

ONIE – Open Network Install Environment



Agenda

Accton

- What is Open Compute Project ?
- What is ONIE – Open Network Install Environment ?
- Anatomy of a Network Switch
- Bare Metal Install Behavior.
- NOS Installer Duties

What is Open Compute Project ?

■ Overview

- When **data center** design and hardware design move in concert, they can **improve efficiency** and **reduce power consumption**.
- To this end, the **Open Compute Project** is a set of technologies that **reduces energy consumption and cost, increases reliability and choice in the marketplace, and simplifies operations and maintenance**.
- One key objective is openness—the project is starting with the opening of the **specifications** and **mechanical designs** for the major components of a data center, and the efficiency results achieved at facilities using Open Compute technologies.

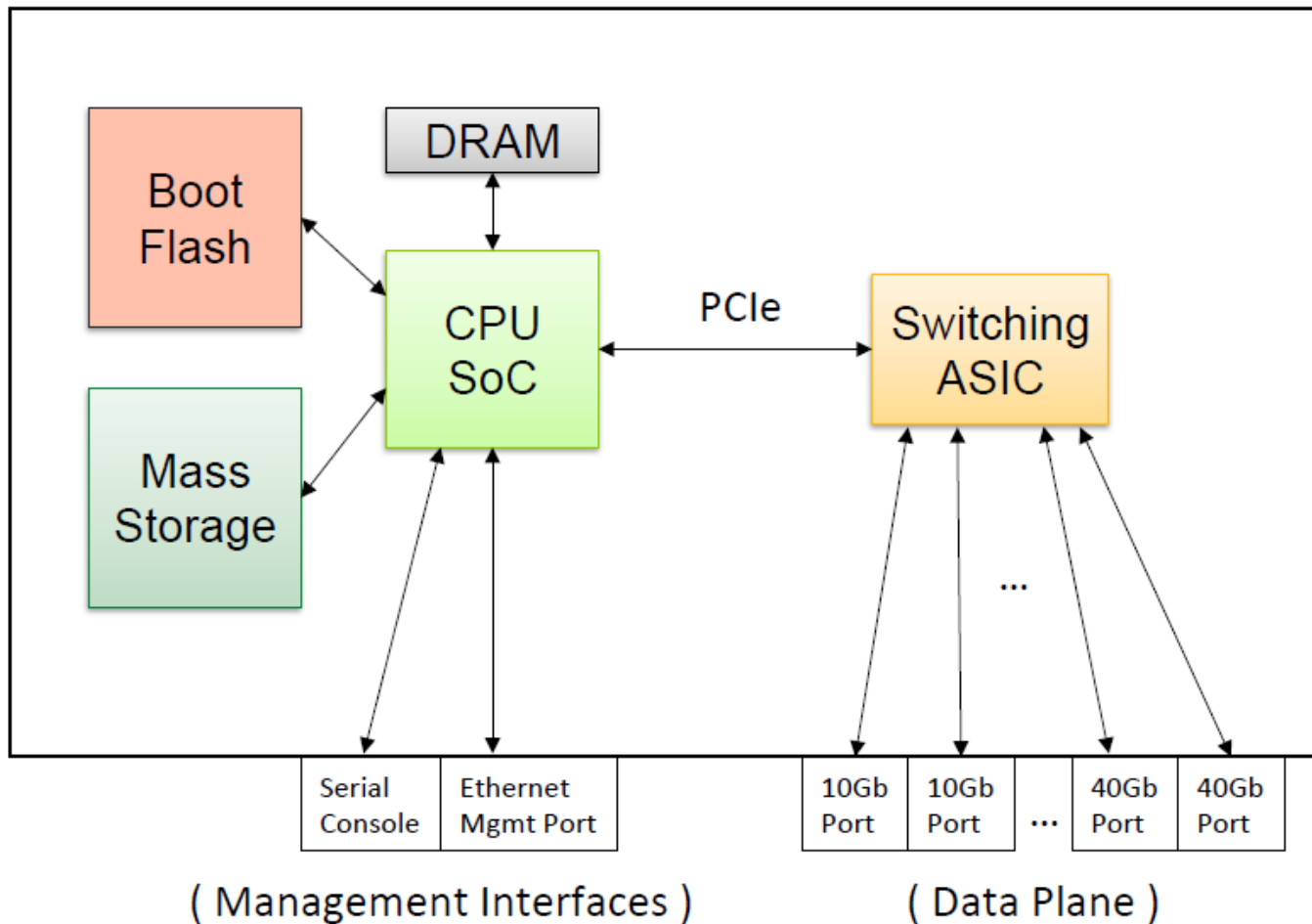
What is ONIE ?

