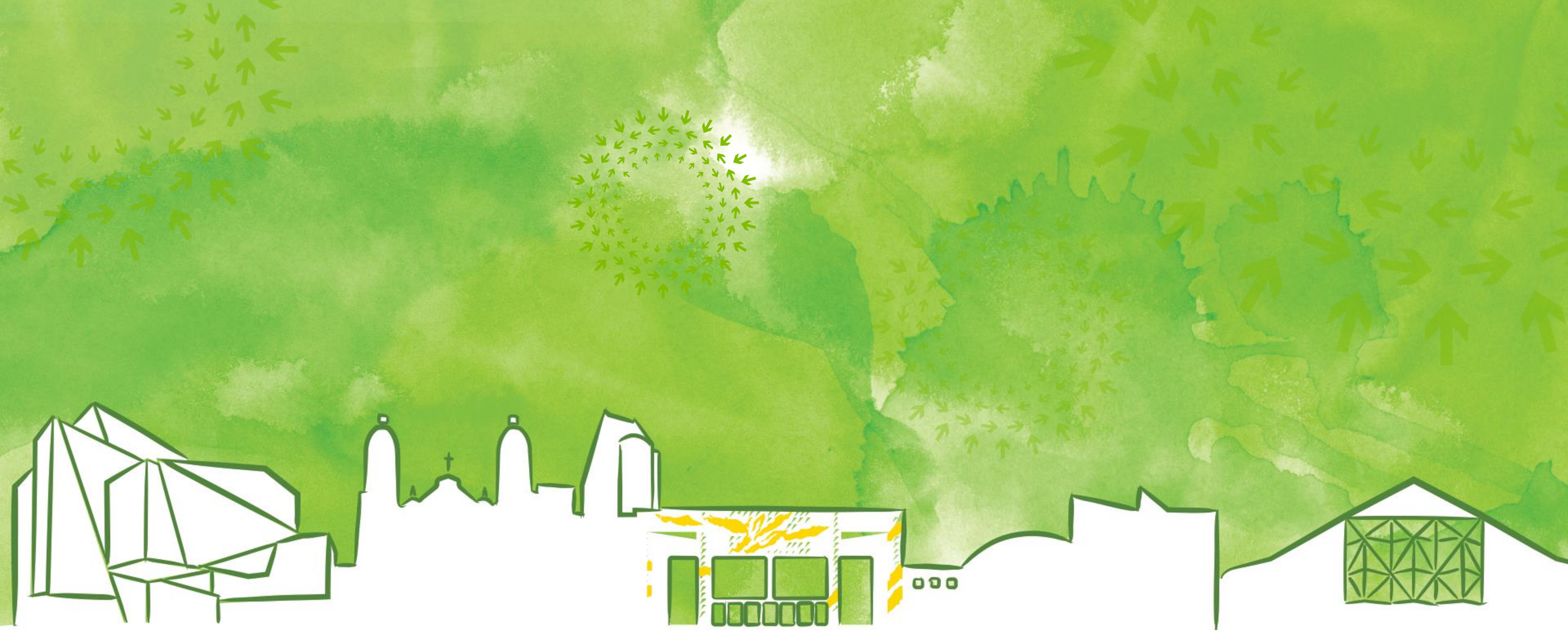


OCP U.S. SUMMIT 2016

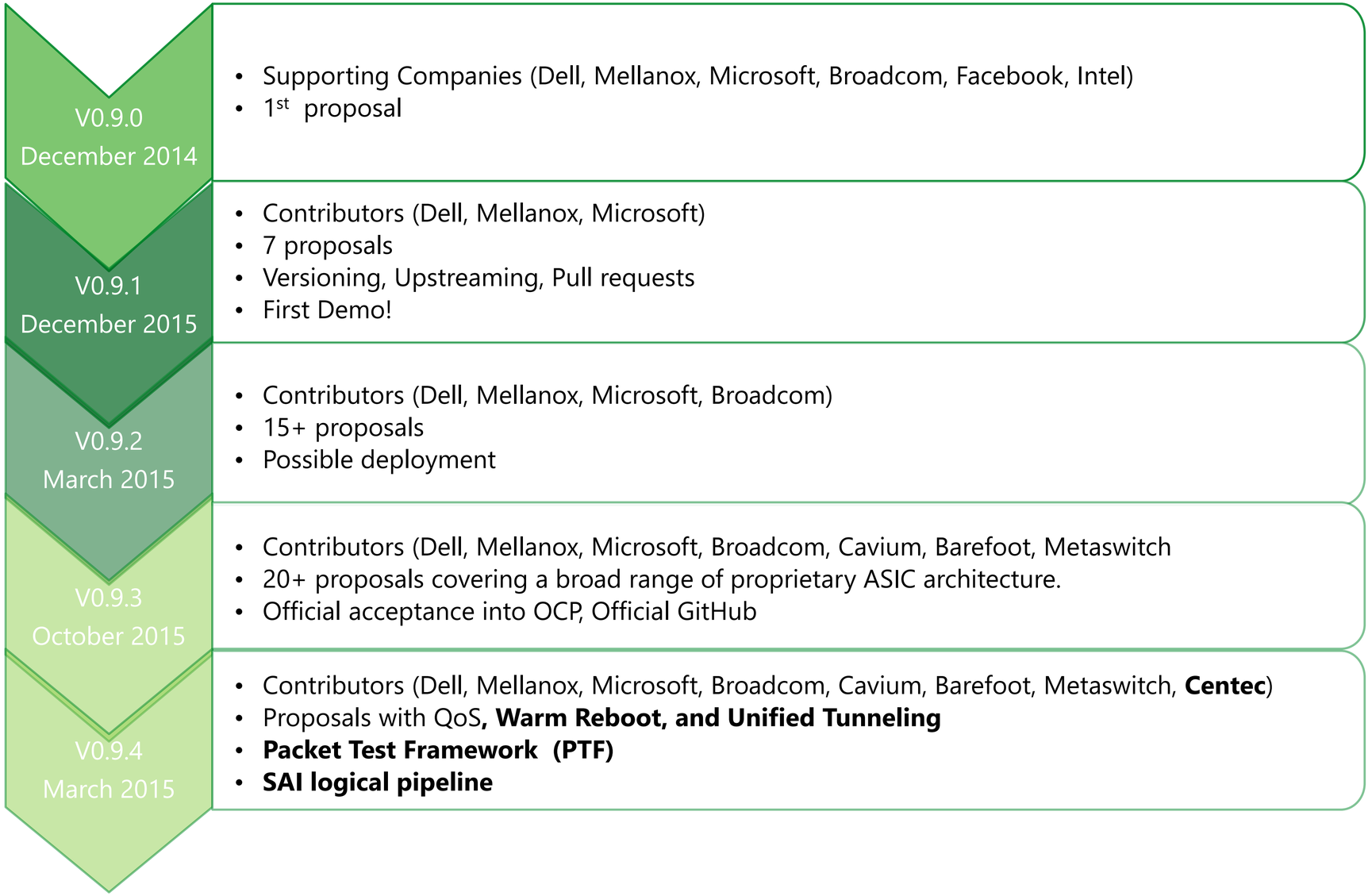
March 9-10 | San Jose, CA

OCP U.S. SUMMIT 2016

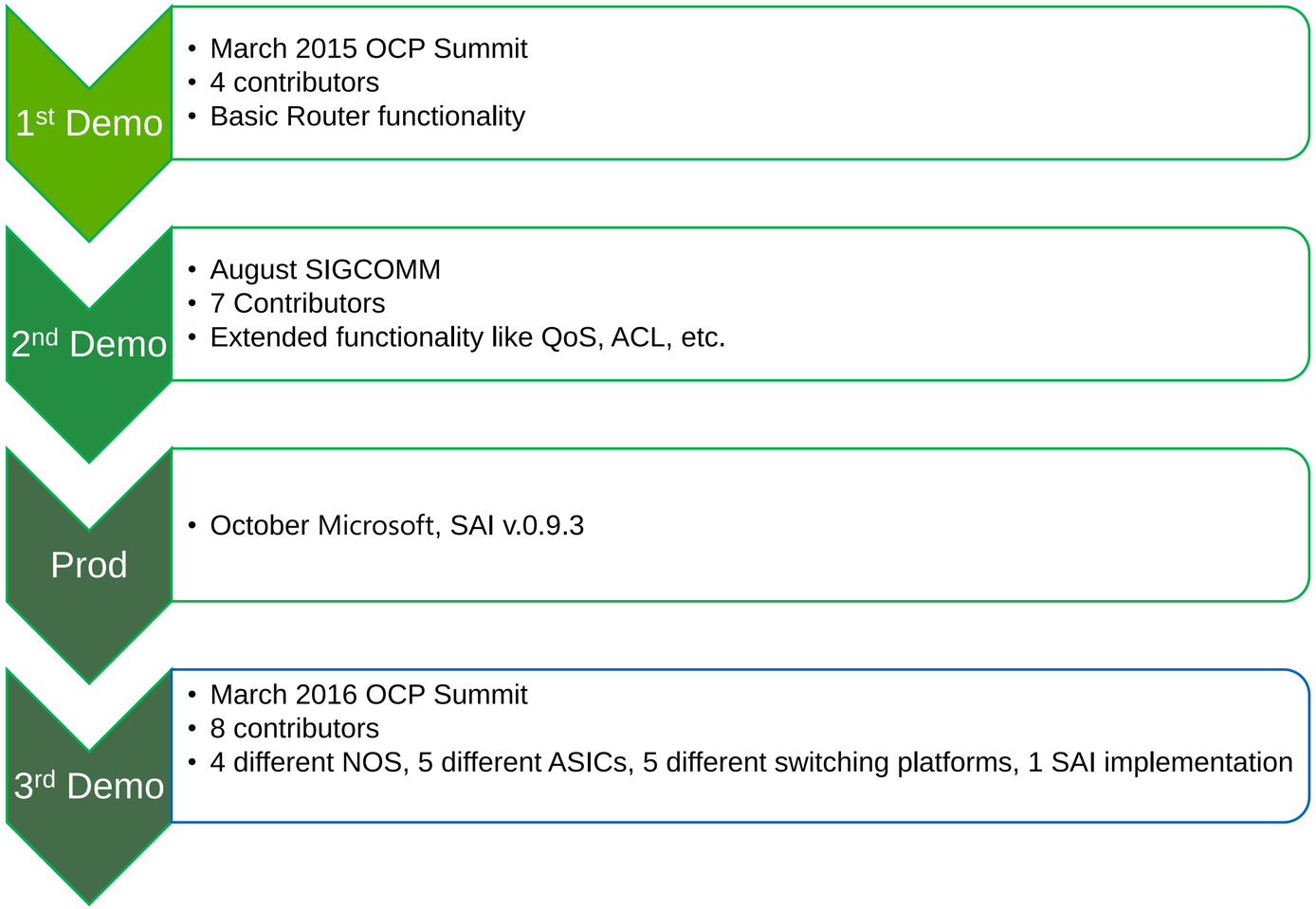
Switch Abstraction Interface (SAI)

