CHINA OpenInfra Days

CHINA OpenInfra Days | IT大咖说 知识共享平台

OpenLab

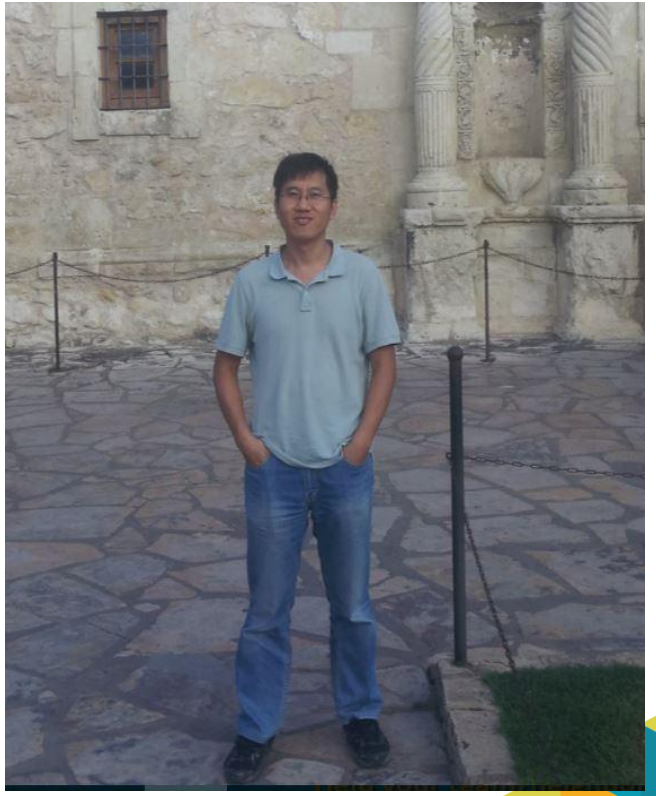
Cross community Lab

ABOUT US

HUAWEI intel

陈锐 Huawei

杜永丰 Intel



OPENLAB

CLOUD ECOSYSTEM GROWING

openstack.
2010

NOVA
Compute

SWIFT
Object Storage

openstack®

2018

CHINA OpenInfra Days

IT大咖说 知识共享平台

2018 OPENINFRA DAYS CHINA

CHINA OpenInfra Days

Cloud Native Landscape

v20180525

See the interactive landscape at l.cncf.io

Greyed logos are not open source

CHINA OpenInfra Days

IT大咖说 知识共享平台

App Definition and Development

Database and Data Warehouse

Vitess (CNCF Incubating)

ArangoDB, BIGCHAINDB, CockroachDB, Couchbase, Crate.io, druid, FoundationDB, Aerospike, IBM Db2, Iguazio, Infinispan, MariaDB, MariaDB TX, MemSQL, Microsoft SQL Server, MongoDB, MySQL, neo4j, Oracle, OrientDB, Percona, pilosa, PostgreSQL, presto, Pure Storage, redis, RethinkDB, Scylla, Snowflake, splicemachine, TIBCO, VERTICA, YugaByte

Streaming

NATS (CNCF Incubating), cloudevents (CNCF Sandbox), Amazon Kinesis, APEX, Eclipse ioFog, NIFTY, Apache Storm, Flink, Apache Samza, kafka, PULSAR, RabbitMQ

Source Code Management

Bitbucket, GitHub, GitLab

Application Definition and Image Build

Spinnaker (CNCF Sandbox), apache brooklyn, bitnami, DRAFT, habitat, HELM, Kanko, KUBEVIRT, Kubevirt, minikube, OPENAPI Initiative, Packer, Google Cloud Skaffold, VINCE...O

Continuous Integration / Continuous Delivery

AppVeyor, argo, Bamboo, BRIGADE, buddybuild, circleci, Skycap, cloudbees, codefresh, Concourse, Container Ops, Drone, DITKUBE, GitLab Runner, go, Habitus, Jenkins, Jenkins X, openstack. Zuul, Semaphore, shippable, Spinnaker, TeamCity, Travis CI, weave flux, wercker, DEPLOY

Orchestration & Management

Scheduling & Orchestration

kubernetes (CNCF Graduated), Amazon ECS, Docker Swarm, MESOS, Apache Aurora, Nomad

Coordination & Service Discovery

CoreDNS (CNCF Incubating), Apache Zookeeper, Consul, Doozerd, etcd, NETFLIX EUREKA, airbnb SmartStack

Service Management

gRPC (CNCF Incubating), envoy (CNCF Incubating), LINKERD (CNCF Incubating), Open Policy Agent (CNCF Sandbox), SCALE, Ambassador, Apache Thrift, AVI, SYNCR, backplane, CONSUL, F5, HAPROXY, heptio Contour, Istio, Kong, NETFLIX RIBBON, NETFLIX ZUUL, NGINX, traefik, vamp

