Physical POD
Test and deployments

#OpenCORD
Full POD: definition

The minimum amount of hardware that can be used to perform a full test of the current CORD features

- **Fabric**
  - 4x white-box switches

- **Compute**
  - 3x standard x86 servers

**Tricks**
- Avoid company proxy servers
- Use suggested hardware

**Suggested components:**
- Server QuantaGrid D51B-1U (2x Intel E5-2630 v4 10C 2.2GHz 85W, 64GB of RAM 2133MHz DDR4, 2x hdd500GB)
- 40G NIC: Intel Ethernet Converged Network Adapters XL710 10/40 GbE PCIe 3.0, x8 Dual port
- Switches: Accton 6712 - 32x40GE
Network connectivity: user / data plane

Fabric
4x whitebox switches

Access devices

Compute
3x standard x86 servers

Metro network

Spine 1

Leaf 1

Head node 1

Spine 2

Leaf 2

Compute node 1

Compute node 2

Metro network

#OpenCORD
Network connectivity: a complete view

- **Head node**
  - Linux mgmt to external
  - Fabric to leafs
- **External network L2 switch**
  - IPMI
- **Compute node 1**
  - Fabric to leafs
  - Linux mgmt to internal
- **Compute node 2**
  - Fabric to leafs
  - Linux mgmt to internal
- **Internet**
  - External access to the POD
  - Where the **operator** connects
- **Spine 1**
  - Fabric
- **Spine 2**
  - Fabric
- **Leaf 1**
  - Fabric
- **Leaf 2**
  - Fabric
- **Internal mgmt L2 switch**
  - IPMI
  - Mgmt

#OpenCORD
Steps to deploy:

1. Download CORD repo on the dev machine
2. Create the CORD dev VM on the dev machine
3. Fetch CORD packages on the dev machine
4. Push the software to the head node
5. Deploy and configure the head node
6. Reboot (to deploy) the compute nodes and the switches
7. Add your configurations

OpenStack head node
ONOS
XOS
...
MAAS

Runs

OpenCORD
Issues

- Building a CORD POD requires ~3-4 hours (human interaction)

- Is there a way to automatically reset a POD?

- How do I do “CI”? What if I want to test a fresh installation with the latest changes every day?
Current status

We can build a CORD POD in a click!

Partner
4 PODs

Partner
1 POD

ON.LAB
1 POD
Nightly building master and CORD 2.0

Partner
1 POD

#OpenCORD
References

Documentation

- http://wiki.opencord.org
- https://github.com/opencord/cord/blob/cord-2.0/docs/quickstart_physical.md

Contacts

- Mailing-list: cord-dev@opencord.org
- Slack: slack.opencord.org

Presenter

- Luca Prete / luca@onlab.us