SAI Contributors

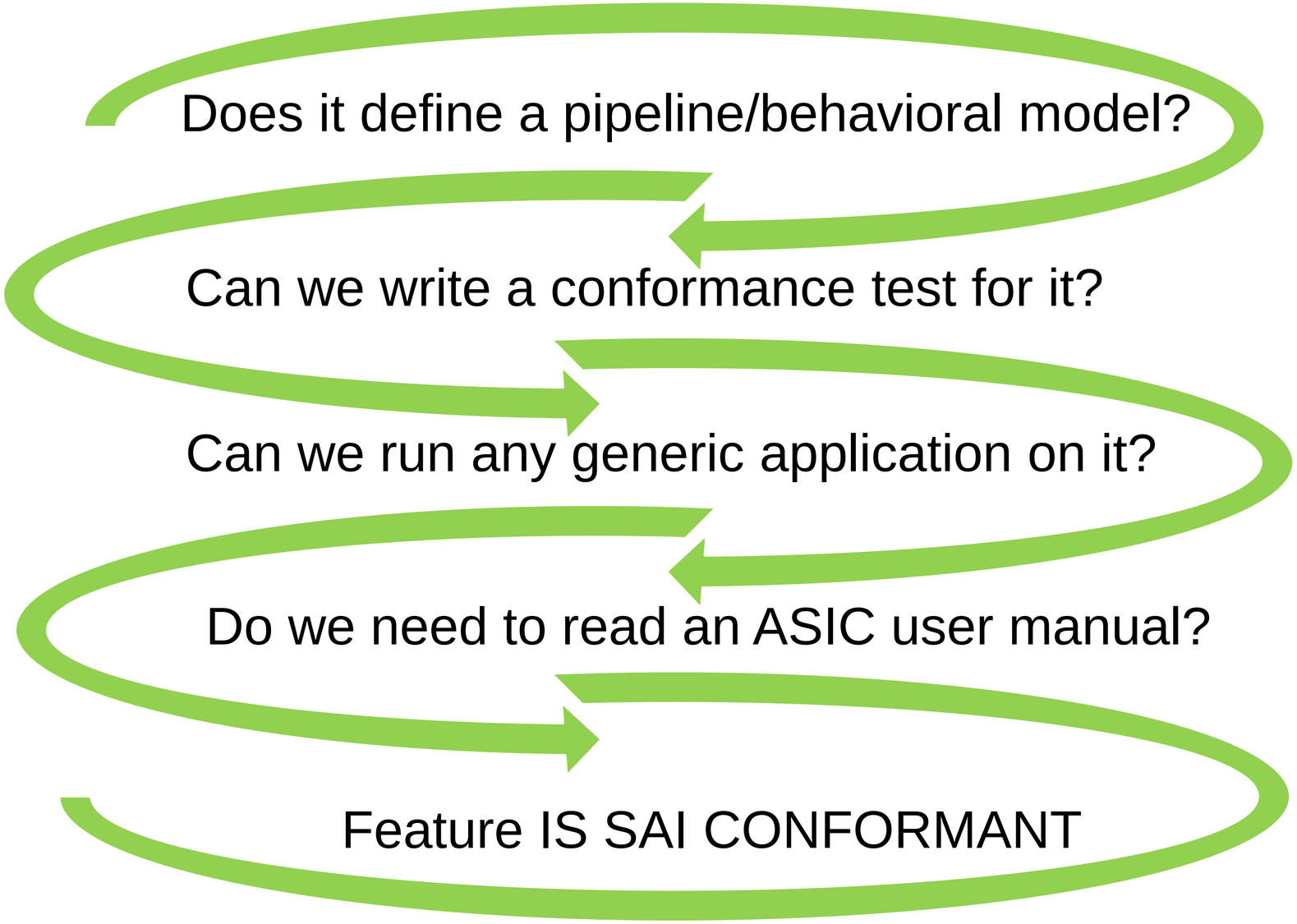
Momentum, Timeline



Momentum, Demos & Deployment



Technical Merit, Architectural philosophy



SAI keeps momentum

- Increasing in number of contributors
- Increasing in number of proposals
- ~ 3 releases a year
- Heading towards testing compliancy
- Working on a logical pipeline

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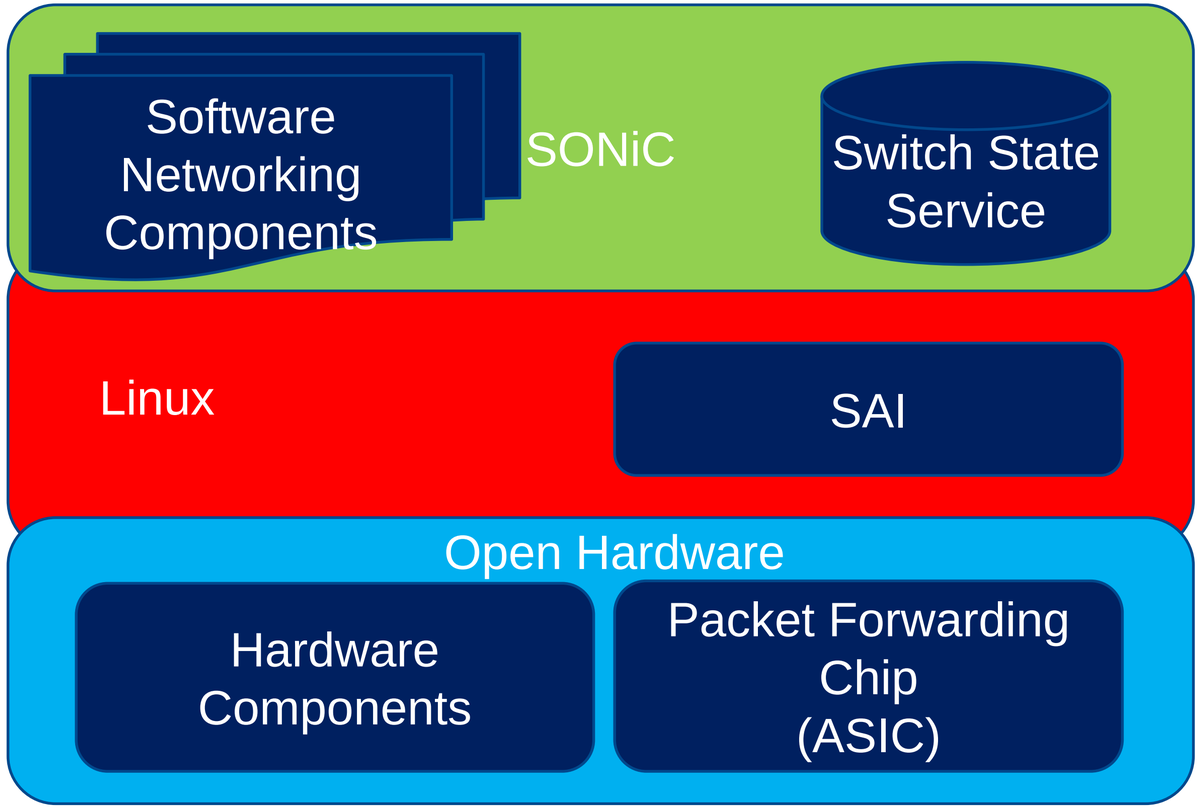
Software for Open Networking in the Cloud (SONiC)