Runtime

Cloud-Native Storage

ROOK (CNCF Sandbox), ceph, CSI, DATERA, DELL EMC, Diamanti, GLUSTER, HEDVIG, kassen, LeoFS, MINIO, NetApp, OpenEBS, OpenIO, OpenSDS, Quobyte, ROBIN, SWIFT, TRITON Object Storage

Container Runtime

containerd (CNCF Incubating), rkt (CNCF Incubating), cri-o, Google Cloud gVisor, Intel Clear Containers, kata, lxd, Pouch, runV, Singularity, SmartOS

Cloud-Native Network

CNI (CNCF Incubating), alcide, Aporeto, AVIATRIX, Big Switch, cilium, Contiv, CUMULUS, flannel, GrandCore, LIGATO, midonet, NSX, OVN, Open vSwitch, OPENCONTRAIL, PLUMgrid, Project Calico, ROMANA, weave net

Provisioning

Host Management / Tooling

ANSIBLE, CFEngine, CHEF, kube-bench, LINUX KIT, puppet, RUNDECK, SALTSTACK, StackStorm

Infrastructure Automation

Amazon CloudFormation, Azure Resource Manager, BOSH, CLOUDIFY, Google Cloud Deployment Manager, Infrakit, juju, Apache Mesos, ManageIQ, Terraform

Container Registries

Amazon ECR, Azure Container Registry, Docker Registry, Google Container Registry, Harbor, JFrog Artifactory

Secure Images

Notary (CNCF Incubating), TUF (CNCF Incubating), anchore, aqua, BLACK DUCK, clair, OpenSCAP, Red Hat Container Health Index, Twistlock

Key Management

spiffe (CNCF Sandbox), SPIRE (CNCF Sandbox), CYBERARK CONJUR, KeyWhiz, KNOX, Lyft Confidant, ORACLE POLICY AUTOMATION, Teleport, Vault

Cloud

Public

Alibaba Cloud, aws, Azure, Baidu Cloud, DigitalOcean, FUJITSU, Google Cloud, HUAWEI, IBM Cloud, Joyent, ORACLE, packet, Tencent Cloud

Private

DIGITAL REBAR, Hobbes, MAAS, openstack, vmware

Here!

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well traveled path.

l.cncf.io

CLOUD NATIVE Landscape

CLOUD NATIVE COMPUTING FOUNDATION

Redpoint Amplify

Certified Kubernetes - Hosted

DaoCloud, Diamanti, docker, Ghostcloud, Giant Swarm, JDCloud, Inwinstack, JD.COM, Joyent, Pivotal, Kubernetic, kublr, MIRANTIS, navops, NetEase Cloud, OPENSHIFT, ORACLE, Pivotal, PLATFORM9, RANCHER, SUSE, TECTONIC, Tencent Cloud, Vmware, Weaveworks

Certified Kubernetes - Installer

Alibaba Cloud, Amazon Web Services, Azure, Baidu Cloud, CAICLOUD, Cisco, EasyStack, Google Cloud, Hisense, HUAWEI, IBM Cloud, nirmata, ORACLE, SAP, Tencent Cloud, VMware, ZTE

Non-Certified Kubernetes

Apprenda, CoreOS, Google Cloud, heptio, ORACLE, SAMSUNG SDS, Weaveworks

PaaS/Container Service

Maestro, gofabric8, HUAWEI, Amazon Web Services, Flynn, Hyper.sh, KONTENA, MANTL, Rancher, Scalingo, Tsuru

Kubernetes Certified Service Provider

accenture, Alibaba Cloud, Baidu Cloud, bitnami, CAICLOUD, CANONICAL, claranet, CloudOps, CONTINO, Core OS, DaoCloud, EasyStack, Ghostcloud, Giant Swarm, heptio, HUAWEI, IBM Cloud, JDCLOUD, kenzan, kumina, LiveWyer, loodse, MIRANTIS, nirmata, NTT DATA, OCTO, ORACLE, RX-M, SAMSUNG SDS, SAP, VMWARE, WEAVEWORKS

Kubernetes Training Partner

Alibaba Cloud, CloudOps, DaoCloud, Linux Foundation Training, loodse, RX-M

Special

Observability and Analysis

Cloudhealth, COSCALE, DATADOG, dynatrace, Grafana, Graphite, Instrumental, Icinga, InfluxData, INSTANA, IRONdb, Librato, Nagios, NETSIL, New Relic, OpenNMS, Outlyer, sensu, SENTRY, SignalFx, SolarWinds, Sysdig, Thanos, weave cloud, weave scope