- Network OS Install Environment
 - Provides an environment for network OS installer discovery and execution
 - Like a pre-installed kickstarter
 - Defined by its behaviors
 - Implemented using a modern Linux kernel and BusyBox
- An Open Source Project within OCP
 - <http://www.onie.org/>

Anatomy of a Network Switch

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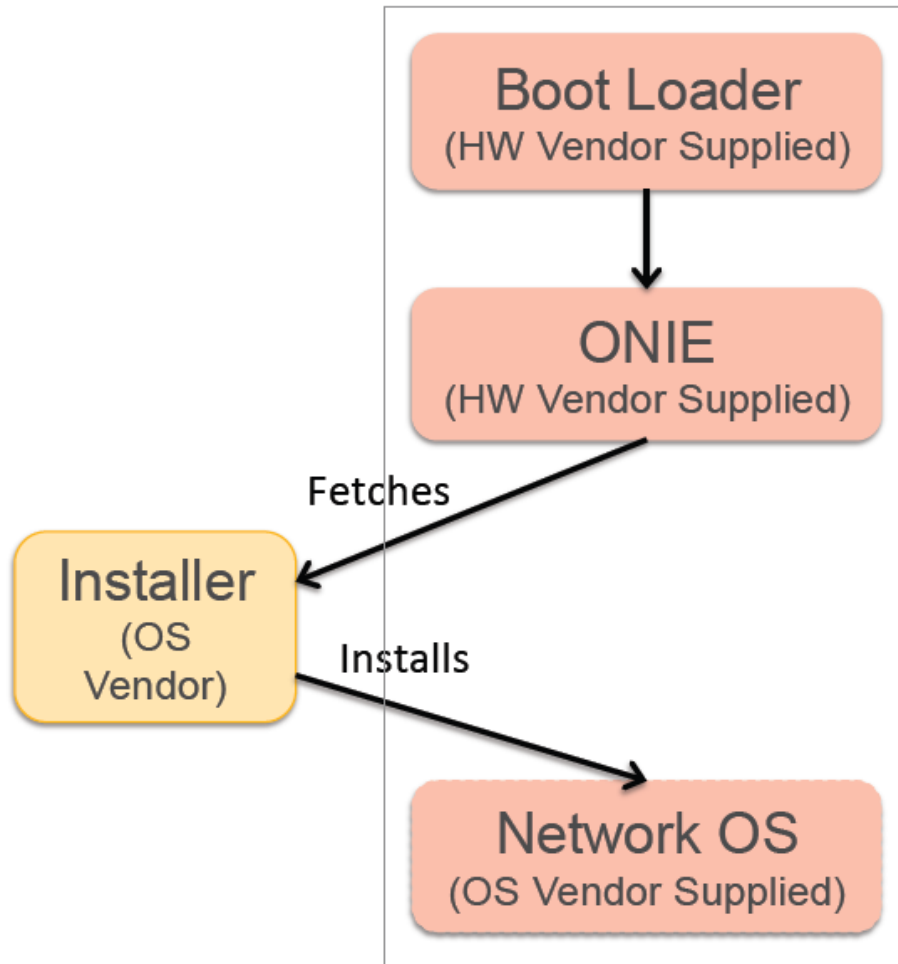
- Network OS Install Environment
 - Provides an environment for network OS installer



Bare Metal Install – First Time Boot Up

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- Network OS Install Environment
 - Provides an environment for network OS installer



Boot Loader

- Low Level boot loader, configures CPU complex
- Loads and boots ONIE from flash

ONIE

- Linux OS with Busybox
- Configures management Ethernet interface
- Locates and executes installer from network
- Provides tools and environment for installer