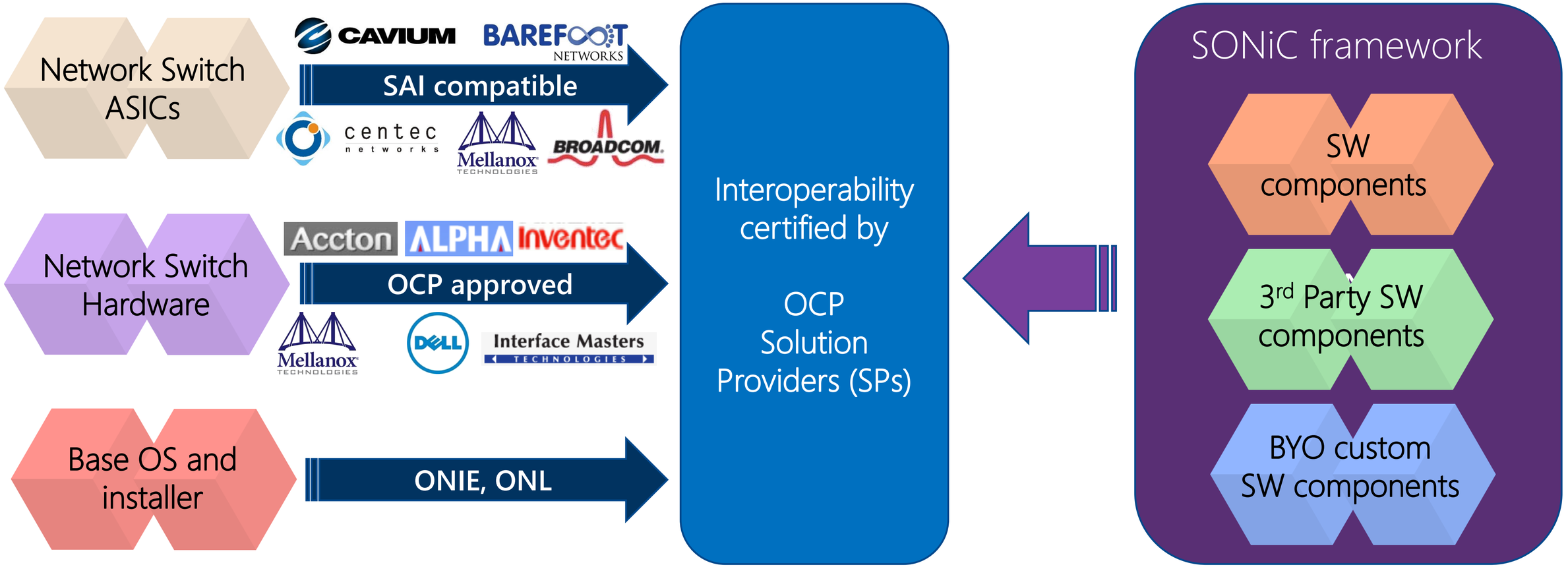
OCP U.S. SUMMIT 2016

SONiC Contributors

SONiC and the OCP Stack



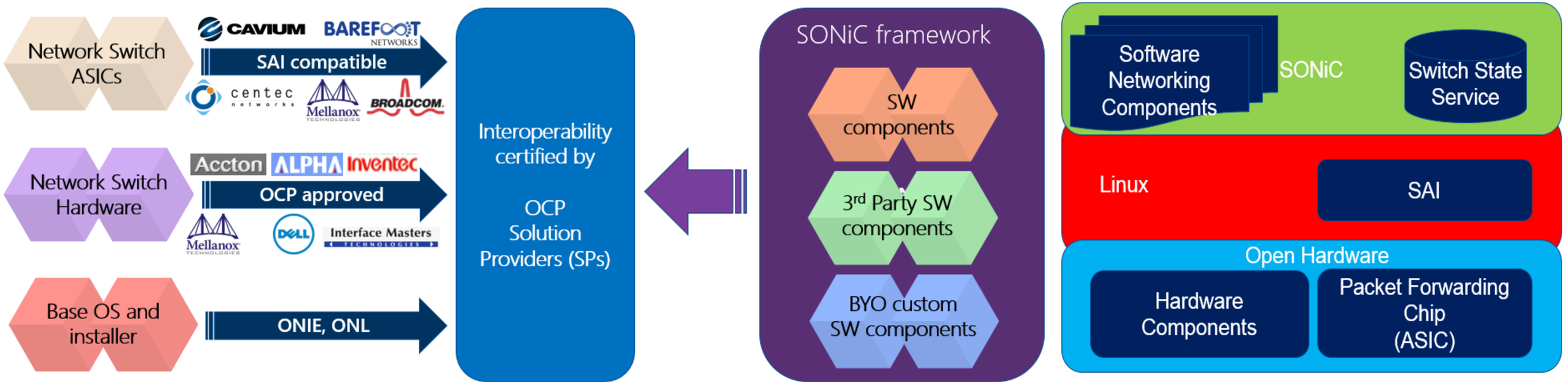
OCP Ecosystem Enhanced with SONiC



Fully Open Sourced switching platform - Increased choices for OCP end users

Software for Open Networking in the Cloud (SONiC)

Kamala Subramaniam
Prinicipal Architect, Microsoft



Microsoft

What Is SONiC

A collection of software components/tools

- Builds on the foundations of SAI
- Provides L2/L3 functionalities
- Loosely-coupled modular design
- Separation of states and logic

Community driven, open source effort

- Shared on GitHub, Apache License
- Believe in working code + quick iteration

What can SONiC enable?