Logging

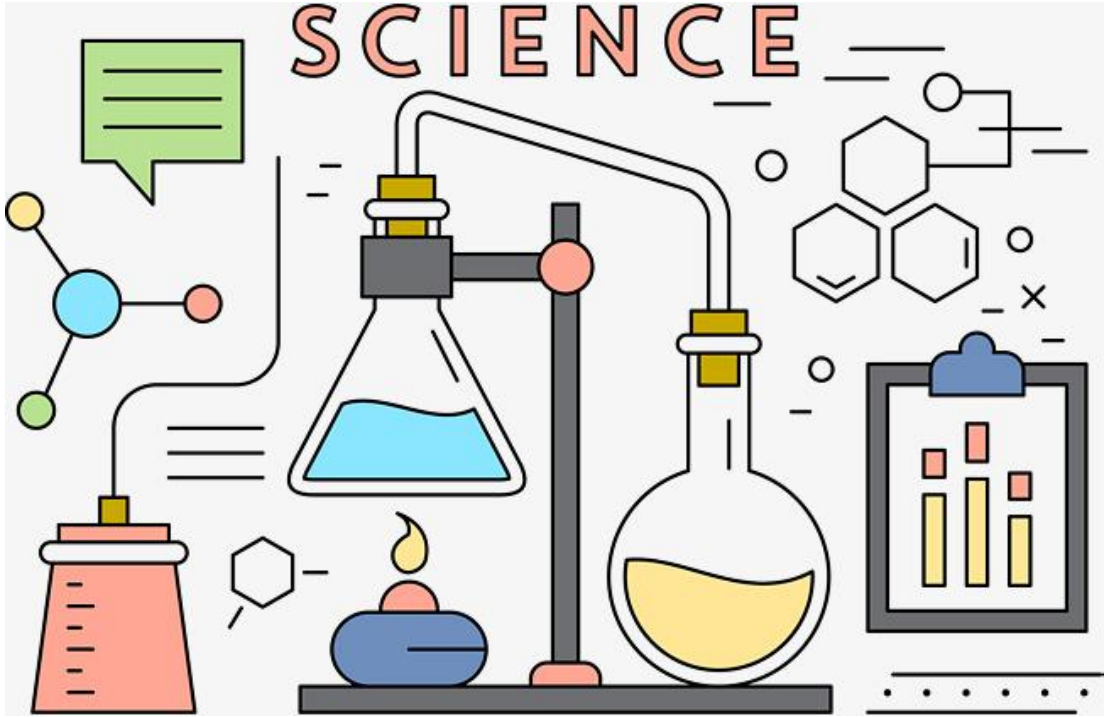
elastic, graylog, HUMIO, fluentd (CNCF Incubating), LOGGLY, logz.io, loom, sematext, splunk, sumologic

Tracing

JAEGER (CNCF Incubating), OPENTRACING (CNCF Incubating), Skywalking, zipkin

Serverless

HOW TO VERIFY?



CHALLENGE

"Now a little green food coloring so it looks cool."

PERIODIC TABLE OF DEVOPS TOOLS (V2)

CHINA OpenInfra Days

IT大咖说 知识共享平台

Os Open Source	SCM	Database Mgmt	Build
Fr Free	CI	Repo Mgmt	Testing
Fm Freemium	Deployment	Config / Provisioning	Containerization
Pd Paid	Cloud / IaaS / PaaS	Release Mgmt	Collaboration
En Enterprise	BI / Monitoring	Logging	Security

1 Fm Gh Github																	
3 Os Gt Git	4 En Dm DBmaestro																
11 Fm Bb Bitbucket	12 Os Lb Liquibase																
19 Os Gl GitLab	20 En Rg Redgate	21 Os Mv Maven	22 Os Gr Gradle	23 Os At ANT	24 Os Fn FitNesse	25 Fr Se Selenium	26 Os Ga Gatling	27 Fr Dh Docker Hub	28 Os Jn Jenkins	29 Pd Ba Bamboo	30 Os Tr Travis CI						
37 Os Sv Subversion	38 En Dt Datical	39 Os Gt Grunt	40 Os Gp Gulp	41 Os Br Broccoli	42 Fr Cu Cucumber	43 Os Cj Cucumber.js	44 Fr Qu Qunit	45 Os Npm npm	46 Fm Cs Codeship	47 Pd Vs Visual Studio	48 Fm Cr CircleCI						
55 Os Hg Mercurial	56 En Dp Delphix	57 Fr Sb sbt	58 Os Mk Make	59 Os Ck CMake	60 Fr Jt JUnit	61 Fr Jm JMeter	62 Fr Tn TestING	63 Os Ay Artifactory	64 Fm Tc TeamCity	65 Fm Sh Shippable	66 Os Cc CruiseControl						
73 En Cw ISPW	74 En Id Idera	75 Os Msb MSBuild	76 Os Rk Rake	77 Fr Pk Packer	78 Os Mc Mocha	79 Fr Km Karma	80 Os Jm Jasmine	81 Os Nx Nexus	82 Os Co Continuum	83 Fm Ca Continua CI	84 Pd So Solano CI						
												85 En Xld XL Deploy	86 En Eb ElasticBox	87 Fm Dp Deploybot	88 En Ud UrbanCode Deploy	89 Os Nm Nomad	90 En Os OpenShift
												91 En Xlr XL Release	92 En Ur UrbanCode Release	93 En Bm BMC Release Process	94 En Hp HP Codar	95 En Au Automic	96 En Pl Plutora Release
97 En Sr Serena Release	98 Pd Tfs Team Foundation	99 Fm Tr Trello	100 Pd Jr Jira	101 Fm Rf HipChat	102 Fm Sl Slack	103 Fm Fd Flowdock	104 Pd Pv Pivotal Tracker	105 En Sn ServiceNow									
106 Os Ki Kibana	107 Fm Nr New Relic	108 En Dt Dynatrace	109 Os Ni Nagios	110 Os Zb Zabbix	111 En Dd Datadog	112 Os El Elasticsearch	113 Fm Ad AppDynamics	114 En Sp Splunk	115 Fm Le Logentries	116 Fm Sl Sumo Logic	117 Os Ls Logstash	118 Os Sn Snort	119 Os Tr Tripwire	120 En Ff Fortify			