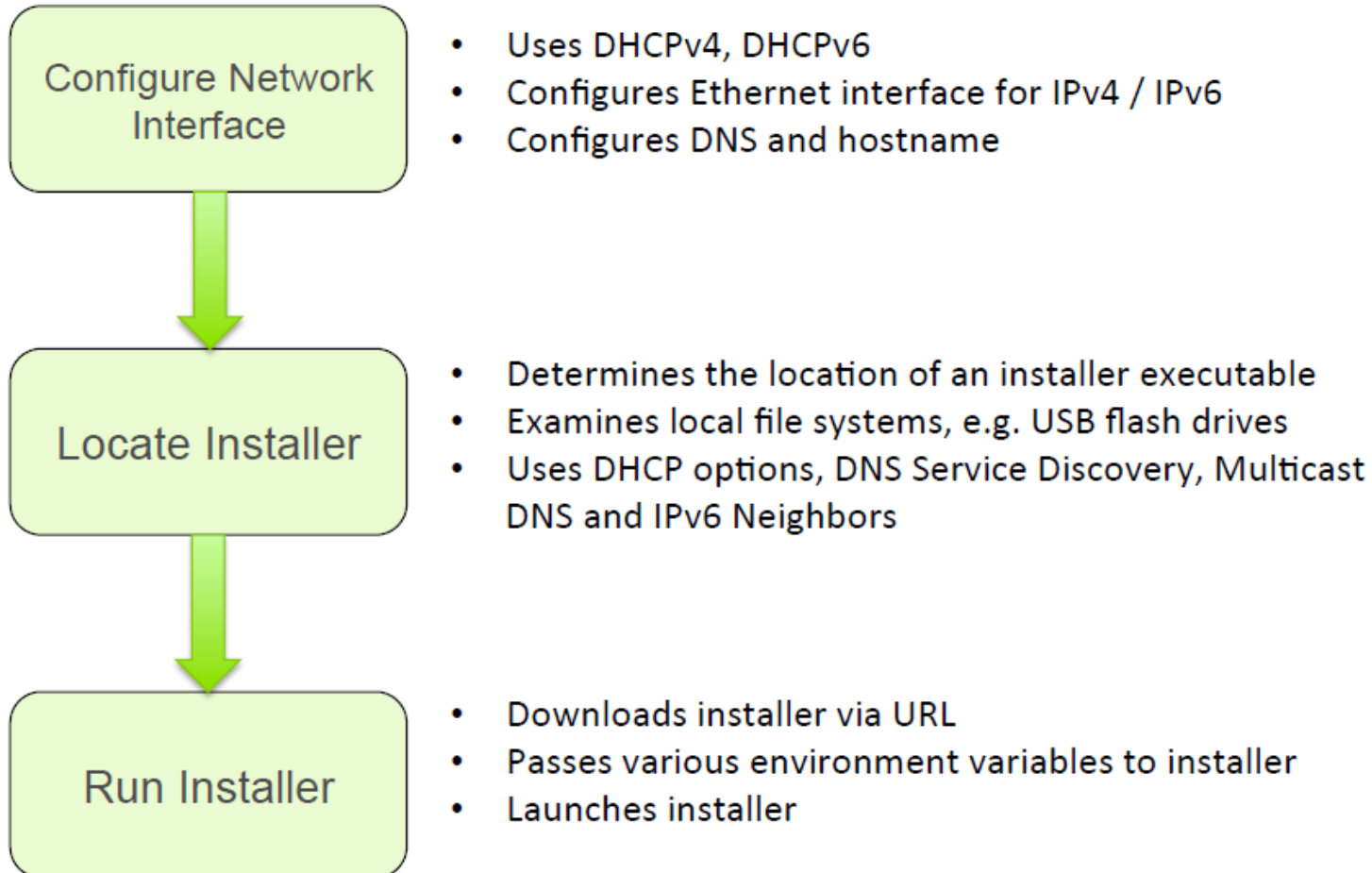
OS Installer

- Available from network or USB
- Linux executable
- Installs vendor OS into mass storage

Bare Metal Install – First Time Boot Up

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- Network OS Installer Discovery and Install Behavior.



