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OSA 201:

Deep dive into deploying OpenStack with OSA

Walter Bentley
Senior Technical Marketing Engineer, RPC

Twitter: @djstayflypro
LinkedIn: http://goo.gl/r2p21i
GitHub: wbentley15
Blog: hitchnyc.com

- Over 17 years of IT experience
- New Yexan (New Yorker in Texas)
- Cloud Advocate (hybrid is my favorite)
- Knowledge sharer/author
- OpenStack believer
- Motorcyclist and DJ (literally…no lie)
- Always about living life now!

Ground Rules

- **Not going to ask you to turn off mobile phones but, if it rings its mine :D**
- **Ask questions *(requirement)***
- **Take any side conversations outside *(mainly because I like hearing myself talk only)***
- This workshop is hands on, please group yourself into groups no larger than 2-3. Please take turns doing stuff!

Before we get started…

- **Each group will be given a StudentID and instructions to connect to the OpenStack servers**
- **OpenStack will be deployed as an All-In-One**
- **We will be working with the command line using basic Linux commands and Ansible**

DEPLOYING OSA

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OSA 101

High-level Overview

Features and benefits

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OSA 101

OpenStack Community Adoption

https://github.com/openstack/openstack-ansible

- In November 2014 the community voted to accept the OSAD playbooks as a Stackforge repository, making them the basis of Ansible support for OpenStack going forward
- At the past Summit in Vancouver, the community committed to continue to improve the OpenStack install process with OSAD
- Around fall of this year the OSAD repository was officially moved under the main OpenStack repository and renamed OSA

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OSA 101

Features and Benefits

- Ansible
- Linux Containers (LXC)
- Linux Bridge agent
- Full Neutron deployment
- Includes all PROD ready OpenStack services
- Can be used to deploy an AIO or fully distributed multi-node HA layout

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OSA 101

Under the Covers

High-level prerequisites:

Ubuntu 14.04 (Trusty)
SSH Client
NTP Client
Python 2.7 or later

Use of Linux networking features:
Bridges and Namespaces

- Container management: br-mgmt *(Mandatory)*
- OpenStack Networking tunnel/overlay: br-vxlan *(Mandatory)*
- OpenStack Networking provider: br-vlan *(Mandatory)*
- Storage: br-storage *(Optional)*

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OSA 101

Under the Covers (cont.)

To deploy OSA, it was broken down into the following main playbooks:

- setup-hosts.yml
- haproxy-install.yml
- setup-infrastructure.yml
- setup-openstack.yml

OR

- setup-everything.yml

https://github.com/openstack/openstack-ansible/tree/13.1.4/playbooks

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OSA 101

Under the Covers (cont.)

All the playbooks are dependent on the following configuration files:

Directory: /etc/openstack_deploy

- openstack_user_config.yml
- user_secrets.yml
- user_variables.yml

- /conf.d/*.yml (additional optional config files)

https://github.com/openstack/openstack-ansible/tree/13.1.4/etc/openstack_deploy

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OSA 201

DEEP DIVE INTO OSA

The nuts and bolts

Lab Overview

- Review suggested node sizing and confirm base operating system network setup
- Review pre-deployment Ansible playbooks and roles
- Discuss how to make environment specific configurations (all-in-one or full distributed design)
- Let's Build Your Cloud (together time permitting or at home)

Lab

Please go to the URL below in your browser (case matters):

https://goo.gl/3TLny5

Next connect to the Lab environment,
connection details are on the handout

Node Sizing

Bare Metal Servers

- **Controller Node (based on HP DL380 Gen9 chassis)**
  Dual Hex or Octa Core Processor, 128GB RAM, 12x600GB SAS 15K, 2x2-Port 10Gb NIC

- **Compute Node (based on HP DL380 Gen9 chassis)**
  Dual Hex or Octa Core Processor, 256GB RAM, 12x3TB SAS 7.2K, 2x2-Port 10Gb NIC

Cloud Instance

- **All-In-One**
  6 vCPUs, 15GB RAM, 620GB System Disk, attach 150GB Block Storage disk (optional if deploying Cinder)