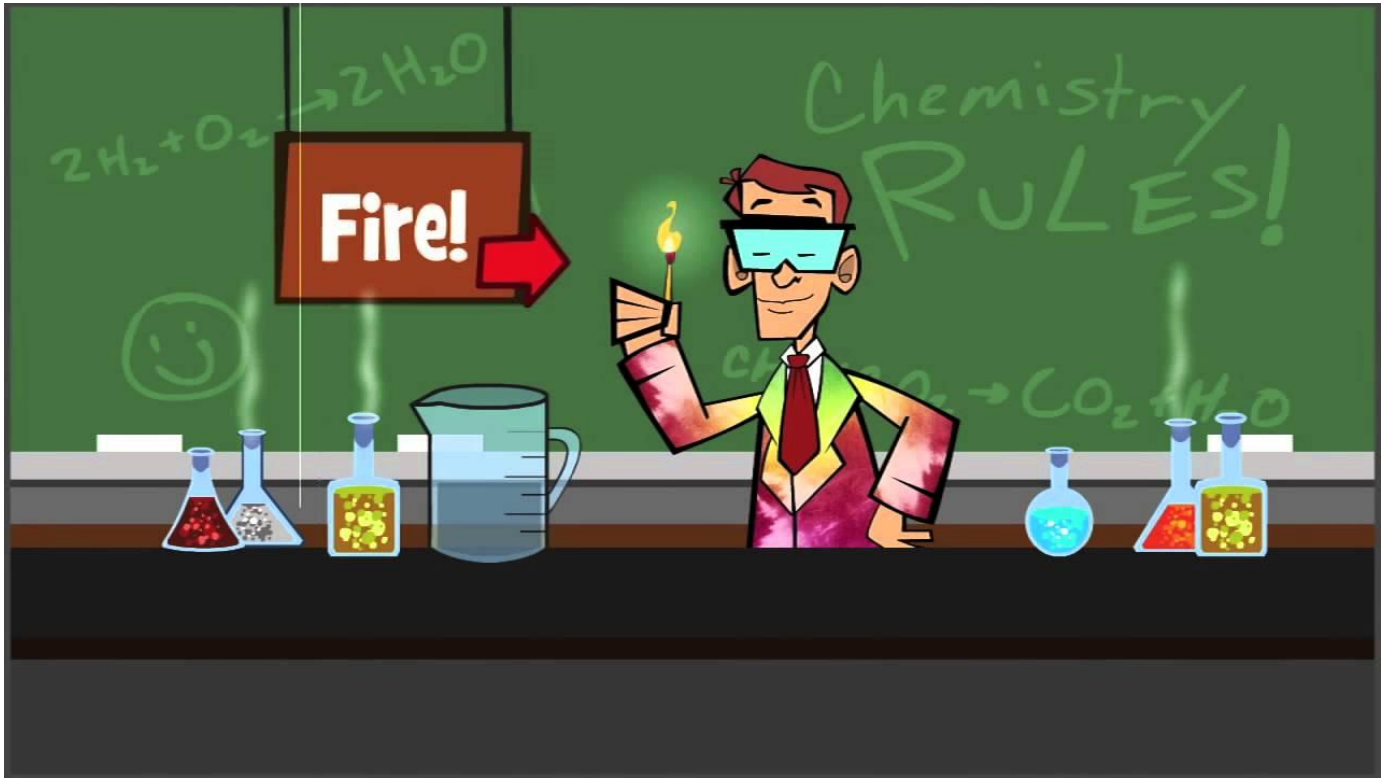
												13 Os Ot Otto	14 En Bl BladeLogic	15 Os Va Vagrant	16 Fr Tf Terra	17 Os Rk	18 En Gc Google Cloud Platform
												31 Pd Gd Deployment Manager	32 Os Sf SmartFrog	33 Os Cn Consul	Bc		Rackspace
												49 Fr Cp Capistrano	50 Fr Ju JuJu	51 Os Rd Rundeck	52 Cf CFEngine	Ds Swarm	54 Os Op OpenStack
												67 En Ry RapidDeploy	68 Fm Cy CodeDeploy	69 En Oc Octopus Deploy	70 En No CA Nolio	71 Os Kb Kubernetes	72 Fm Hr Heroku

Here!

