Containers and Open Infrastructure: an Update of CNCF Projects

June 2018
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CEO, Rancher Labs & CNCF Board Representative

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CLOUD NATIVE COMPUTING FOUNDATION

Overview

Cloud Native Computing Foundation was started in July 2015

Initially centered around Kubernetes

Now has 20+ projects

Definition of cloud native

Cloud native technologies empower organizations to build and run scalable applications in modern, dynamic environments such as public, private, and hybrid clouds. Containers, service meshes, microservices, immutable infrastructure, and declarative APIs exemplify this approach.

These techniques enable loosely coupled systems that are resilient, manageable, and observable. Combined with robust automation, they allow engineers to make high-impact changes frequently and predictably with minimal toil.

The Cloud Native Computing Foundation seeks to drive adoption of this paradigm by fostering and sustaining an ecosystem of open source, vendor-neutral projects. We democratize state-of-the-art patterns to make these innovations accessible for everyone.

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CLOUD NATIVE COMPUTING FOUNDATION

Governance

Governing Board

Approve budget

Alibaba Cloud	Intel
Amazon Web Services	JD.com
Apprenda	Mesosphere
Cisco	Microsoft
Docker	Oracle
Fujitsu	Pivotal/VMware
Google	Rancher Labs
Heptio	Red Hat
Huawei	Samsung SDS
IBM	SAP

Technical Oversight Committee ("TOC")

Controls what projects are in CNCF

Alexis Richardson alexis@weave.works
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Current Landscape Of 20 Projects