Building complete and production-ready stack

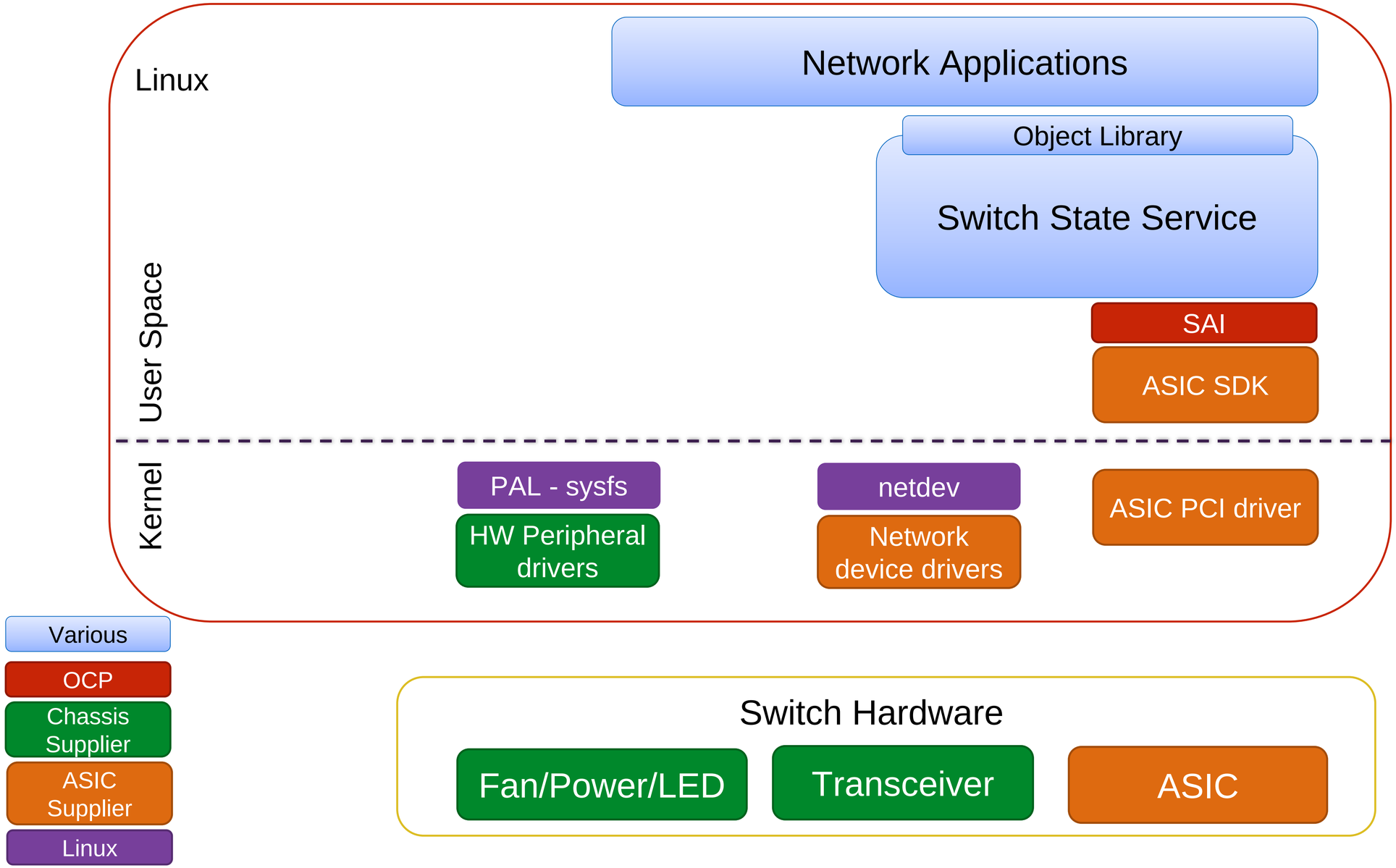
Easy portability

- ASICs (through SAI)
- Platform (Arista 7050QX, Dell S6000, Mellanox Spectrum, ongoing with ONL)
- Base Linux Distribution (Debian)

Fast evolution

- for both prototype and production

SONiC High Level Architecture



Switch State Service (SSS)