XebiaLabs

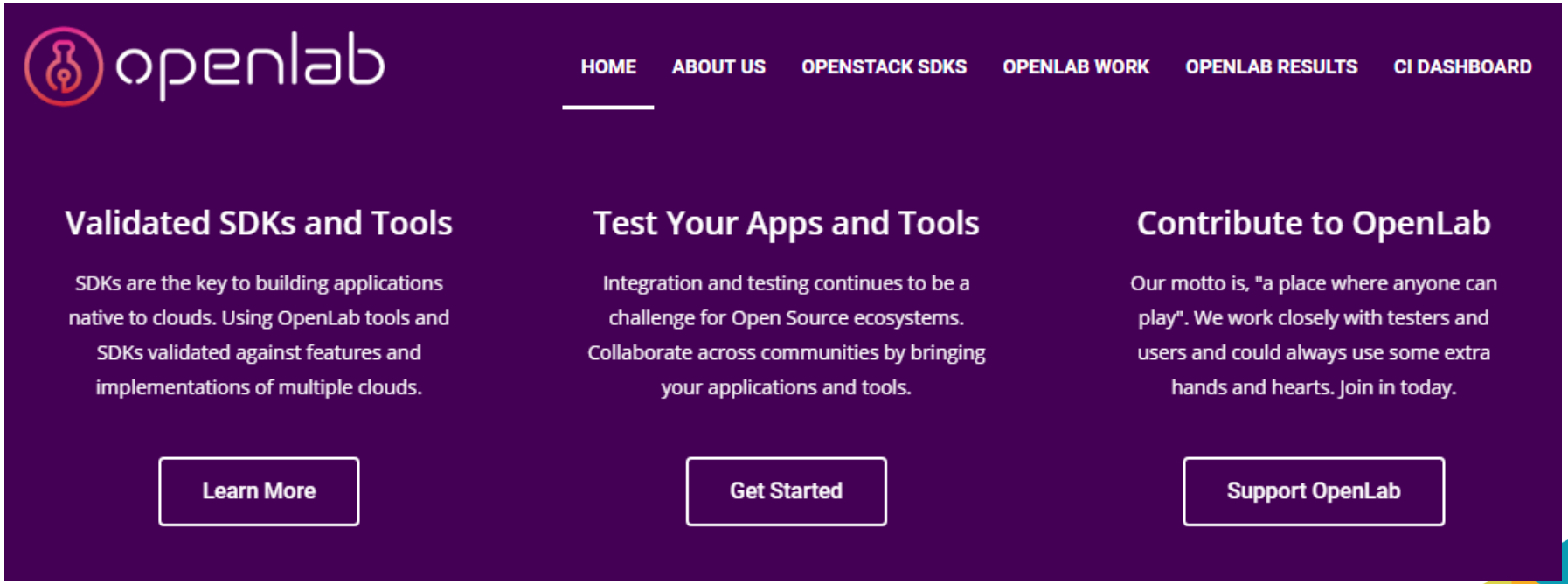
Follow @xebialabs

WHERE WE CAN TRY IT SAFELY?



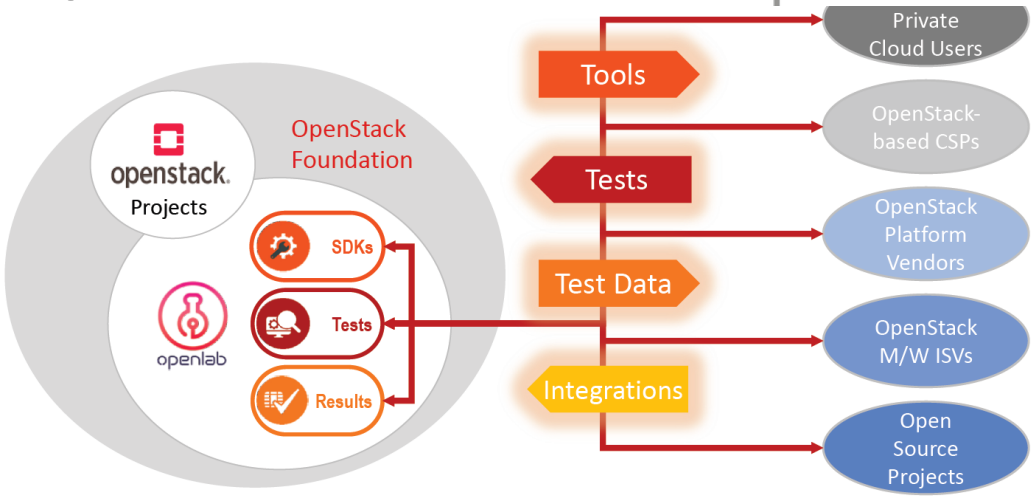
WE ARE OPENLAB

https://openlabtesting.org/



WHAT IS OPENLAB?

