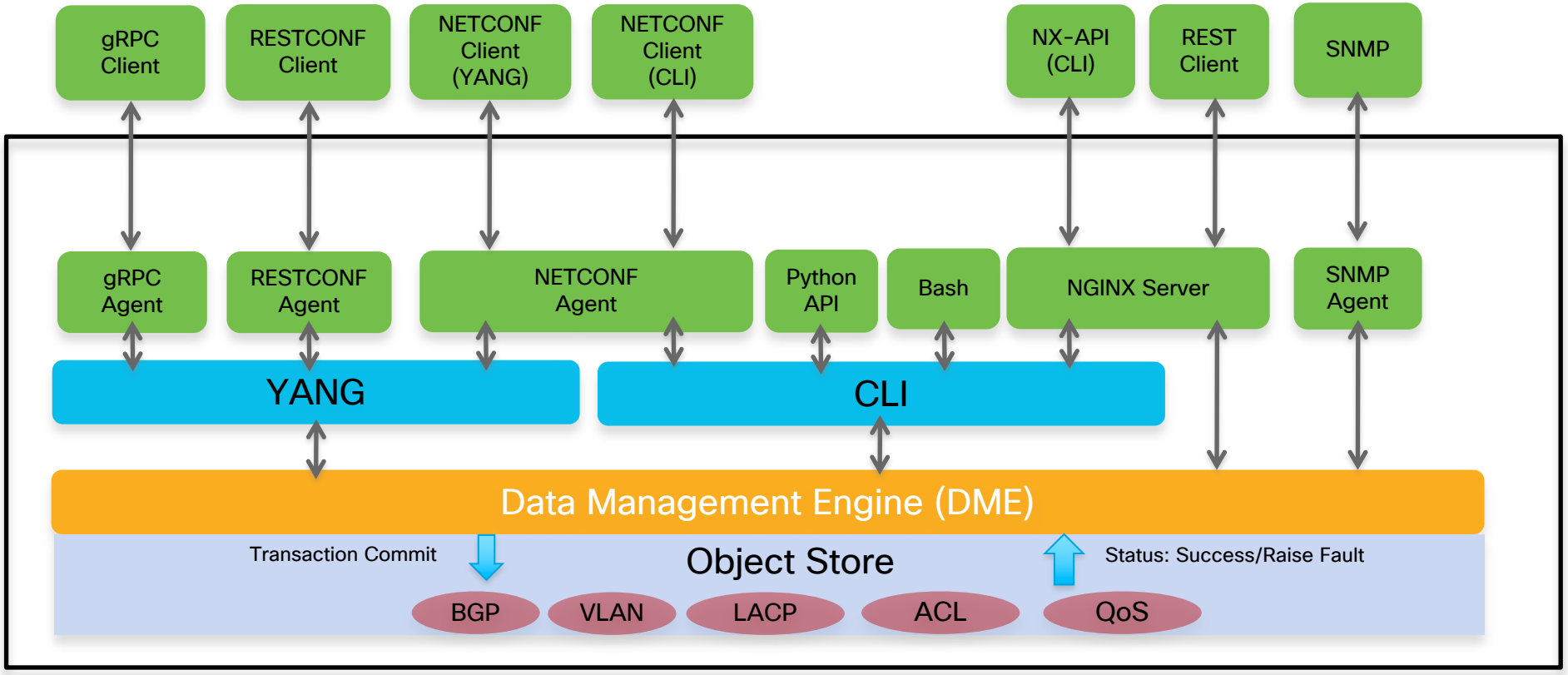
© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