SAI DB: persist SAI objects

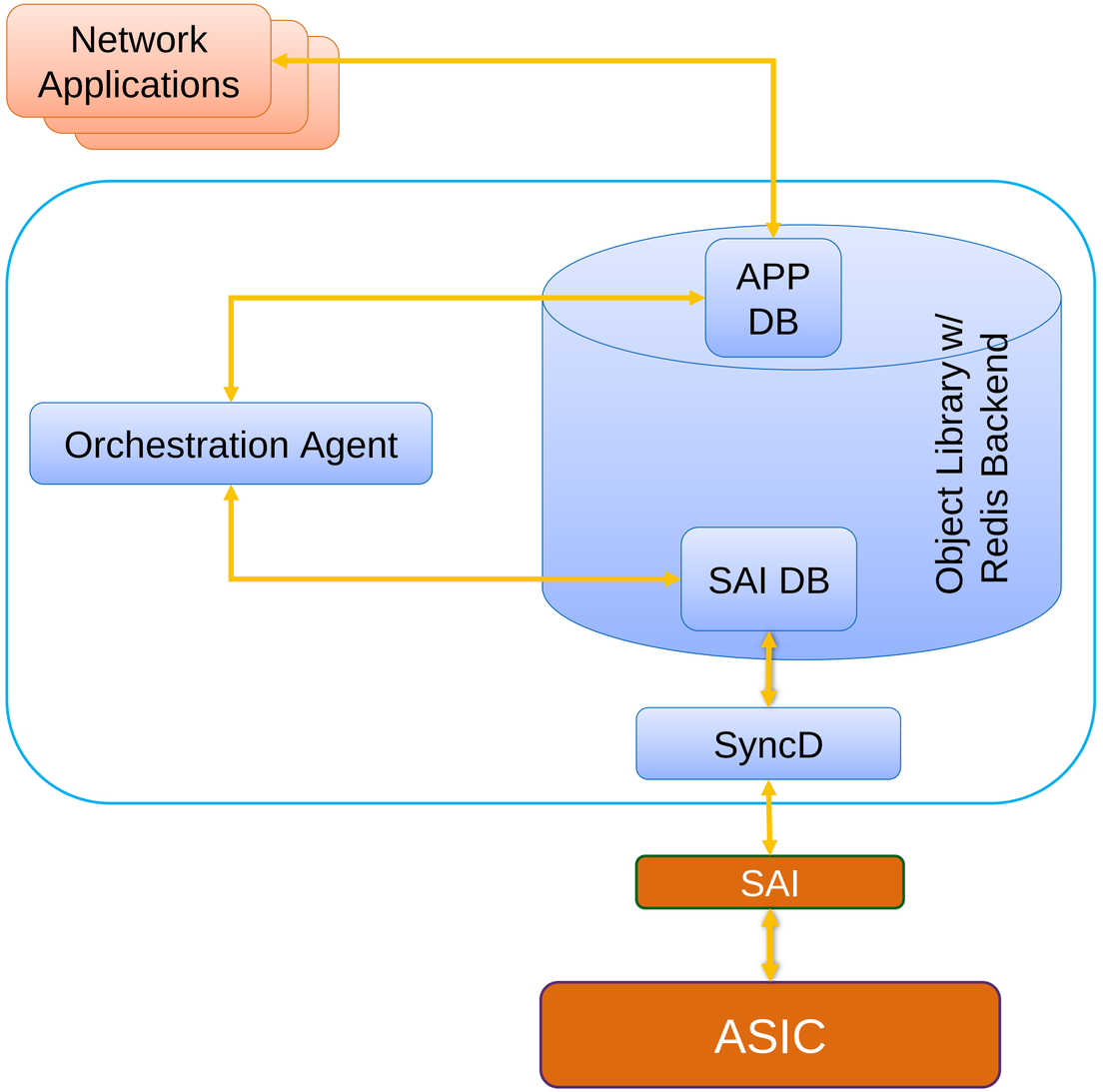
App DB: persist App objects

DB backend: redis with object library

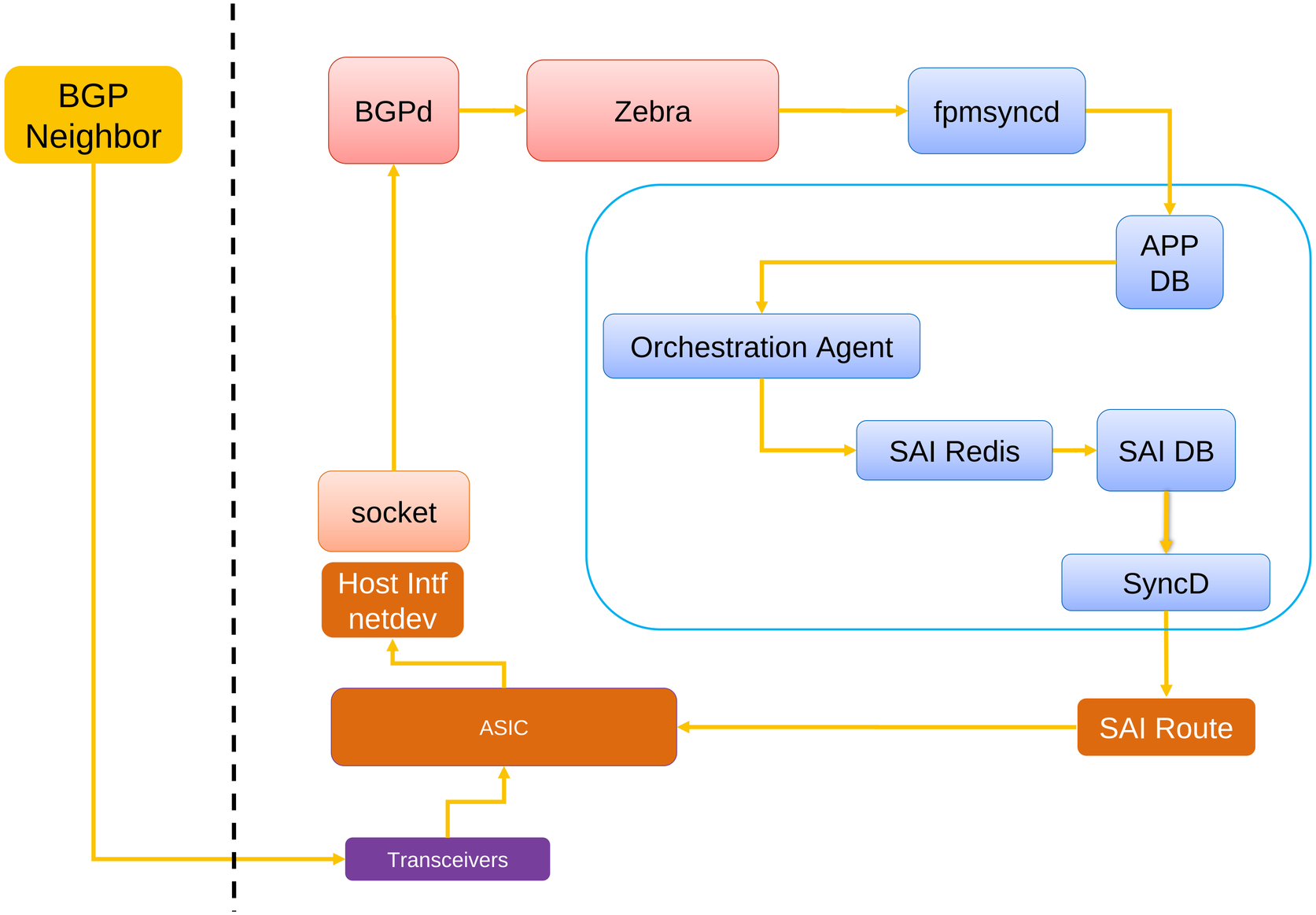
SyncD: sync SAI objects between software and hardware