- **OpenLab's mission is to enable the testing, reporting, and development of tools and applications for hybrid and multi-cloud environments. OpenLab fulfills its mission by providing a ready to use and easy to replicate platform that tests the usability, reliability, and resiliency of hybrid and multi-cloud tooling.**

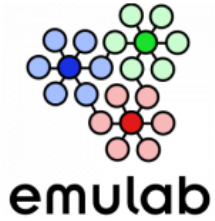


OpenLab provide:

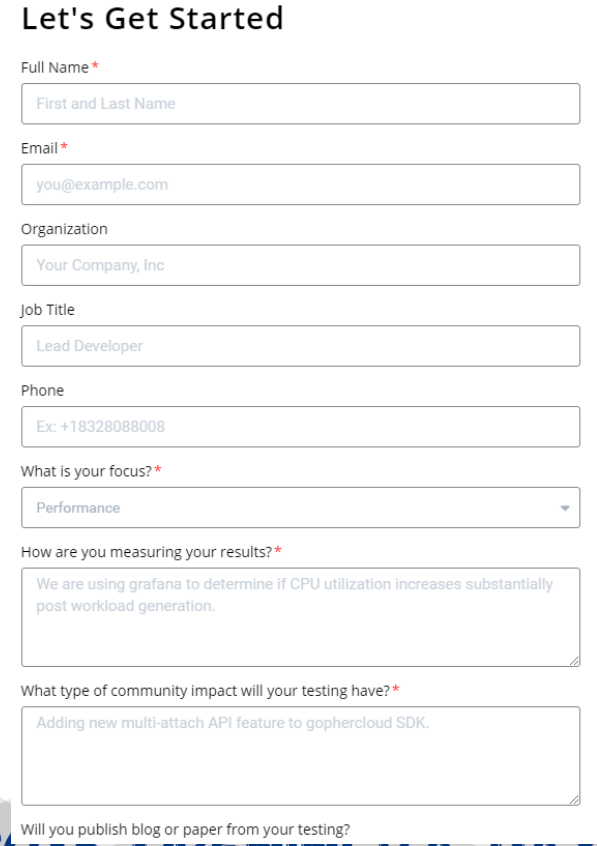
- **Free resources**
- **Tools and Platform**
- **Testing report**

LAUNCH AT SYDNEY SUMM

SUPPORTING ORGANIZATIONS



HOW OPENLAB WORKS?



https://openlabtesting.org/openstack-sdks/#omw-1295

Collect Use Cases

REQUESTED BY	PROJECT	FOCUS AREA	STATUS
Mohammed Naser	openstack-cloud-plugin	Application Ecosystem	Awaiting job configuration
Gilles Dubreil	misty	OpenStack SDKs	Awaiting job configuration
Lingxian Kong	cloud-provider-openstack	Integration	Awaiting resource allocation
Pablo Iranzo Gómez	citellus	Operational Tooling	Awaiting resource allocation
Marco Voelz	bosh-openstack-cpi	PaaS	Awaiting CI integration
Gilles Dubreil	fog-openstack	OpenStack SDKs	Awaiting CI integration
Monty Taylor	shade	OpenStack SDKs	Awaiting CI integration
Dmitry Tantsur	rust-openstack	OpenStack SDKs	Awaiting CI integration