KubeCon + CloudNativeCon Attendees
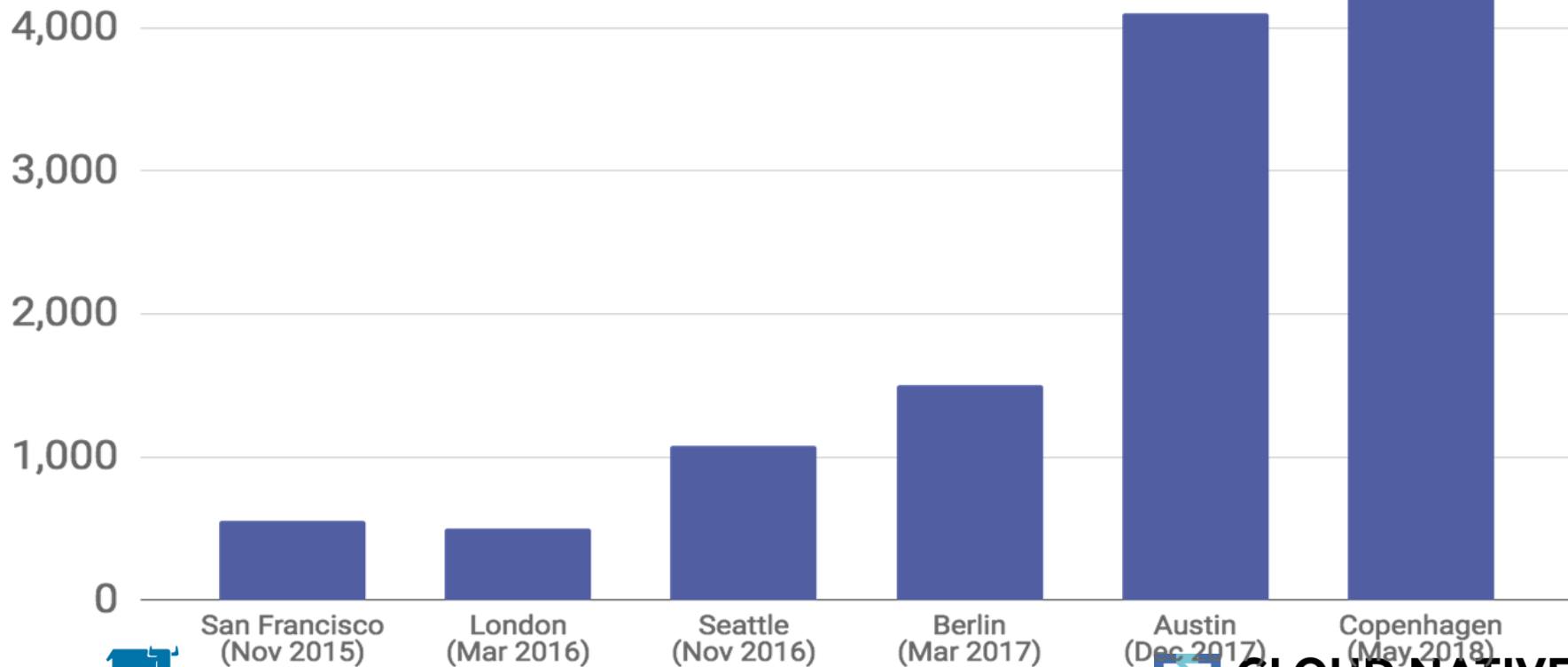
KubeCon + CloudNativeCon Sponsors
