

An abstract graphic composed of numerous thin, light green lines that swirl and curve together to form a central, irregular shape resembling a stylized letter 'O' or a tunnel. The lines are set against a solid dark blue background.

Open. Together.



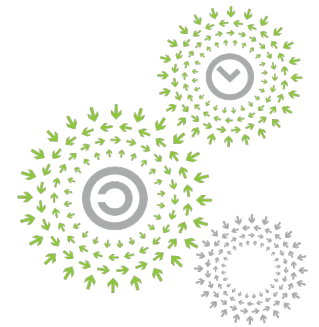
OCP
SUMMIT

SONiC

SONiC + ONL

Open Source NOS with Broader Platform Support

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OPEN
GOLD®



Open. Together.



Big Switch Networks



NETWORKING

Mission: Delivering SDN solutions based on hyperscale networking principles

Founded in 2010

Has roots in the original Stanford research team that invented Software Defined Networking (SDN)

Open Philosophy

- OpenStack contributor and user

- Open Compute Project

- Open Networking foundation

NTT Electronics America



NETWORKING

- NTT (Japanese Telco) Group Company
- Founded in 1982
- Products : Network LSI (Coherent DSP), Video codec LSI, Photonics hardware
- Recent Activity : Adapting open networking technology for optical transport network
 - e.g) leading TAI (Transponder Abstraction Interface) project in TIP OOPT

TELECOM INFRA PROJECT

Open Optical & Packet Transport

Voyager Cassini TAI GNP_y

A dark green slide from the Telecom Infra Project. At the top is the TIP logo and the text 'TELECOM INFRA PROJECT'. Below that is the title 'Open Optical & Packet Transport'. At the bottom, there are four circular icons: 'Voyager' (a white network device), 'Cassini' (another white network device), 'TAI' (a diagram of a wave with four arrows pointing up and down), and 'GNP_y' (a network diagram with four nodes).

What is ONL



NETWORKING

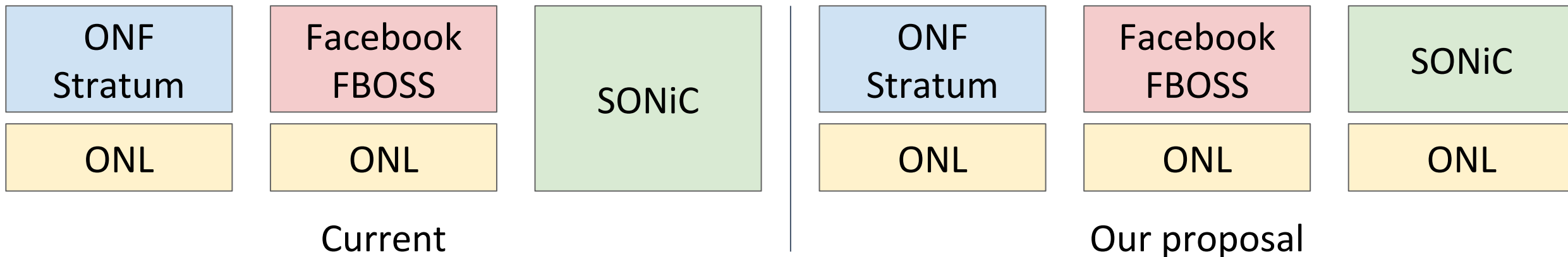
- The first fully open source platform OS used by many organizations as a base for their Network Operating System (NOS)
- Flexible/Structured build system (onlpm) : Easy to modify, add packages, change kernels, add drivers
- ONLP : built-in platform API to control PSUs, fans, leds, eeproms etc...
- No dataplane API : users need to get SDK from ASIC vendors (further info later)
- Many users : The base OS for the ONF Stratum, Facebook FBOSS etc...

SONiC + ONL



NETWORKING

- ONL is used by many NOS as a base OS
 - e.g) ONF Stratum, Facebook FBOSS
- building a solid base OS in the open source community benefits everyone
 - ODM only needs to port their hardware to ONL
 - SONiC gets wider hardware support



SONiC + ONL



NETWORKING

- No one-shot transition needed
 - we can add ONL build option in sonic-buildimage
 - adding ONL as a submodule of sonic-buildimage repo
 - users can choose from new ONL based SONiC or keep using pure SONiC

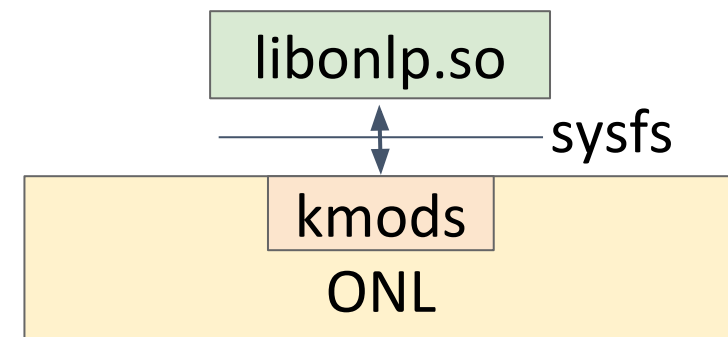
ONL Platform library (ONLP)



NETWORKING

ONLP the Open Network Linux Platform library manages platform peripherals, FRUs, etc:

