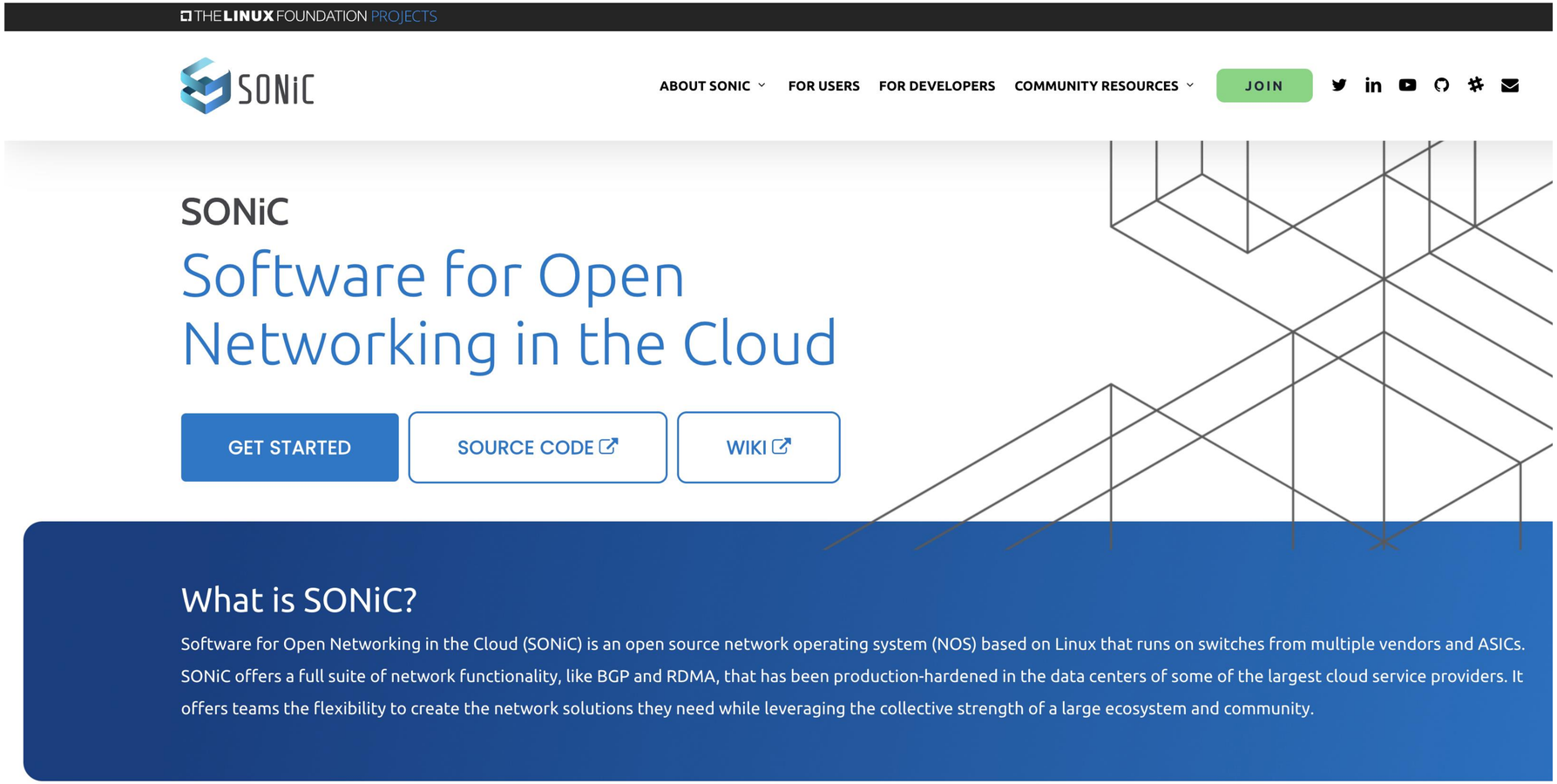
SONiC / Phoenix Wing Initiative Intro

- Get SRv6 ready in SONiC 202411 release

July 2024

Eddie Ruan

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.