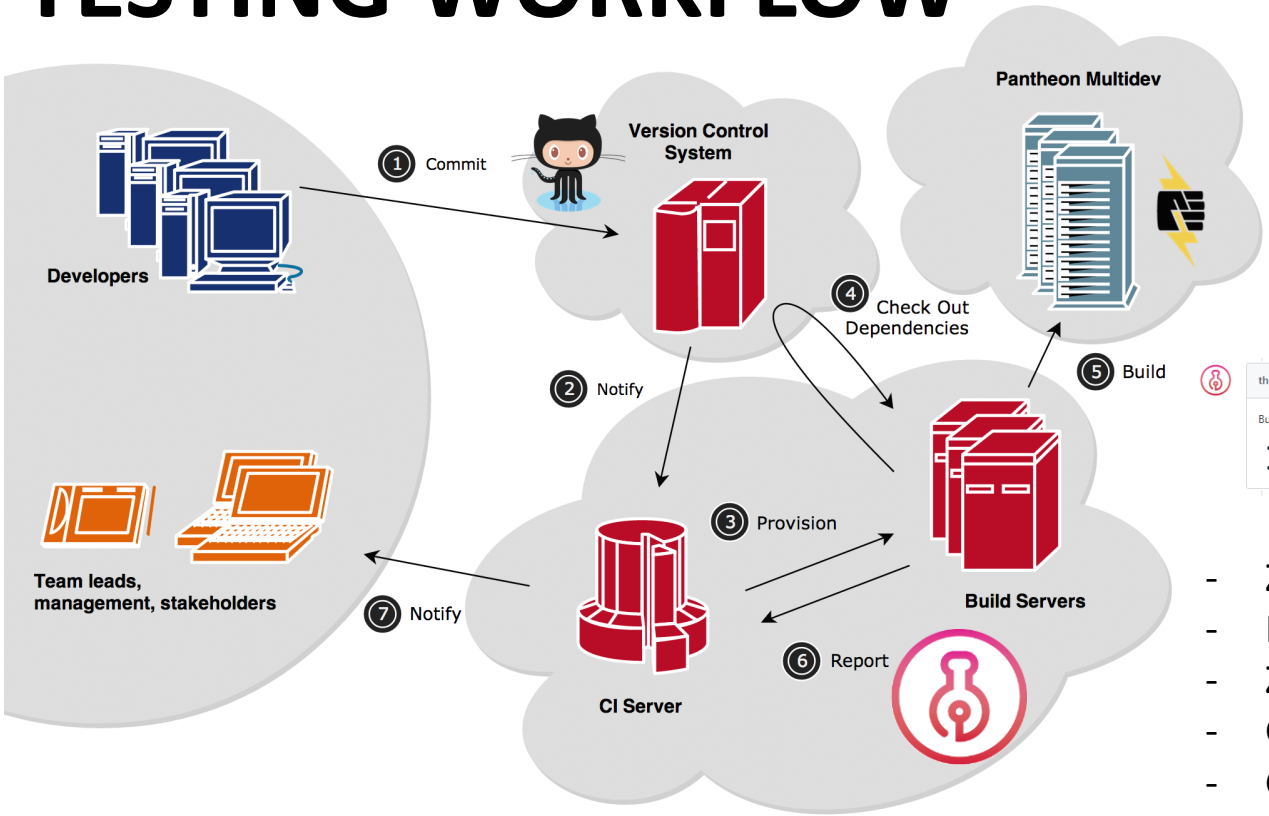
HOW OPENLAB WORKS?

https://github.com/theopenlab/openlab-zuul-jobs

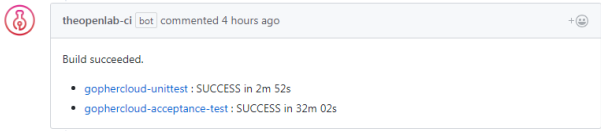
HOW OPENLAB WORKS?

SDK	Language	CI Integration	Unit Testing	Integration/E2E/Functional Testing	Engineering Activity	User Activity	Versioning	SDK Certification
gophercloud	Go	✔	✔	✔	👤+	👤+	👁	−
misty	Ruby	✔	💬	💬				−
python-openstacksdk	Python	👁						−
openstack4j	Java	👁						−
jclouds	Java	👁						−
libcloud	Python	👁						−
goose	Go	👁						−
fog-openstack	Ruby	👁						−

TESTING WORKFLOW



- VEXXHOST
- ChameleonCloud
- SWITCH Cloud
- Citynetwork
- Open Telekom Cloud

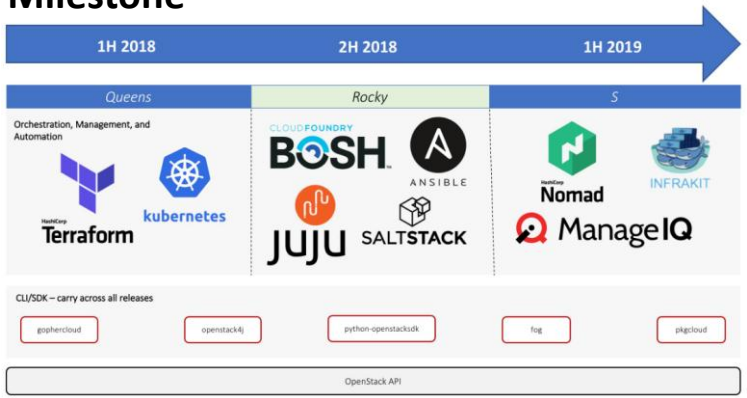


- Zuul v3
- Nodepool
- Zookeeper
- Gearman
- Grafana

FINISHED WORK ITEMS

- **CI/CD system build and maintain**
  - Zuul, Nodepool
  - Monthly upgrade
- **Gophercloud and Terraform**
  - Supported OpenStack releases: M, N, O, P, Q and master
  - Supported OpenStack projects: Nova, Neutron, Cinder, Keystone, Glance, Lbaas, Fwaas, Designate, Trove, Zun, Manila
  - Supported Huawei clouds: DT OTC, Telefonica cloud, Orange cloud.
- **Kubernetes and cloud-provider-openstack**
  - LB Octavia
  - Keystone
  - Build-in Cinder
  - Standalone Cinder
  - Flexvolume Cinder
  - CSI Cinder
  - E2E conformance(master, v1.11, v1.10) https://k8s-testgrid.appspot.com/conformance-cloud-provider-openstack
- **CloudFoundry /BOSH（WIP）**

