2022 LFN Workshop - Deep Dive on Interop Challenges

Topic Leader(s)

- Scot Steele

Topic Description

75m, Scot Steele

- Deep Dive: Interoperability Challenges

Topic Overview

- Deep Dive: Interoperability Challenges
    - Part 4: CNF Interoperability Challenges between workload/platform and orchestrator/workload
        - CNI – is this the only answer?
        - Other networking frameworks (eg., Istio, Envoy)?
        - Networking abstraction – how do we push this past the goal line, publish, and test?
        - Data Plane
            - If performance tuning is a source of interop issues, how do we address these?
            - Are data plane issues as opaque to workloads as claimed (should we do a survey, or testing experiment to have non-anecdotal data)?

Slides & Recording

GMT20220314-1...2560x1440.mp4

No slides

Minutes

what does it take for the function to interoperate with the platform?

CNI in it's current form is not the answer

Platforms should support an option to allow for other networking interfaces

Are there to many solutions?

Is there a DeFacto standard? CNI is but it doesn't support all of the needed functions

Kubernetes - V4/V6

Some plugins have addressed (e.g. Multus)

Multi pod interfaces where all interfaces are equal

Would a project focused on the issue (ref: Doctor from OPNFV) If so it would likely be under Anuket

Multi-homed requirements needed for Telco

- Exploratory project created by Victor Morales - Samsung - https://github.com/gw-tester/
  - ☐ Scot Steele to collaborate with Ashiq Khan and Riota Tetsuya on exploratory project created by Victor Morales - Samsung https://github.com/gw-tester/
- CNF-WG is working on best practices for CNFs. Work is organized by use cases - https://github.com/cncf/cnf-wg/tree/main/use-case

Nodus: https://github.com/akraino-edge-stack/icn-nodus

Can it support needed?

Review of Doctor project on collaboration -

Other networking frameworks (eg., Istio, Envoy)?

      Layer 4-7 topics: Should RA2 investigate? - Yes

      Network Function Vendors - App layer Domain - need input from CNF suppliers

      Linkerd

      Service Mesh Interface (SMI) from MSFT: https://smi-spec.io/

      need to identify SMI projects

      CNCF project Network Service Mesh - Layer2

      Consider it as Layer 2-3

      Open Service Mesh: https://openservicemesh.io/

Networking abstraction – how do we push this past the goal line, publish, and test? No feedback

- Data Plane
  - If performance tuning is a source of interop issues, how do we address these?
    - anecdotal information indicated however seems to be solved by the DP platform selected
    - Can RA-2 specify performance? if not, where?
  - Are data plane issues as opaque to workloads as claimed (should we do a survey, or testing experiment to have non-anecdotal data)?
- Service Mesh discussion - Olivier -
- Nodus can support SFC

Action Items

☐ Beth Cohen Scot Steele bring forth a discussion to the Anuket TSC around CNI Feature requirements, networking frameworks (Istio, Envoy)

☐ Beth Cohen Scot Steele Discuss a task force based on the Doctor project with the Anuket TSC.\

☐ Scot Steele follow up with Bob Monkman for Intel support of CNI Feature requirements