PREMIER MEMBERS

Alibaba Group, BROADCOM, CISCO, DELL Technologies, Google, intel, MARVELL, Microsoft, NVIDIA

https://sonicfoundation.dev/

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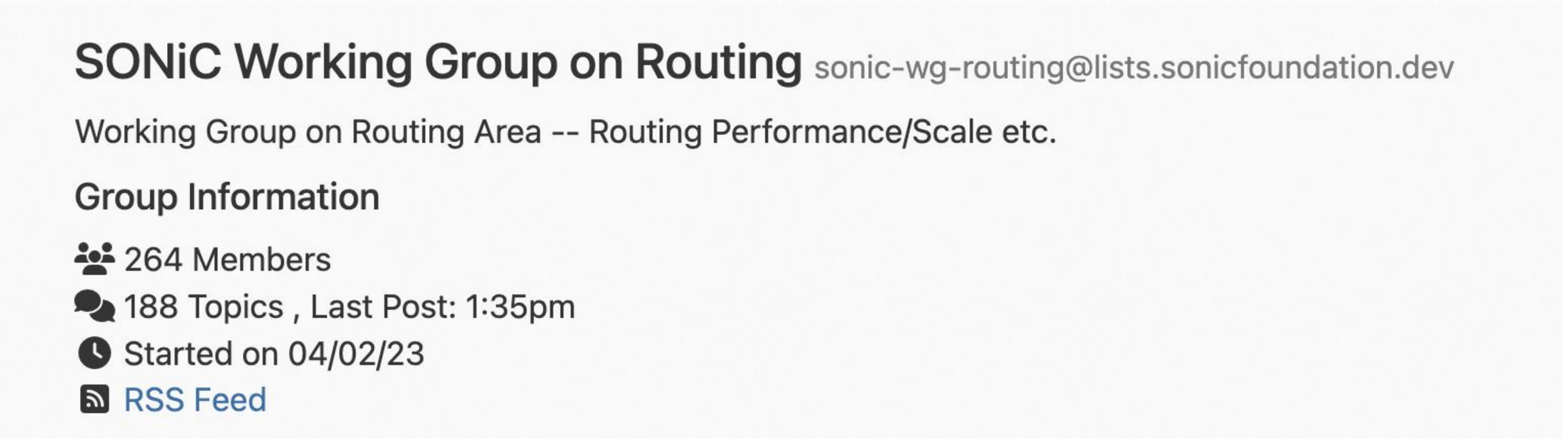
SONiC Working Group on Routing sonic-wg-routing@lists.sonicfoundation.dev

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

Group Information

264 Members
188 Topics , Last Post: 1:35pm
Started on 04/02/23
RSS 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 verified SRv6 solution deployment scenario cases.

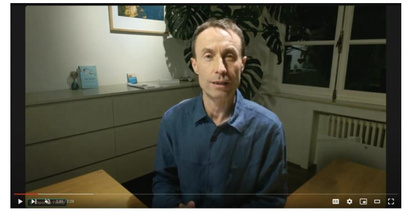
Initiative Code name: PhoenixWing

"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

Collaborations spanning over 10 organizations and universities

Arpit Joshipura, Linux Foundation - SONiC PhoenixWing initiative kick-off May 25, 2024



Hasan Siraii, Broadcom - SONiC PhoenixWing initiative kick-off May 25, 2024

Lihua Yuan, Microsoft - SONiC PhoenixWing initiative kick-off May 25, 2024

Dennis Cai, Alibaba - SONiC PhoenixWing initiative kick-off May 25, 2024

Supports from industry leaders

https://sonicfoundation.dev/phoenixwing-initiative-kick-off-in-beijing/
https://www.segment-routing.net/news/2024-05-25-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

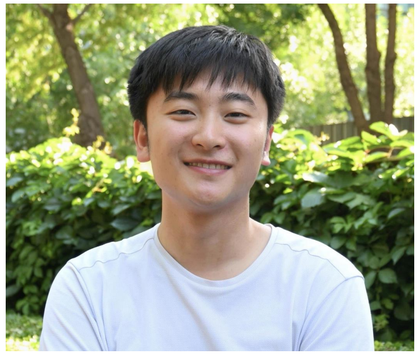
Drop 2 integration Done

	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

Students working on Phoenix Wing

SONiC Routing Working Group

- Interns from ASoC (Alibaba Summer of Code)



Wen Wang

Hongyun Chen

Boxing Peng

Yadi Fu

Shijie Yang

- Ph.D Candidate from Nanjing University, China

Xuntao Pan

Detailed progress info: https://lists.sonicfoundation.dev/g/sonic-wg-routing/wiki/36853

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

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Thank you