SONiC / Phoenix Wing Initiative Intro
- Get SRv6 ready in SONiC 202411 release

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What is SONiC

- 2016 03/19， SONiC is a project under OCP. The initial goal was to focus on Top of Rack switch's network operating system.

- 2022 04/14， SONiC is a project under Linux Foundation.

https://sonicfoundation.dev/

Is SONiC ready for Routing deployment?

Assess this question from the following perspectives

- Use cases
- Required Feature readiness
- Infra readiness
- Existing features' routing deployment readiness

NG DCI – Outlook (eCore 2.5 Pro)

- Core
  - role
    - SRv6 VPN P router – underlay
    - Traffic-Engineering
  - layers
    - National Core - EC
    - Regional Core – EAR (collocated w/ ESR)

- Edge
  - role
    - SRv6 VPN PE router – overlay
  - categories
    - DC edge – eSR
    - Border edge – BeSR
    - Routing edge – SRR (service route reflector) /CRR
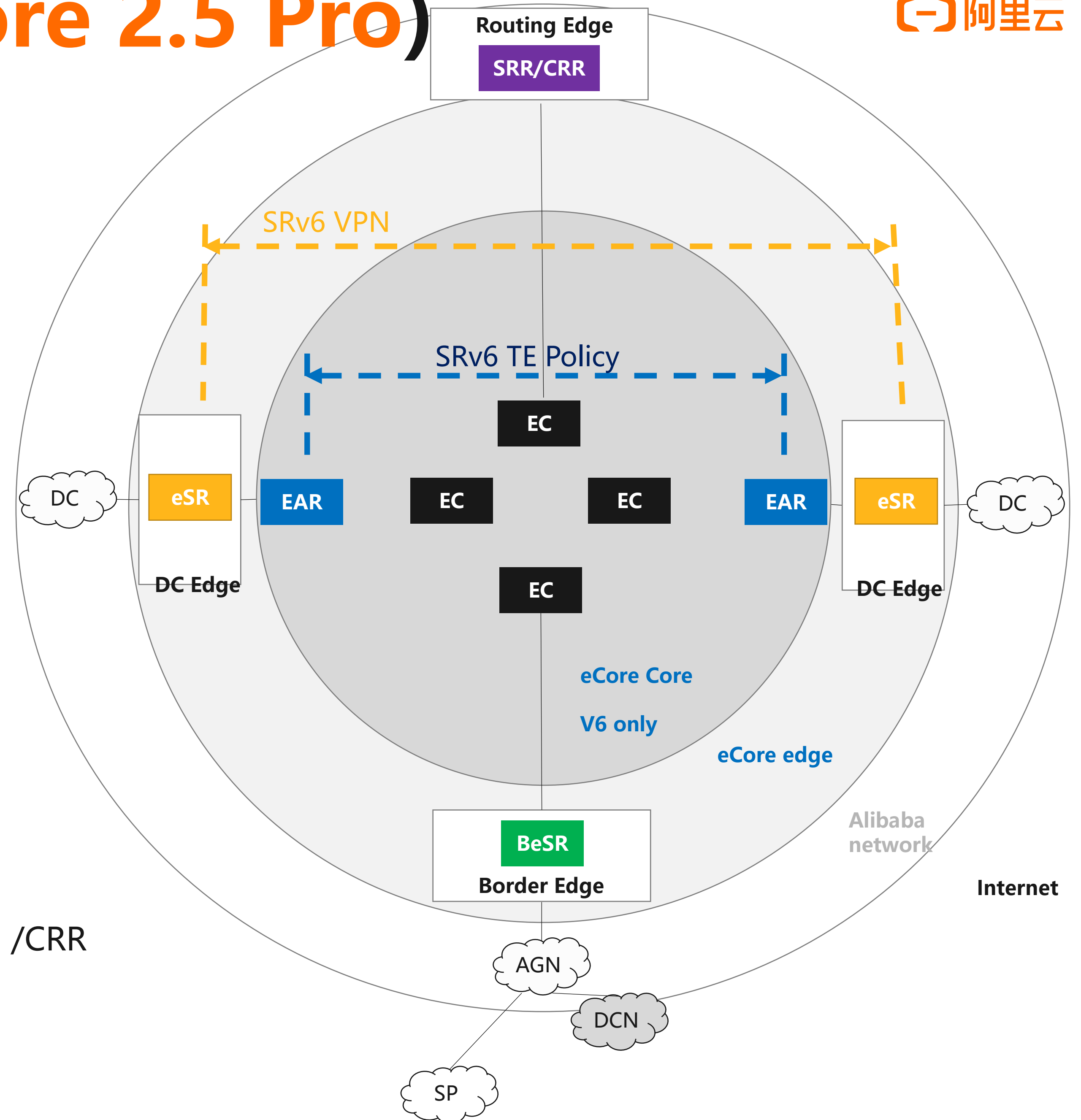
SRv6 uSID enabled SONiC

- 2021: SRv6 uSID in SONIC collaboration started
  - Very rich ecosystem (Alibaba, Cisco, Broadcom, Intel, others)
  - Several major milestones
- 2022: Alibaba Routing Platform
  - SONiC based
  - SRv6 uSID enabled
- 2023: Alibaba SRv6 uSID deployment
  - Alibaba and Cisco Blog
- 2024:
  - TE Policy
  - BFD offload
  - Infra enhancements

Features	SONiC Status
Underlay	
SRv6 uSID	Available: SONiC 202211 [Link] [Link]
TE Policy	Target: SONiC 202411
BFD Offload	Target: SONiC 202411
Overlay	
BGP VPN	Available: SONiC 202305 [Link]

SONiC Working Group on Routing sonic-wg-routing@lists.sonicfoundation.dev

Working Group on Routing Area -- Routing Performance/Scale etc.