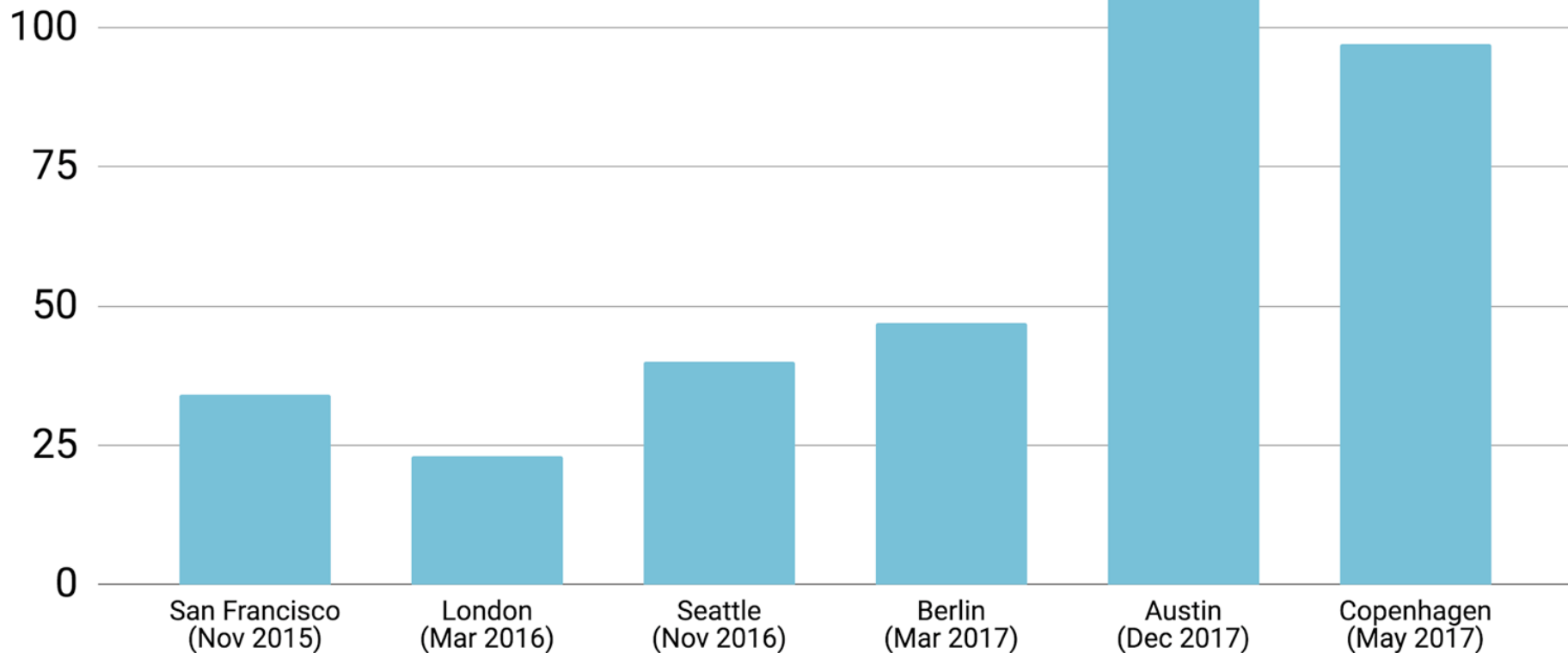
CNCF Membership Growth
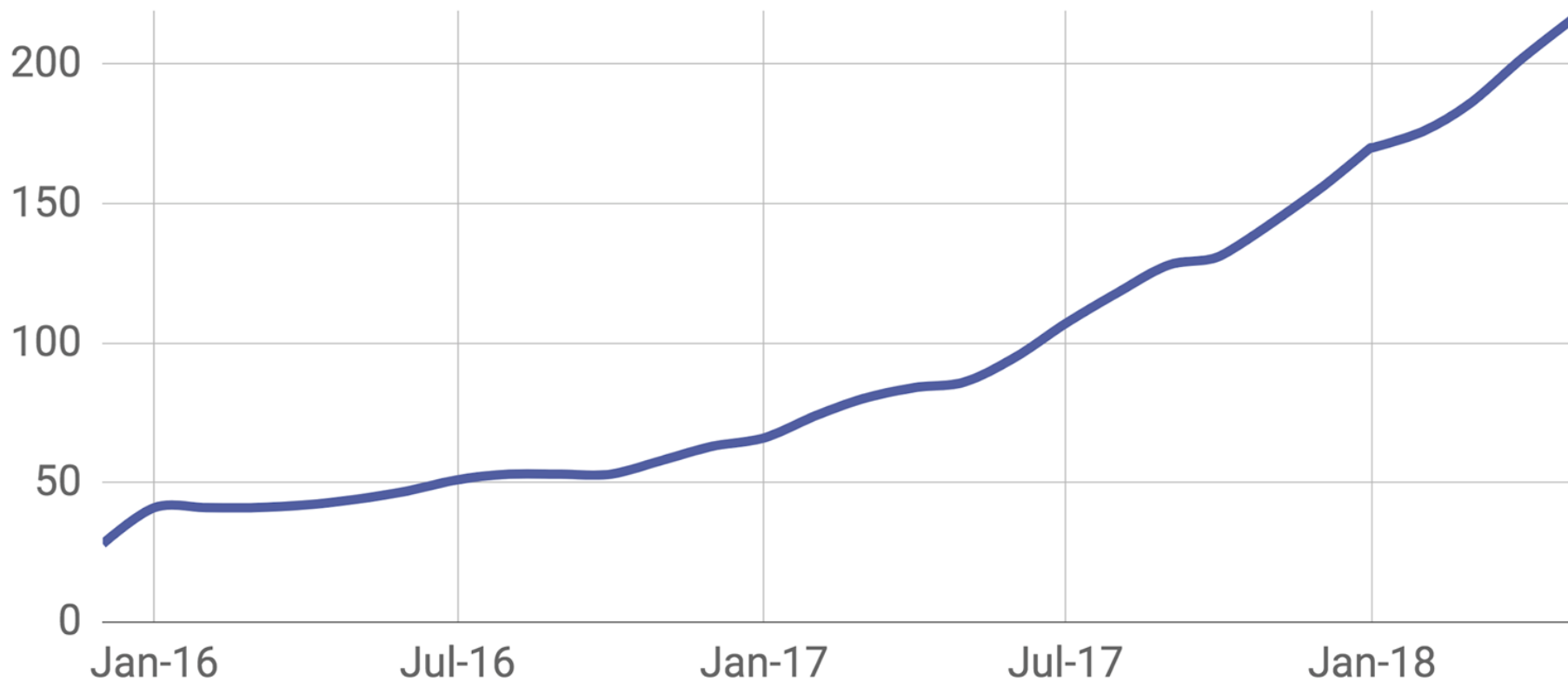
52 Companies in the End User Community