Orchestration Agent: translation between apps and SAI objects, resolution of dependency and conflict

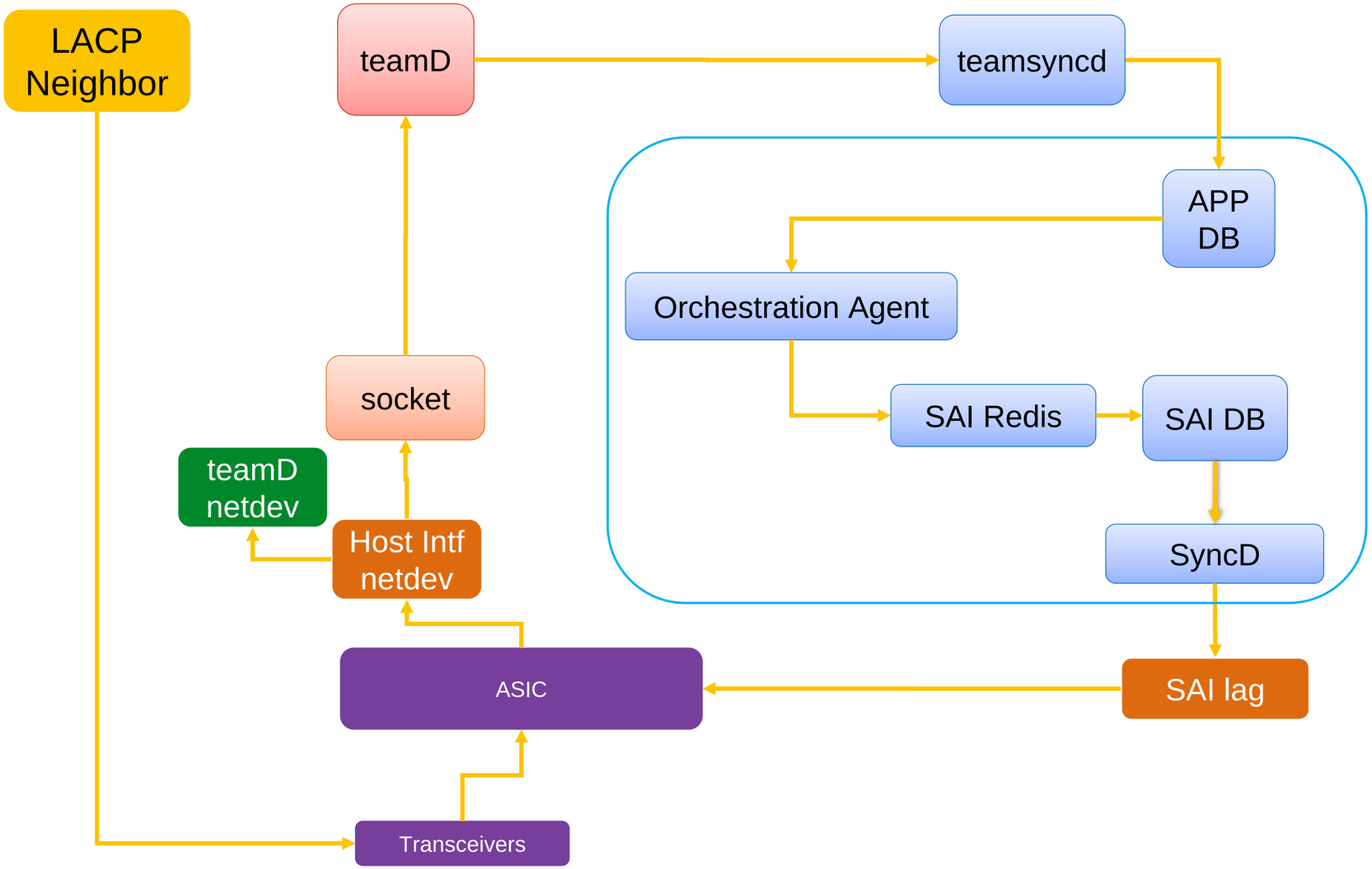
Key Goal: Evolve components independently



