SONiC+
Adding Application Logic to Open NOS

Matty Kadosh  Principal Architect , Mellanox
What is SONiC+?

An application running in SONiC NOS, solving specific use case

Combination of application need and dataplane capabilities

A ‘plus’ application is containerized for modularity

Integrate with SONiC infrastructure i.e. SAI, Redis DB

- No impact on SONiC - Using SAI flex interface + REDIS DB
- All enhancements over SONiC are automated & auto generated
SONiC+ Load Balancer

Making use of the SAI Flex APIs

- Load balancing @ switch line rate
- Can run on existing ToR switch excluding the extra load balancer servers hop
- can run in addition to all sonic functionality
SONiC+ Tunnel

Making use of the SAI Flex APIs

- Support tunnel mapping to overlay networks
- Support VRF peering to increase routing scale
- Use cases:
  - Connect bare metal servers to overlay networks
  - Map Costumer Tunnel to tenant network
The Sepio security stand running on SONiC offers a unique solution that discovers, identifies and blocks malicious physical layer devices (active and passive).

Full protection against:
- Invisible network implants
- Manipulated firmware

SONiC+ Security

Secured PHY
Powered by Sepio
SONiC+ Telemetry

Telemetry Collector

Match : marker
Action : Collect telemetry

Telemetry summary

Flow + marker

Telemetry Agent

Match : marker
Action : Collect telemetry

Telemetry summary

Flow + marker

Telemetry summary

Flow + marker

Telemetry Agent

Match : marker
Action : Collect telemetry

Telemetry summary

Flow + marker

Open. Together.
SONiC+ – Components

SONiC+ Application extension
SONiC+ Orch Agent extension
SONiC+ syncD extension
SONiC+ SAI extension - Done
SONiC+ SAI Extension

Ability to add changes to control & data plane according to customer needs

SONiC+ LB app

Auto generated FLEX SAI API

Mellanox SDK

SONiC+ pipeline

LB.p4

Mellanox P4 Compiler

https://github.com/opencomputeproject/SAI/tree/master/flexsai/p4
Call to Action
Please join us working on the infrastructure for:

- SONiC+ Application extension
- SONiC+ Orch Agent extension
- SONiC+ syncD extension
Open. Together.

OCP Global Summit | March 14–15, 2019