216+ Members and Growing

216+ Members and Growing (Silver 1)

216+ Members and Growing (Silver 2)

Global Ecosystem Expansion

OF THE 18 CNCF PLATINUM MEMBERS: **3** are located in Asia

OF OUR 11 GOLD CNCF MEMBERS: **3** are based in Asia

State Power Grid is the state-owned power supply company in China using containers and Kubernetes to provide failure resilience and fast recovery.

STATE GRID CORPORATION OF CHINA

中国移动 China Mobile

Jin Jiang International 锦江国际

China Mobile, one of the largest carriers in China, uses containers to replace VMs to run various applications on their platform and leverages Kubernetes to increase resource utilization.

Jinjiang Travel International, a leading hotel group in China, uses Kubernetes containers to speed up their software release velocity from hours to just minutes.

KUBERNETES WECHAT SEARCH TRENDS

45k

0

12-13   01-12   02-12

Kubernetes   OpenStack

We have 18 CNCF Meetups Across Asia, 8 in China alone

Cloud Native Landscape

v20180525

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, CarbonData, cassandra, CockroachLabs, Couchbase, CRATE.IO, druid, FoundationDB, greenplum, IBM DB2, iguazio, Infinspan, MariaDB, MEMSQL, SQL Server, MySQL, neo4j, noms, ORACLE DATABASE, OrientDB, Pachyderm, pilosa, PostgreSQL, presto, Qubole, redis, RethinkDB, SCYLLA, snowflake, software, SQL, STARBURST DATA, TIDB, VERTICA, YugaByte

Streaming

NATS (CNCF Incubating), cloudevents (CNCF Sandbox), Amazon Kinesis, APEX, HERON, nifi, Apache RocketMQ, Spark, STORM, Flink, kafka, Google Cloud, OpenMessaging, PULSAR, RabbitMQ, StreamSets, YIPEE.IO

Source Code Management

Bitbucket, GitHub, GitLab

Application Definition and Image Build

apache brooklyn, bitnami, CNCF Sandbox, DRAFT, habitat, HELM, Kaniko, kedtina, KubeVirt, minikube, On-Prem, OPENAPI, Packer, Google Cloud Skaffold

Continuous Integration / Continuous Delivery (CI/CD)

AppVeyor, orgo, Bamboo, BRIGADE, Bitrise, buddy.build, Buildkite, circleci, Skycap, cloudbees, codefresh, concourse, ContainerOps, Drone, GITKUBE, GitLab RUNNER, go, Habitus, Jenkins, JenkinsX, openstack. Zuul, Semaphore, shippable, Spinnaker, TeamCity, Travis CI, weave flux, wercker, DEPLOY

Orchestration & Management

Scheduling & Orchestration

kubernetes (CNCF Graduated), Amazon ECS, SWARM, MESOS, Microsoft Service Fabric, Nomad

Coordination & Service Discovery

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

Service Management

3SCALE, Ambassador, Apache Thrift, AVI Networks, backplane, CONDUIT, f5, HAPROXY, Heptio Contour, HYSTRIX, Istio, Kong, NETFLIX RIBBON, NETFLIX ZUUL, NGINX, LINKERD, traefik, TURBINELABS, vamp

Runtime

Cloud-Native Storage

ROOK (CNCF Sandbox), ceph, CSI, DATERA, DELL EMC, Diamanti, GLUSTER, HATCHWAY, HEDVIG, Hewlett Packard Enterprise, kasten, LeoFS, MINIO, NetApp, OpenEBS, OpenSDS, portworx, PURE STORAGE, Quobyte, REX-Ray, ROBIN, Sheepdog, STORAGEOS, SWIFT, TRITON Object Storage, weave net

Container Runtime

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

Cloud-Native Network

CNI (CNCF Incubating), alcide, pareto, aviatrix, big switch, cilium, Contiv, CUMULUS, flannel, GuardiCore, midonet, vmware NSX, nuagenetworks, Open vSwitch, OPENCONTRAIL, PLUMgrid, Project Calico, ROMANA, weave net, LIGATO