How Routing Works in SONiC



How LAG Works in SONiC



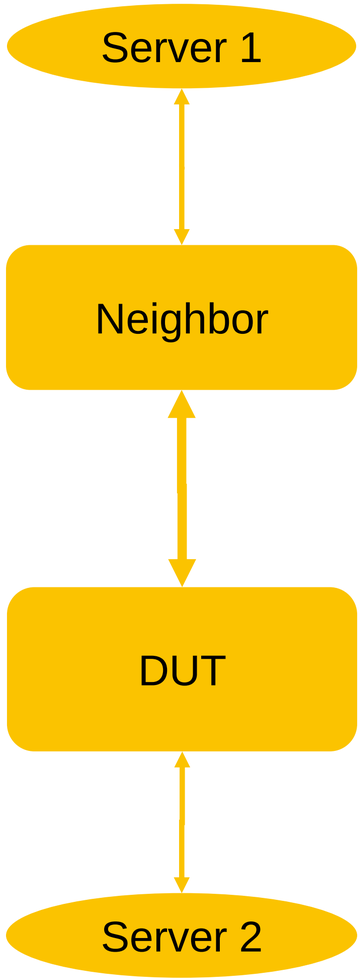
Demo: SONiC Walk Through

- EEPROM
- Port Status
- TCPDump
- Redis
- Quagga and FIB

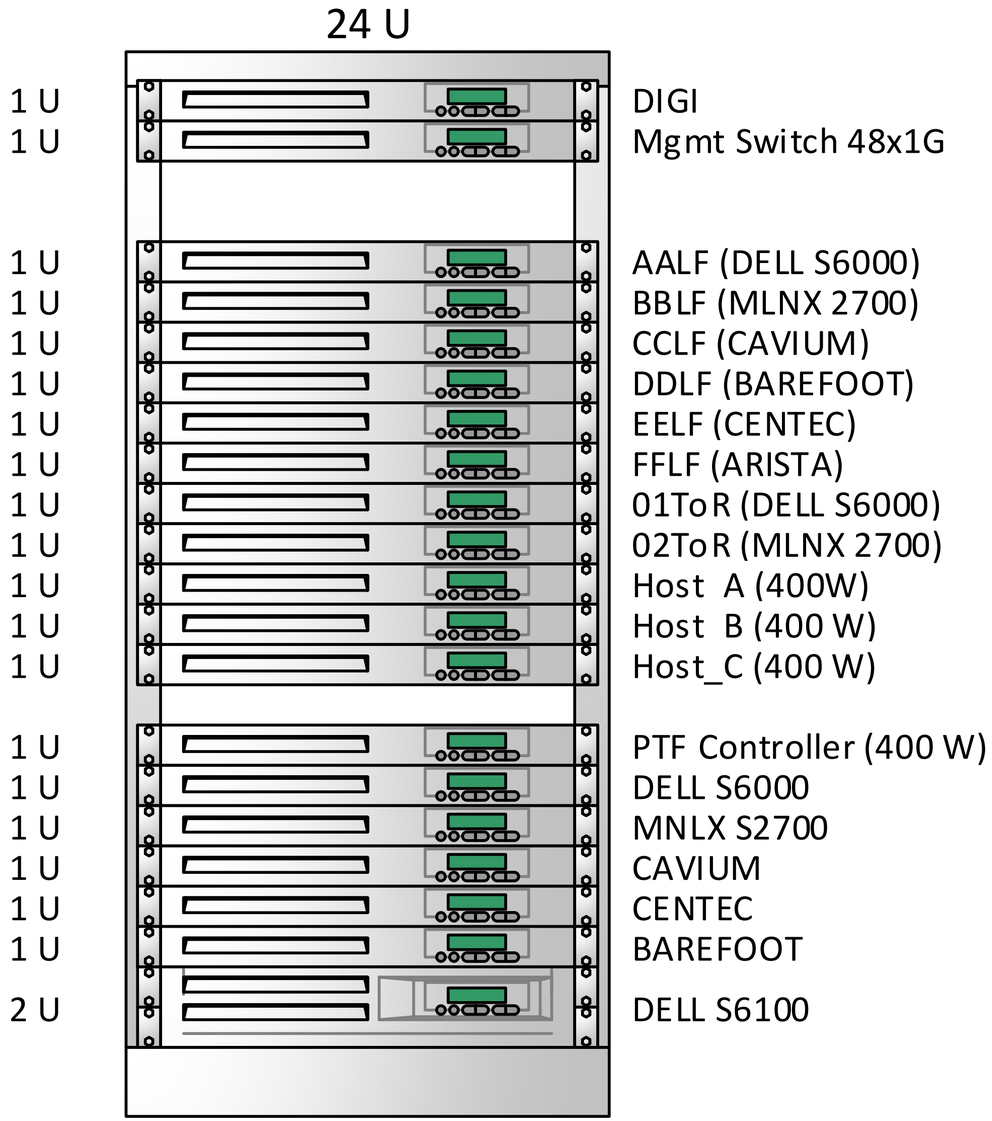
Demo: Hitless Quagga to GoBGP Migration

- What is the real scenario?
  - Hot patching
  - Rollout new features, e.g. BMP

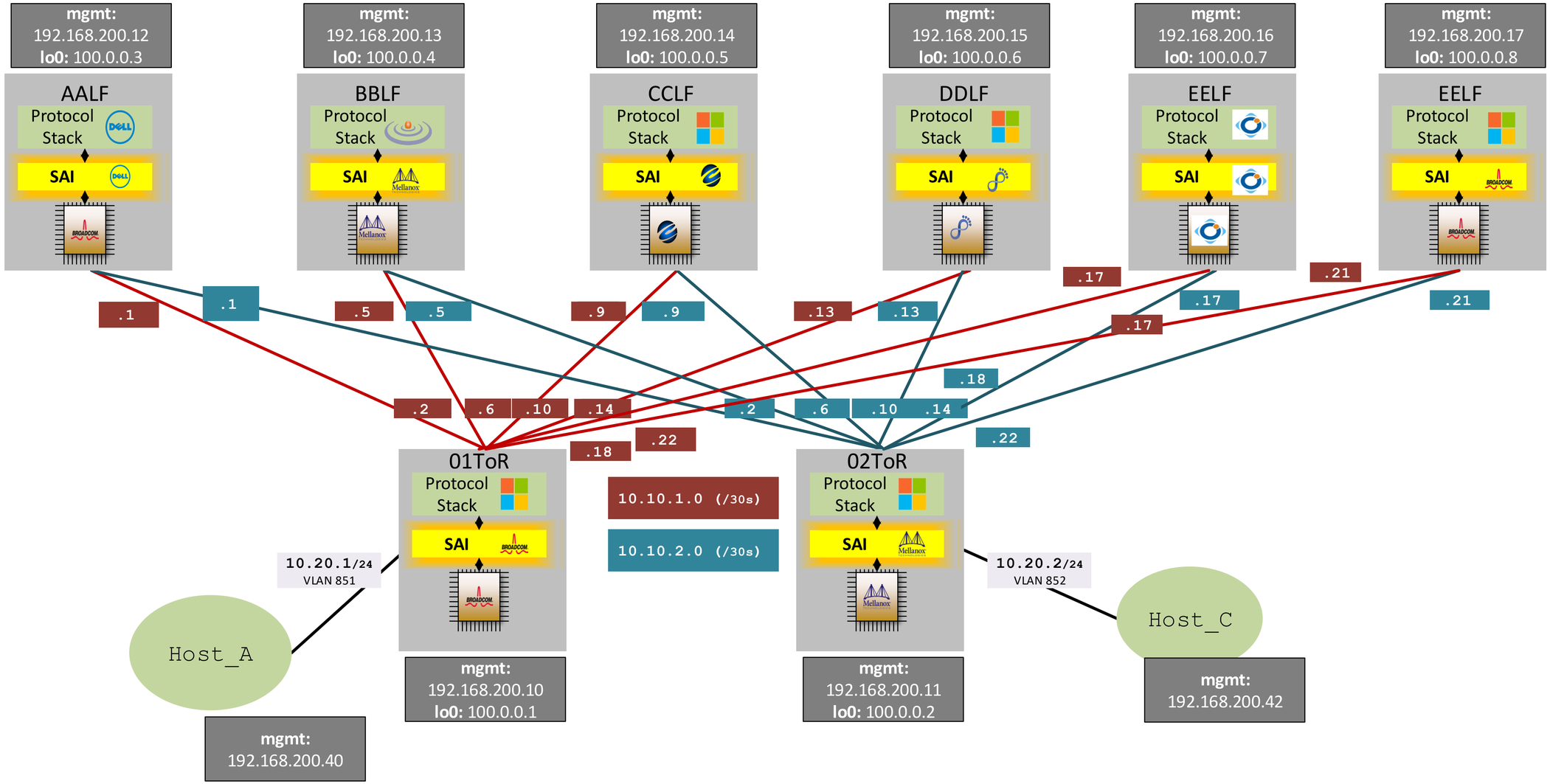
- How is this achieved?
  1. Neighbor supports graceful restart
  2. DUT request OA to freeze FIB
  3. DUT uninstalls Quagga
  4. DUT installs GoBGP
  5. DUT wait for route convergence