Docker Networking and Security on NX-OS



© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

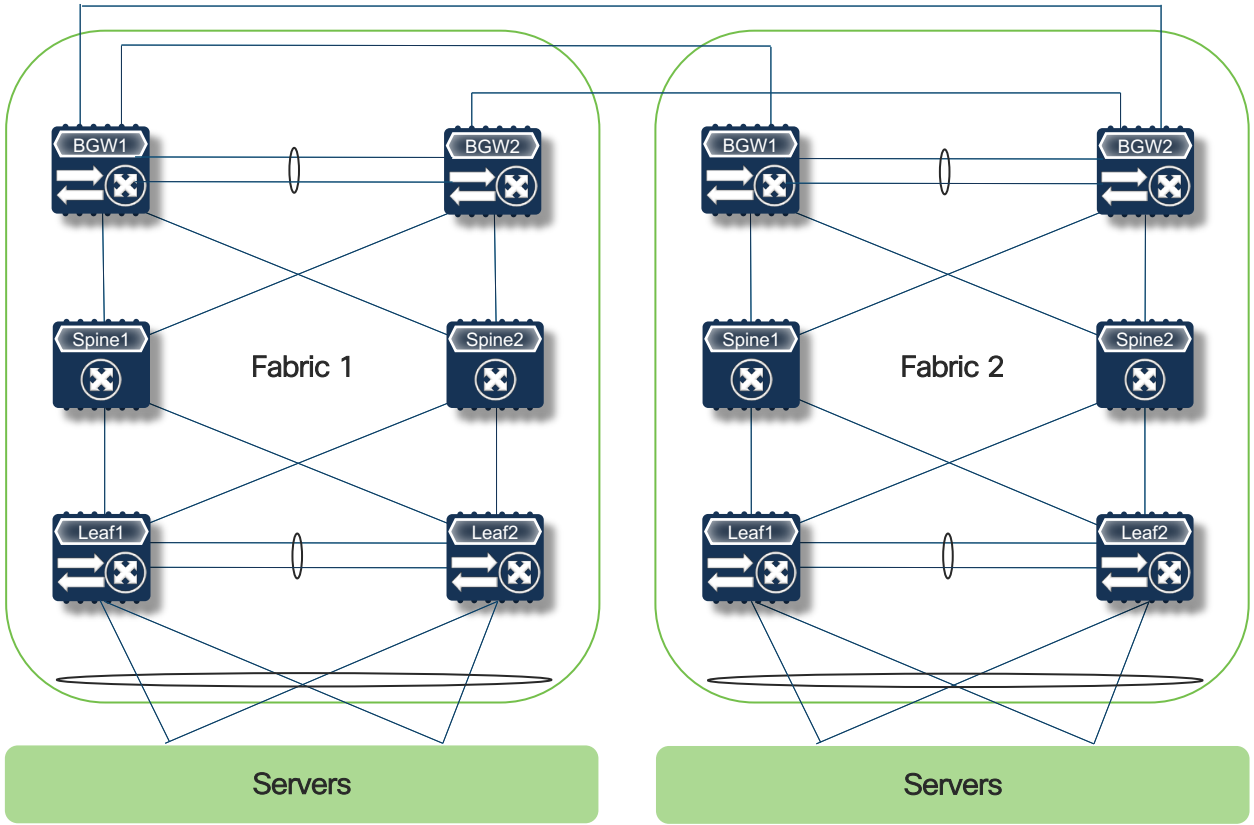
Open NX-OS Programmability Interfaces



© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

Example Use Cases

Demo Network – DCNM VXLAN EVPN Multisite

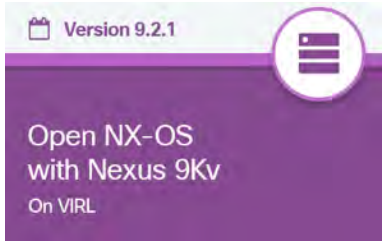


© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

Summary

Resources for this Talk

- Code for this Talk
  - https://github.com/CiscoSE/DevNet-DC-Containers-on-NXOS-CLUS20
- DevNet Sandbox
  - https://developer.cisco.com/docs/sandbox/#!data-center/featured-sandboxes
  - Requires setup as default network configs are not VXLAN EVPN based
- DevNet Learning Tracks
  - Containers, NX-OS Programmability



© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

Custom Application References

- NX-OS Scripting
  - NX-OS 9.3 Programmability Guide – Bash
  - Python
  - NX-API
- Guest Shell
- Docker on NX-OS
- Streaming Telemetry
  - DevNet - Streaming Telemetry
  - NX-OS 9.3 Programmability Guide - Model Driven Telemetry
- Model Driven Programmability (YANG)

© 2020 Cisco and/or its affiliates. All rights reserved. Cisco Public

Thank you

Possibilities

#CiscoLive | #DevNetDay