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GO TO
https://goo.gl/TjimIt

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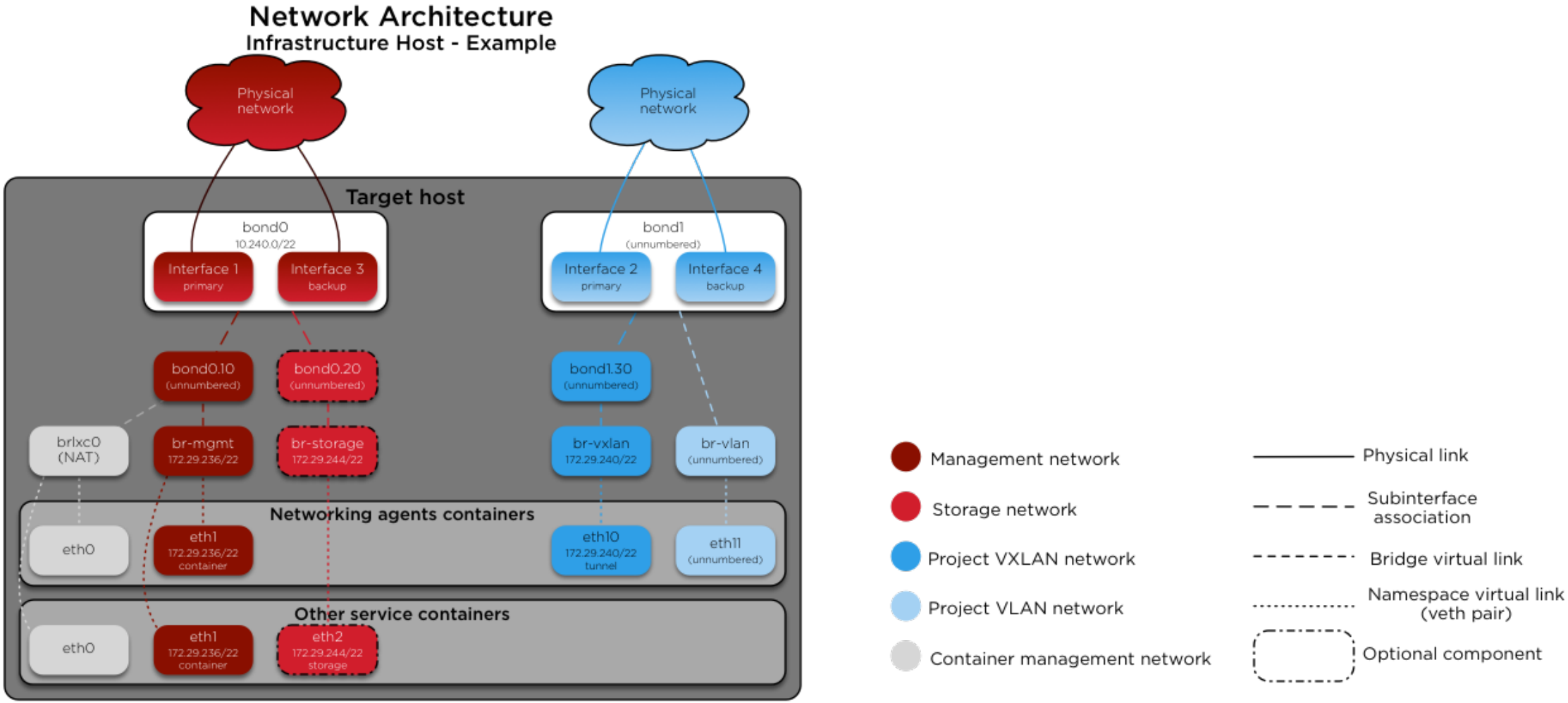
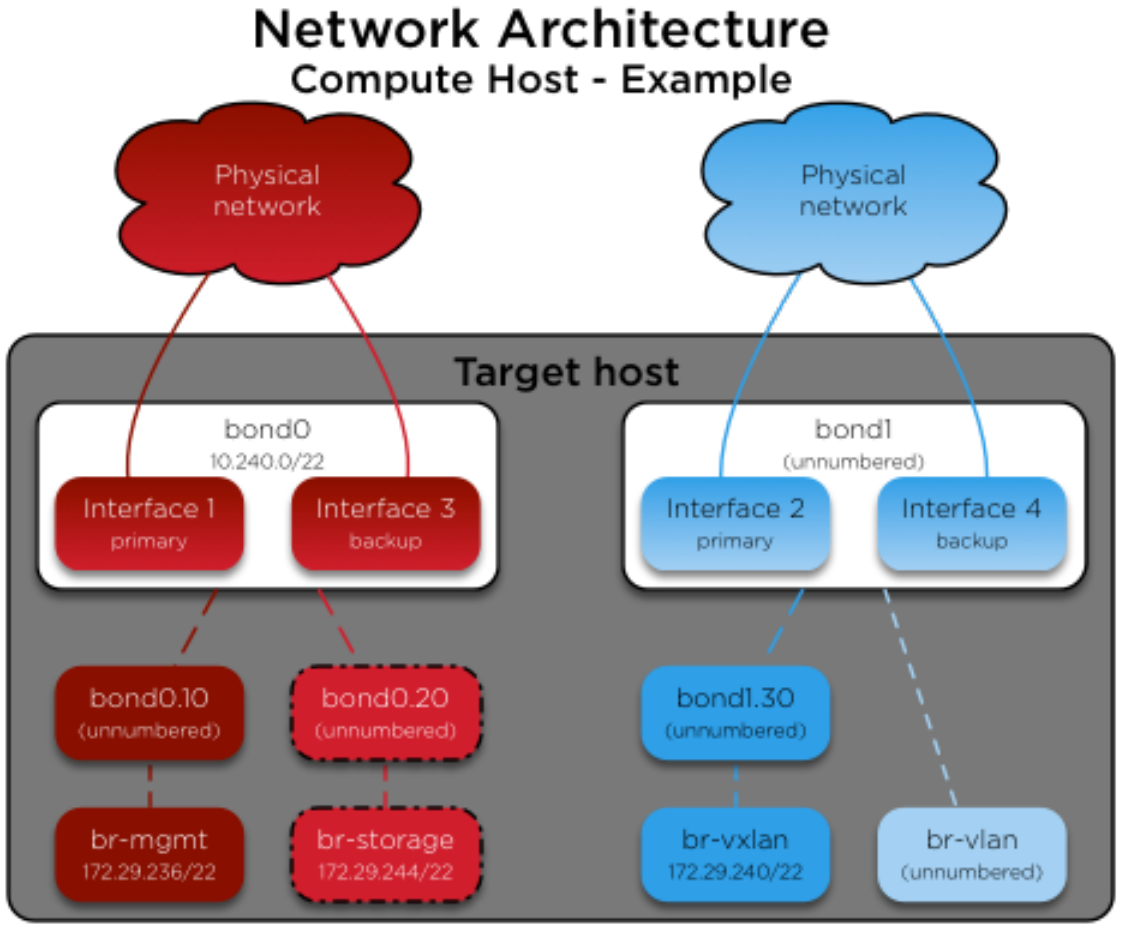
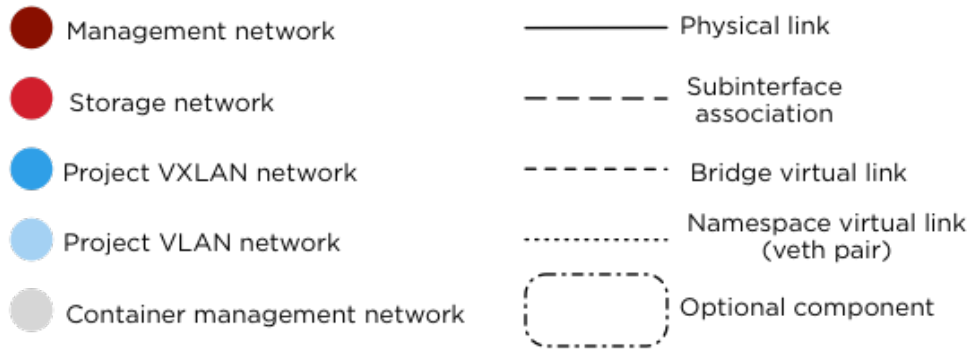
Lab Section #1 - Network Requirements and Setup