- SFP's
- Fans
- Temp sensors
- Power supplies
- System details

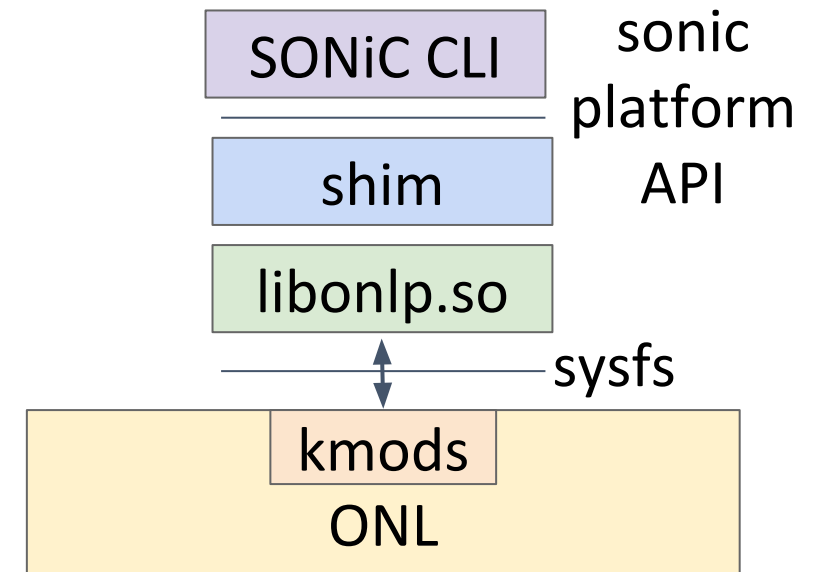


How to put SONiC on ONL (1/2)



NETWORKING

1. add SONiC kernel as one of the kernel option for ONL
 - ONL build system supports easy kernel switching
2. ONLP and `sonic-platform-common` integration
 - implement a shim layer between ONLP and new platform API
 - <https://github.com/Azure/sonic-platform-common/pull/19>



How to put SONiC on ONL (2/2)



NETWORKING

3. add built-in SAI support in ONL
 - FBOSS is also trying to add SAI support
 - <https://github.com/facebook/fboss/pull/38>
4. integrate SONiC build system and ONL build system
 - add `SONIC_BASE_OS` option in rules/config

SONiC + ONL Demo Video



NETWORKING

- **Controller-based Zero Touch Provisioning**
 - Switch boots into ONIE Install Mode
 - Switch does ONIE request for image
 - Controller provides SONiC+ONL image
 - Switch installs image
 - Controller & Switch CLIs to validate image installation
 - show platform summary - SONiC
 - onlpdump -s - ONL



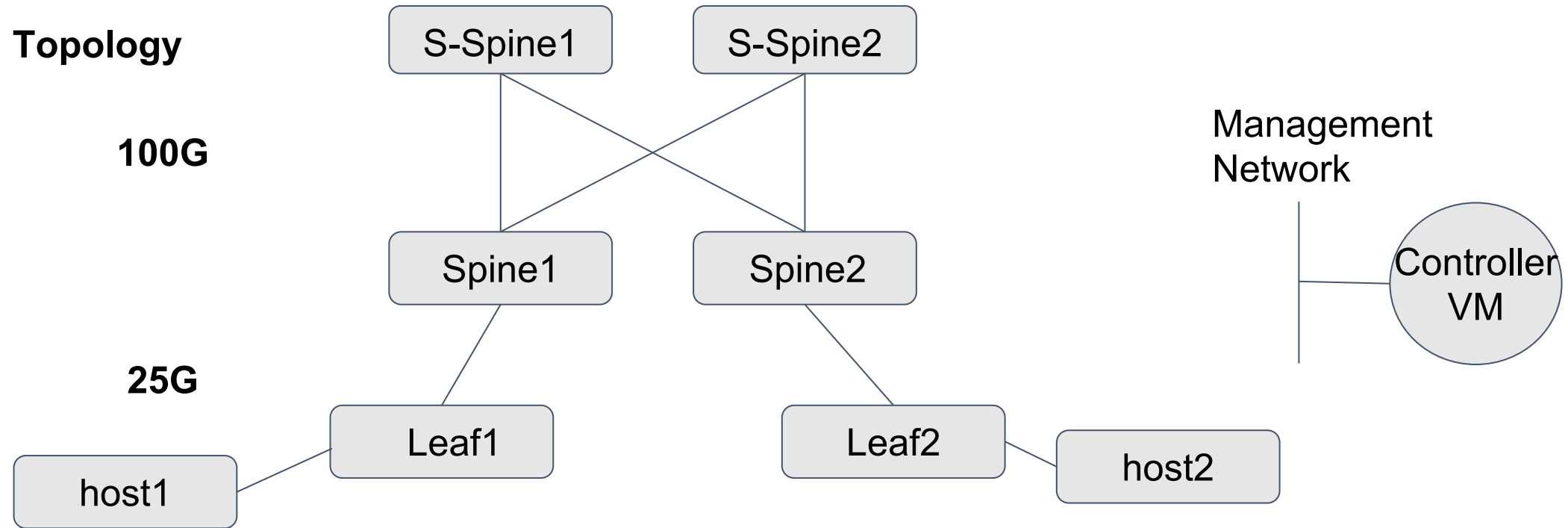
SONiC+ONL testbed topology

NETWORKING

- **Zero-Touch Networking via Controller Demonstration Testbed**

- Fixed topology (2 super spines, 2 spines, 2 leafs)
- Switches loaded with (SONiC/ONL) build
- Controller installed on a VM (Ubuntu 14.04)

- **Topology**





Controller Based Functions

- Controller-based Visibility via CLI
 - show switch <name> environment
 - show switch <name> version
- Controller-based Visibility via GUI
 - Switch Overview
 - Switch Environmentals
 - Switch Port Status

Call to Action

Demo Code Available Today

Supports Edge-Core AS7712, AS7312x (not xs) and AS5712

Where to find additional information (URL links)

Information : <https://www.bigswitch.com/solutions/technology/open-network-linux/onl-sonic>

Website: <https://www.opennetlinux.org>

Mailing list: <https://groups.google.com/forum/#!forum/opennetworklinux>



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