Group Information

- 215 Members
- 133 Topics , Last Post: Feb 23
- Started on 04/02/23
- Feed

Gather contributors from both FRR and SONiC community to improve white box supports in routing.

Initial focus areas:

1. Communication among FRR, kernel and SONiC
2. Routing related features
3. Routes memory reduction
4. BGP loading time
5. Routes convergence time

Phoenix Wing Initiative's Goals

- ## Short Term Goals:
  - Verify the deployment readiness of SRv6 solutions via using the SONiC 202411 release on participated hardware devices

- ## Long term goals:
  - Promote more SONiC based SRv6 deployments, complete the testing tool set for the SRv6 solutions
    - Add SRv6 into SONiC interop lab.
    - Provide SONiC SRv6 standardized test cases, set expected test results for SRv6 solutions.
    - Offer verfied SRv6 solution deployment scenario cases.

Initiative Code name: PhoenixWing

"PhoenixWing" conjures imagery of a mythical creature soaring through the skies. It symbolizes this initiative's journey towards readiness and integration of SRv6 within SONiC community.

Phoenix Wing Initiative Kicked Off on 05/25, Beijing China

Areas	Participants
Control Plane	Alibaba
	Cisco
	Broadcom
	Nvidia
	Accton
SAI / SDK	Cisco
	Broadcom
Hardware Testbeds	Cisco
	Broadcom / Huaqin/Ruijie
	Inspur

https://sonicfoundation.dev/phoenixwing-initiative-kick-off-in-beijing/

Phoenix Wing Integration Plan

Control Plane milestones

Drop1

SRv6 VPN / uSID	Alibaba
Fpm communication channel	Cisco, Alibaba
BGP loading time optimization	Alibaba

Drop2

SRv6 TE Policy and BFD offload for SRv6 TE policy	Alibaba
Prefix Independent Convergence	Alibaba, Accton, Cisco, Nvidia, Broadcom and NTT

202311 release as base

T_0
community image ready without SRv6

0730

T_1
community image ready with SRv6, SRv6 VPN only

1030

T_2
community image ready with SRv6 Policy

Upstream codes / Test cases to 202411 release

Community SONiC202311 image Bring up on physical device

Drop 1 integration Done

Drop 2 integration Done
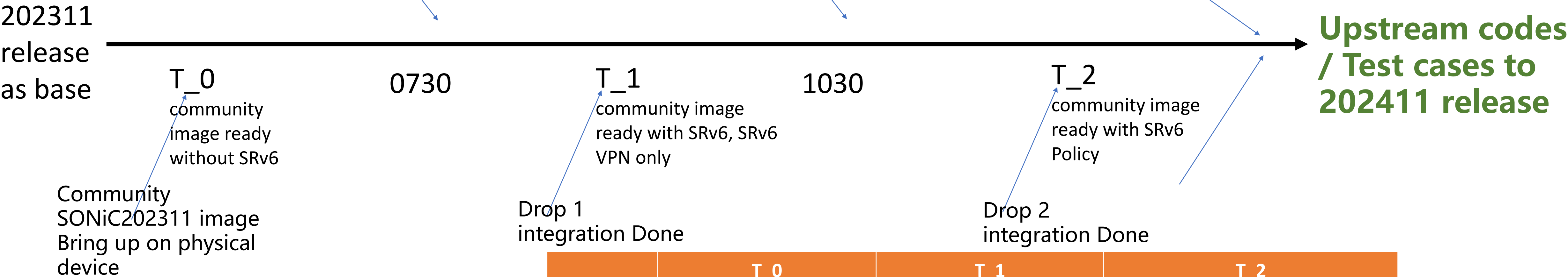
Integration milestones

	T_0	T_1	T_2
Cisco	??	??	??
Broadcom	T0-1: platform bring up TBD	T1: Q3D SAI support without SRv6, integration start 8/15	T2-1: Q3D SAI EA with SRv6, integration start 11/15 T2-2: Q3D SAI GA, integration start 1/30
Inspur	06/2024	09/2024	12/2024

Is SONiC ready for Routing deployment?

- Ready for controlled deployment scenarios.

- There's still a significant journey ahead for general-purpose deployment scenarios.

  Join the SONiC routing working group and collaborate to make it happen.

  Subscribe: sonic-wg-routing+subscribe@lists.sonicfoundation.dev

Thank you