ONIE Other Behaviors

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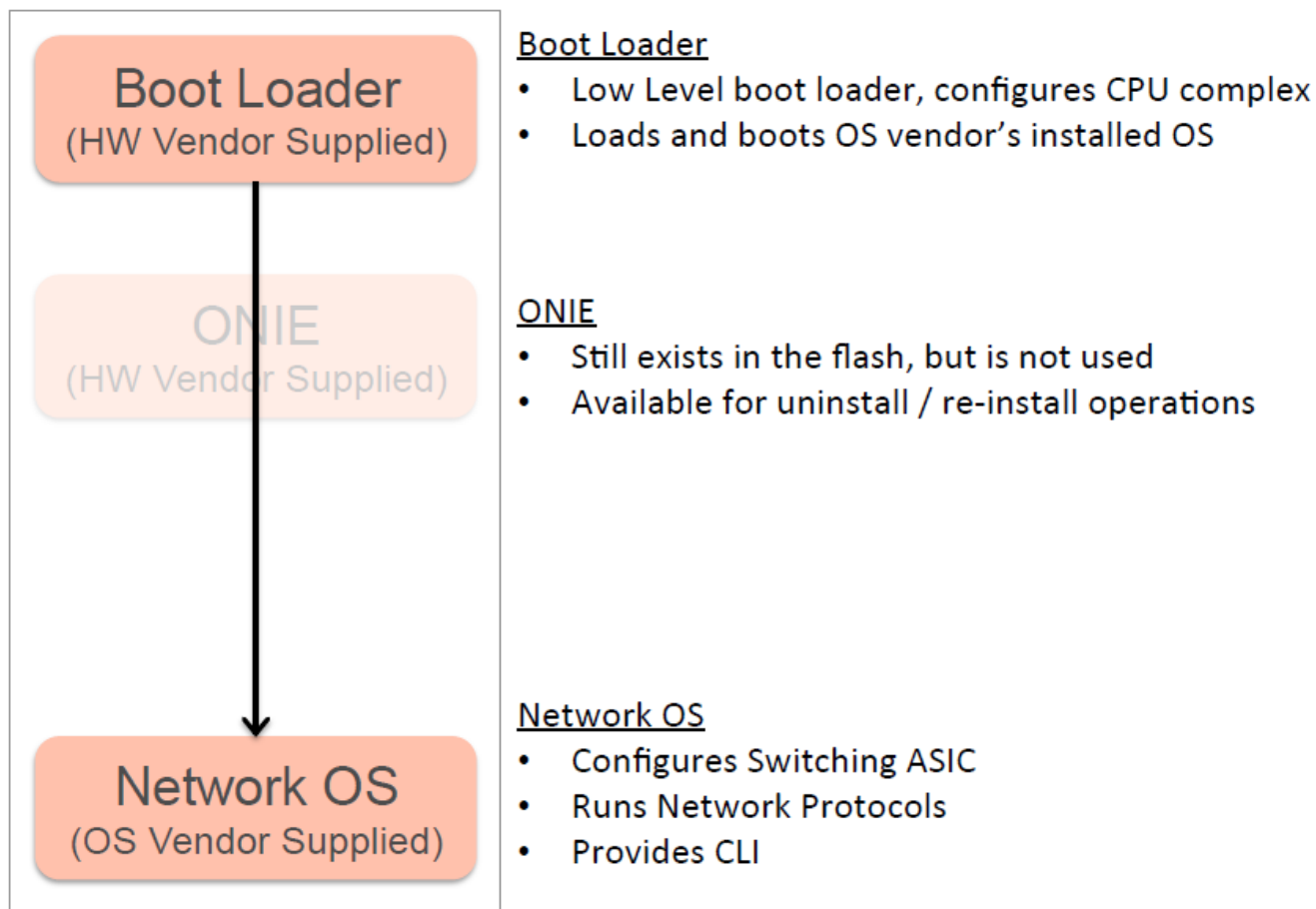
- Provide a mechanism for a network OS to invoke the above behaviors.

Reinstall	Remove currently installed OS and return to the “out of box” provisioning state
Uninstall	Completely wipe out everything, except ONIE
Rescue	Reboot box into ONIE for repair, debug and forensics
Update	Install a new ONIE version
Diag	Run HW Vendor’s diag (optional)

Bare Metal Install – Subsequent Reboots

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- Vendor's OS is Already Installed.
 - Eg. https://www.youtube.com/watch?v=_NAxeqMWJb8



NOS Installer Duties

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- Create new GPT partition(s)
- Create file systems on partition(s)
- Install NOS files into partition(s)
- Update ONIE-CONFIG using ONIE provided CLIs
 - onie-boot-entry-add!
 - onie-boot-entry-remove!
 - onie-boot-entry-show!
 - onie-boot-default!
 - onie-boot-update!