Lab Section #1 - Network Requirements and Setup (cont.)





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Lab Section #2 - Pre-deployment Node Setup

Let's be real...the pre-deployment steps suck! Last time I checked it is over 30 pages of instructions.

Imagine in a magical world there was a set of Ansible playbooks and roles to automate this part too...

Today is your lucky day!!!

Lab Section #3 – Environment Configurations

All the playbooks are dependent on the following configuration files:

Directory: /etc/openstack_deploy

- openstack_user_config.yml
- user_secrets.yml
- user_variables.yml

- /conf.d/*.yml (additional optional configuration files)

Lab Section #3 – Environment Configurations (cont.)

openstack_user_config.yml

- **All-In-One example**
  https://goo.gl/ndJ3Dz

- **Distributed multi-node example**
  https://goo.gl/1Jg53h

GO!!!

Execute section #4 of the Lab

Tips and Tricks

- **Deploy using ‘Tags’ version on GitHub repo**
- **Check GitHub repo for new versions and variables being introduced**
- **Triple check your network setup**
- **Re-deployment steps** *(aka the clean-up process)*
- **Galera health check playbook**
- **Running playbooks with ‘-l’**

Reference Materials

OSA Installation Guide:
http://docs.openstack.org/developer/openstack-ansible/install-guide/index.html

Rackspace Private Cloud Installation Instructions using OSA:
http://www.rackspace.com/knowledge_center/article/rackspace-private-cloud-documentation

Quick-Start AIO Install:
http://docs.openstack.org/developer/openstack-ansible/developer-docs/quickstart-aio.html

OSA news & updates:
http://docs.openstack.org/developer/openstack-ansible

Twitter: @djstayflypro
Email: walter.bentley@rackspace.com

Thank you

ONE FANATICAL PLACE | SAN ANTONIO, TX 78218

US SALES: 1-800-961-2888 | US SUPPORT: 1-800-961-4454 | WWW.RACKSPACE.COM