Milestone

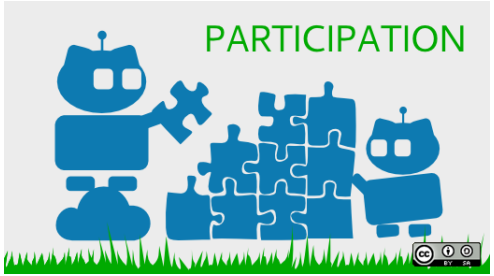


SOME CROSS COMMUNITY STORYS

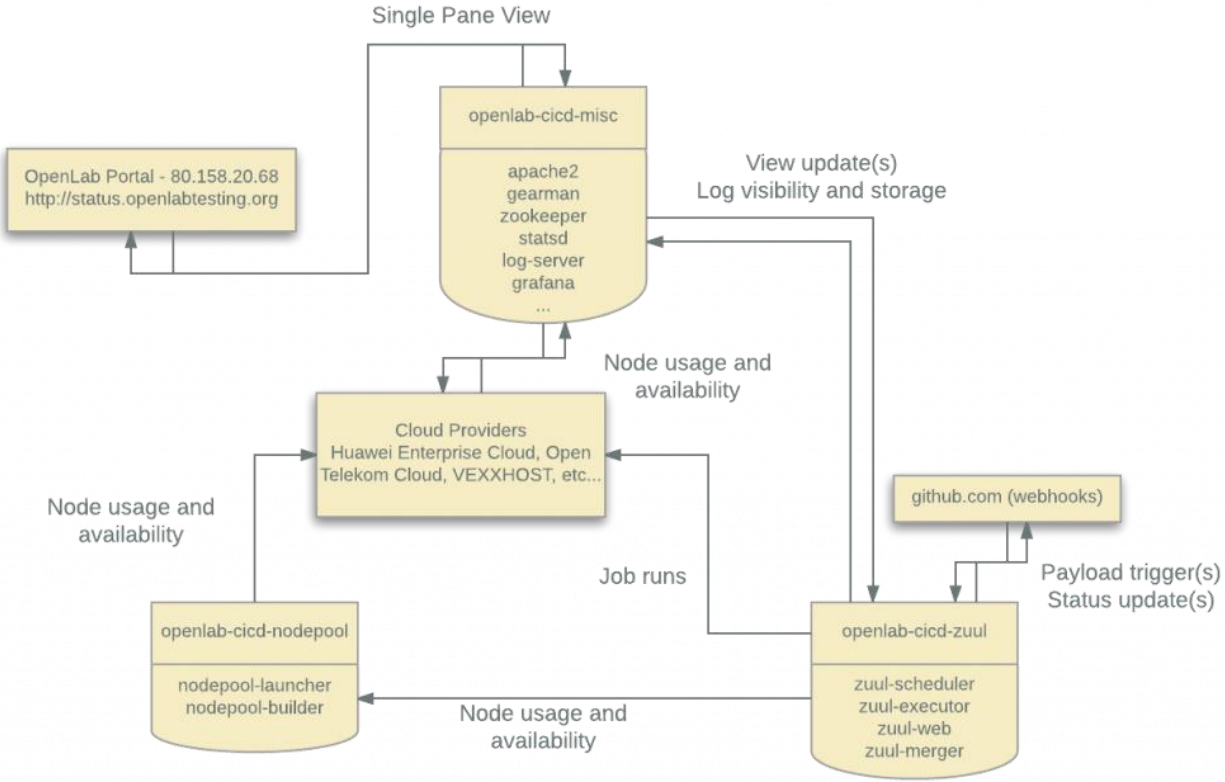
- **Gophercloud is an OpenStack Go SDK**
- **First enabled Gophercloud CI testing at Nov 2017**
- **Add Support for New Gophercloud Service [theopenlab/openlab-zuul-jobs#143]**
  - Gophercloud is under development to support more OpenStack projects
  - CI jobs need to be modified for more test coverage
- **Move gophercloud jobs to gophercloud repo [theopenlab/openlab#17] (Proposed at April)**
  - Move the gophercloud specific job defintions, playbooks to gophercloud repo
  - gophercloud can define their own job and test cases
- **Move CI job definition to gophercloud repo [gophercloud/gophercloud#976] (Finished at May)**
  - Need to remove the job from theopenlab, and add job to gophercloud
  - Need to happen at the same time for the 2 repos to avoid test failures
- **Acceptance Test Updates [gophercloud/gophercloud#818]**
  - Gophercloud is able to manage the test coverage at his own pace

CONTACT US

- Website: https://openlabtesting.org/
- IRC: **#askopenlab** on freenode
- Github: https://github.com/theopenlab



CHINA
OpenInfra Days

Thank You

OPENLAB CI ARCH