Provisioning

Host Management / Tooling

ANSIBLE, CFEngine, CHEF, BOSH, CLOUDIFY, kube-bench, LinuxKit, puppet, RUN DECK, SALTSTACK, StackStorm

Infrastructure Automation

Amazon ECR, Azure Registry, codefresh REGISTRY, Registry, infrakit, JUJU, Kubeform, ManageIQ, Terraform

Container Registries

Amazon ECR, Azure Registry, codefresh REGISTRY, HARBOR, IBM Cloud, JFrog Artifactory, Portus, ATOMIC, QUAY

Secure Images

anchore, aqua, BLACK DUCK, clair, Grafeas, NeuVector, Notary (CNCF Incubating), TUF (CNCF Incubating), OpenSCAP, Sonatype Nexus, TwistLock

Key Management

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

Cloud

Public

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

Private

DIGITAL REBAR, FOREMAN, MAAS, openstack, vmware

Platform

Certified Kubernetes - Distribution

AppsCode, caicloud, CANONICAL, CONTAINER RUNTIME, consensys, DaoCloud, Diamanti, docker, Giant Swarm, IBM Cloud, CloudHealth, JD.COM, Joyent, Kinvolk, PIVOTAL, kube-spawn, Kubermatic, kublr, MESOSPHERE, MIRANTIS, navops, NetEase Cloud, OPENSHIFT, ORACLE, Pivotal, PLATFORM9, QFusion, RANCHER, STACKPOINT, SUSE, TECTONIC, Teleport, Typhoon, vmware, ZTE

Certified Kubernetes - Hosted

AlibabaCloud, Amazon, Azure, Baidu Cloud, Cisco, EasyStack, alauda, DaoCloud, HUAWEI, IBM Cloud, nirmata, ORACLE, SAP, Tencent Cloud

Certified Kubernetes - Installer

APPRENDA, Core OS, Google Cloud, heptio, ORACLE, SAMSUNG SDS

Non-Certified Kubernetes

Maestro, goPaddle, HUAWEI, SUPERGIANT

PaaS/Container Service

APPLICATION ELASTIKUBE, Flynn, GALACTIC FOG, heroku, HYPER.SH, JElastic, KONTENA, apcera, MANTL, No Code, Redfin, platform.sh, Cloudera, Scalingo

Monitoring

Prometheus (CNCF Incubating), APPDYNAMICS, AppNeta, appoptics, catchpoint, centreon, CloudHealth, COSCALE, DATADOG, dynatrace, Grafana, graphite, Ruxit, ICINGA, influxdb, INSTANA, IRONdb, librato, LightStep, Nagios, NETSIL, NEWRELIC, NODESOURCE, Outlyer, sensu, SENTRY, SignalFx, StackRox, CoScale, Sysdig, Thanos, Wavefront, weave cloud, weave scope

Logging

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

Tracing

JAEGER (CNCF Incubating), OPEN TRACING (CNCF Incubating), Skywalking, ZIPKIN

Serverless

Kubernetes Certified Service Provider

accenture, bitnami, caicloud, CANONICAL, claranet, CloudOps, CONTINO, DaoCloud, EasyStack, Giant Swarm, heptio, HUAWEI, IBM Cloud, inwinSTACK, JETSTACK, KENZAN, kumina, LIVEWYER, MIRANTIS, nailways, DaoCloud, NEW CONTEXT, nirmata, NTT DATA, OCTO, RX-M, SAP, SUPERGIANT, TREASURE DATA, Linux TRAINING