  6. DUT request OA to unfreeze FIB



Demo at the Microsoft Booth

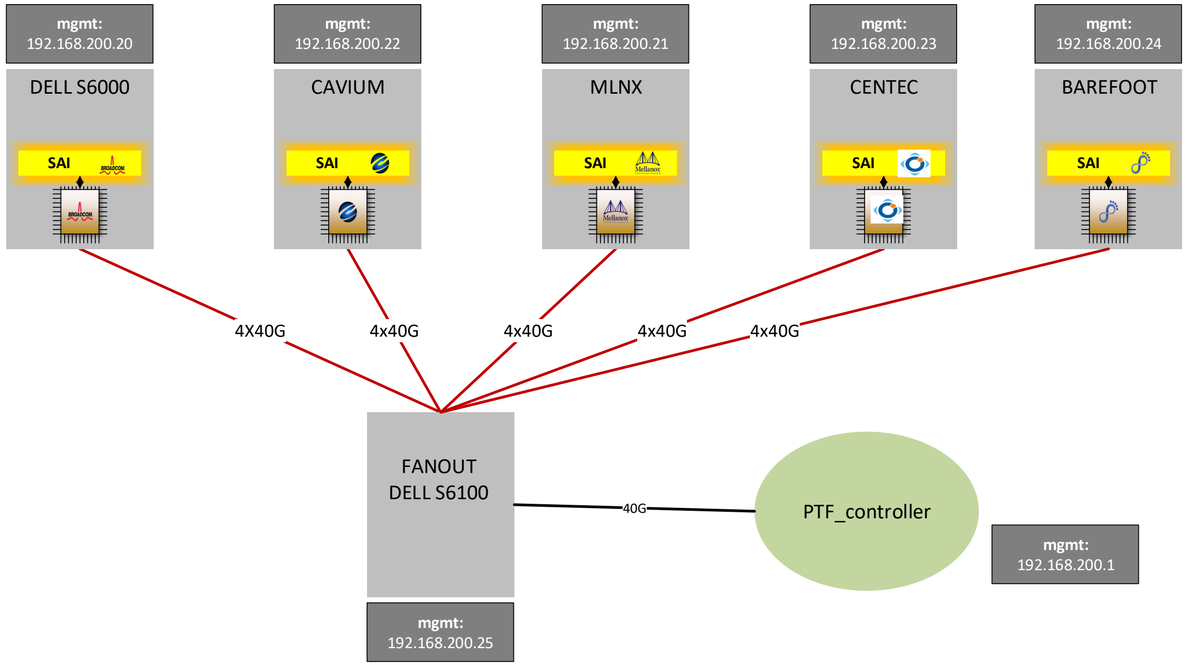


Feature Functionality Demo



Python Test Framework Demo

- Python based test framework
- 20+ test cases
- Working towards compliancy
- Looking for community participation
- Future proposals accepted only with PTF test cases



Open Invitation

- Inviting contributions in all areas
  - SAI
  - Hardware platform
  - Base OS platform (Ubuntu/ONL happening)
  - New features and applications
  - Use it!
- Starting Point: http://azure.github.io/SONiC/