openstack
CLOUD SOFTWARE

INTEROPERABILITY CHALLENGE

Let's all work together to build a better cloud

Sponsored by IBM

# INTEROP

You Keep Using That Word...
I Do Not Think It Means
What You Think It Means

Interoperability (pronounced IHN-tuhr-AHP-uhr-uh-BIHL-ih-tee) is the ability of a system or a product to work with other systems or products without special effort on the part of the customer

# THE INTEROP CHALLENGE

We've made huge progress with DefCore and RefStack

...but we need to work together to validate these guidelines and tools to prove once and for all that OpenStack is interoperable

# DefCore 101

- This Committee was formed during the OpenStack Ice House Summit in Hong Kong by Board Resolution on 11/4.

- DefCore sets base requirements by defining 1) capabilities, 2) code and 3) must-pass tests for all OpenStack products. This definition uses community resources and involvement to drive interoperability by creating the minimum standards for products labeled "OpenStack."

- Our mission is to define "OpenStack Core" as chartered by the by-laws.

# What is ✅ RefStack

A client and server for OpenStack interoperability testing—data collected by these tools can be used to validate against the DefCore Guidelines

* **RefStack Client** is a command line tool that runs test tools (Tempest or non-Tempest), summarizes results, and communicates with the refstack api. Vendors can use refstack client to run the tests themselves in a controlled and repeatable way.

* **RefStack Server**

  * **RefStack API** is a central repository for the collection of results and is currently hosted at https://refstack.openstack.org/. It can also be hosted locally within any organization's infrastructure.

  * **RefStack UI** is a web interface for interacting with data collected with the api and client ( https://refstack.openstack.org/ )

# HOW WILL WE DEMONSTRATE INTEROP

1. Form a multi-vendor team of partners within the OpenStack community foundation

2. Define and implement key usage scenarios (grounded in DefCore, validated in RefStack)

3. Present our findings and best practices together at OpenStack Barcelona

# THE ROAD TO BARCELONA

**2016**

**APR**

**Form team**
Partners identified and join the Interop Challenge

**JULY**

**Testing 1,2,3**
Each company in the challenge will validate against each scenario

**OCT**

**invitation Made**
Announcement by IBM Cloud GM Don Rippert at OpenStack Austin

**JUNE**

**Game on**
Identify and agree on key scenarios to validate against DefCore using RefStack

**AUG**

**Barcelona**
Present this on main stage + technical panel at OpenStack Barcelona Summit
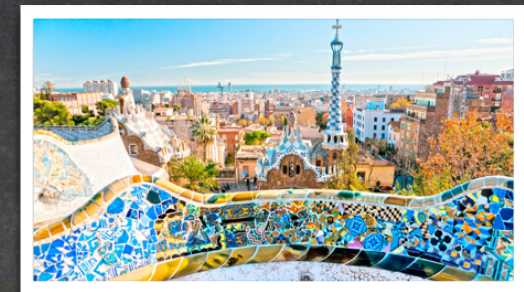
# OpenStack Barcelona

## An Invitation

The primary goal of this project is to complete the Interop Challenge prior to the next summit working together with partners in the foundation

We will present our findings jointly in at least 1 main stage and 1 technical panel focused on interoperability
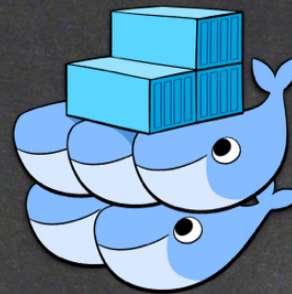
# GO BIG OR GO HOME

VALIDATION MATTERS: We propose using open source template tools (Heat and Terraform) to validate with RefStack against a set of diverse workloads / scenarios - demonstrating variety of network, storage and VM configuration

# LAMP STACK
# WORDPRESS
# MONGO DB
# DOCKER SWARM

# Why Heat & Terraform

- Tools that provide template support for workload deployment using OpenStack APIs

- Selecting tools that are not specific to, or shipped by an OpenStack product/Distribution

- Other tools can be used as long as no license is needed and they only call OpenStack APIs that are part of DefCore/RefStack

# What Workloads to Test

- Initial Proposal is to build and test templates representing: simple VM workload (WordPress), Web App workload (LAMP STACK), Database Workload (Mongo), and a Platform on top of OpenStack (Docker Swarm)

- Variety of scenarios is important to convince users, analysts and Press that OpenStack provides IaaS Interop across OpenStack providers

- More workloads can be added, as long as they can be deployed by OpenStack core APIs and there is no Licensing concerns to test for any participant in the Interop Event

# Progress on Testing

All of the tests will be posted on GitHub. We are assessing existing repos of Terraform and Heat templates to use as a basis for this project (see links below).

|  | Terraform | Heat |
|---|---|---|
| **Docker Swarm** | Draft Complete - GitHub | Assessing existing content - GitHub |
| **LAMP Stack** | TBD | Assessing existing content - GitHub |
| **WordPress** | TBD | Assessing existing content - GitHub |
| **MongoDB** | TBD | Assessing existing content - GitHub |

# NEXT STEPS

1. Identify technical leads to develop tests

2. Kick-off teleconference in July with all participants

3. Refine and run tests for all participating OpenStack products

4. Prepare demo and press/analyst materials ahead of Barcelona