Kubernetes Training Partner

Special

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 PARTNERS

THE Cloud Native Landscape 2.0
Interactive Edition

https://landscape.cncf.io/

1 Try clicking the example filters at the middle left

2 Reset at the top left and then select your organization from the filter bar

3 Click a card to see the detailed info

Stateful URLs encourage easy sharing

All data is in the GitHub repo
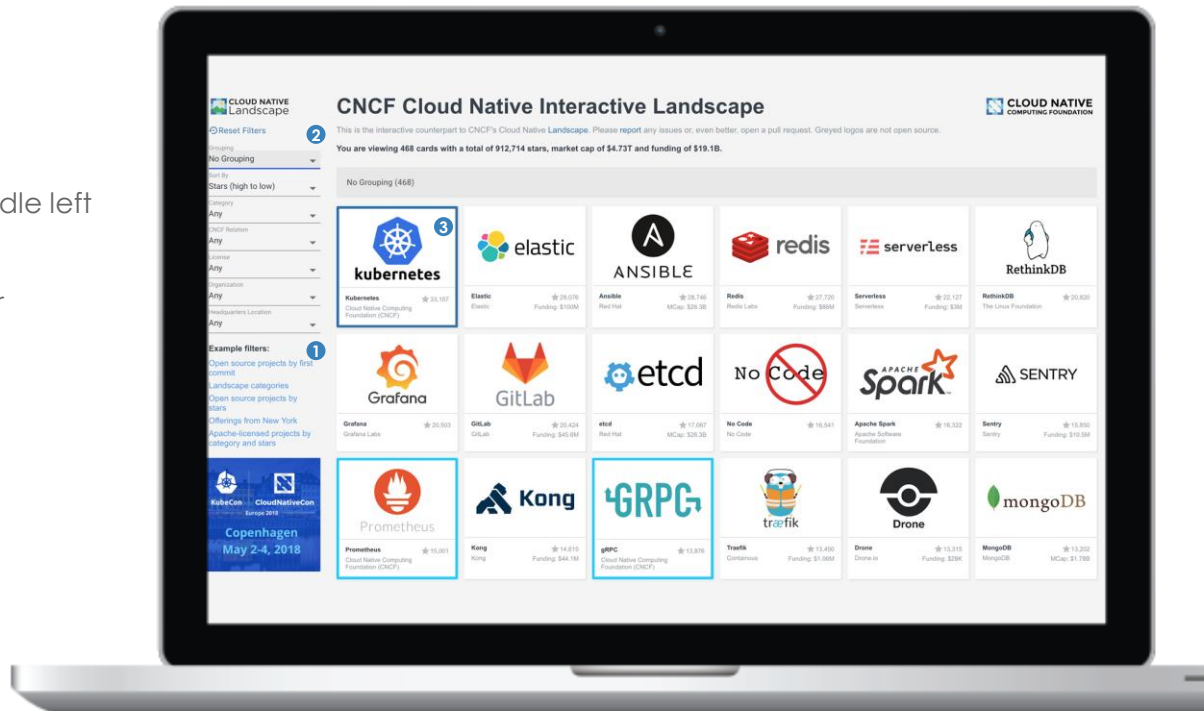
Training And Certification - Current State

30,000+ free students enrolled	**3,600+** paying students enrolled (to date)	**1,200+** certification exams purchased (to date)

Free massively open **online Kubernetes course** launched June 2017

Paid Kubernetes training and CKA Certification launched September 2017

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OPPORTUNITIES TO ENGAGE

If you produce an implementation/ distribution of Kubernetes

If your company offers on-site support for Kubernetes

If you want to train your internal staff or partners

Appoint a TOC Contributor who can provide a semi-official viewpoint of your company

Kubernetes documentation needs increased investment

4 TOC working groups on Serverless, Networking, Storage and CI

KubeCon + CloudNativeCon

Copenhagen
May 2-4, 2018
Attendees: 3,000+

Shanghai
November 13-14, 2018
Attendees: 2,500+

Seattle
December 11 -13, 2018
Attendees: 5,000+

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3% discount for members

5% discount for members sponsoring two events

DIAMOND SPONSORSHIPS:
include a 5 minute keynote

⭐ **1** First priority given to Platinum Members

⭐ **2** Then to Gold and then Silver Members

4 Diamond Sponsorships currently sold out for North America & China. 2 additional sponsorships will be made available in September for each event.

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COMPUTING FOUNDATION

CHINA *OpenInfra Days*

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Thank you