



airship

Elevate Your Infrastructure

Airship Confirmation Review

OSF Board of Directors

October 22, 2019

Matt McEuen, Airship Working Committee

Alex Hughes, Airship Technical Committee

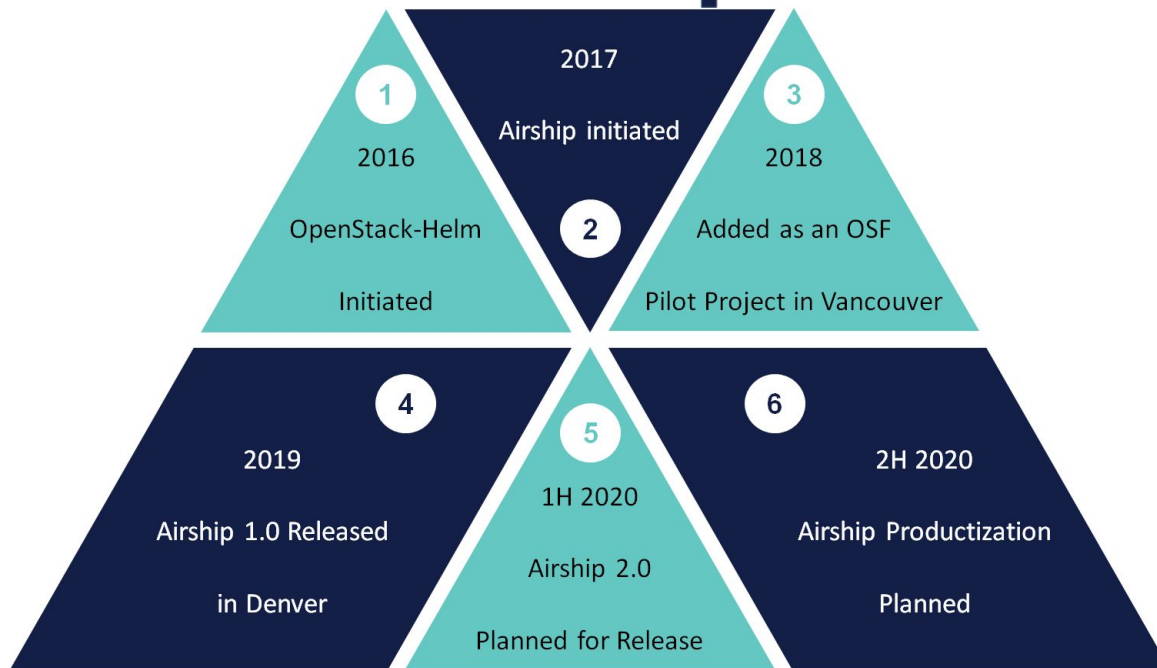
Kaspars Skels, Airship Working Committee

Jay Ahn, Airship Operator & Developer Community

Strategic Focus



airship



Mission Statement

Openly **collaborate** across a diverse, global **community** to provide and integrate a collection of loosely coupled but **interoperable, open source** tools that declaratively **automates cloud lifecycle management**.

Airship is

... an open source community. Everyone is welcome to join and encouraged to contribute in variety of ways – use cases, code, test cases, documentation, reviews, ... or simply ideas.

... a project guided by the OpenStack Foundation principles since its formation, even before acceptance as an OSF project

Airship

- Supports the OSF's strategic focus area related to datacenter cloud & container infrastructure
- Deploys OSF projects and is used by other OSF projects
- Manages the full lifecycle of data center infrastructure
- Allows operators to manage their infrastructure deployments and lifecycle through declarative YAML documents

Governance

Developer Roles

Contributor

- Has had changes merged within the last 12 months
- Eligible to vote in the election of Technical Committee
- Able to propose changes and give +1/-1 reviews on changes from other contributors

Core Reviewer

- Nominated and approved by the established Core, following established OpenStack processes
- Can be Cores of multiple Airship components
- Able to merge changes and give +2/-2 reviews on changes from other contributors

Technical Committee

- Responsible for the road map, vision and use cases for Airship
- Ensures Airship projects are adhering to the projects core principles, promote standardization, define and organizes the Airship versioning and release process
- 5 Members elected by Contributors
- Elections take place once per year.
- Anyone who has demonstrated commitment to the Airship project in the last 12 months is eligible to run
- No term limits for TC seats
- No more than 2 of the 5 seats can be filled by any one organization

Working Committee

- The WC committee cares for day to day functioning of Airship community
- WC intends to:
 - Help influence the project strategy
 - Help arbitrate when there is a disagreement between Core Reviewers within a single project or between Airship projects
 - Perform marketing and communications
 - Help provide product management as well as ecosystem support
- 5 Members elected by Core Reviewers
- Elections take place once per year
- Any Contributor is eligible to run
- No term limits for WC seats
- No more than 2 of the 5 seats can be filled by any one organization

Current Committee Members

Technical Committee

- James Gu, *independent
- Alexander Hughes, Accenture
- Jan-Erik Mångs, Ericsson
- Alexey Odinokov, Mirantis
- Ryan van Wyk, AT&T

Working Committee

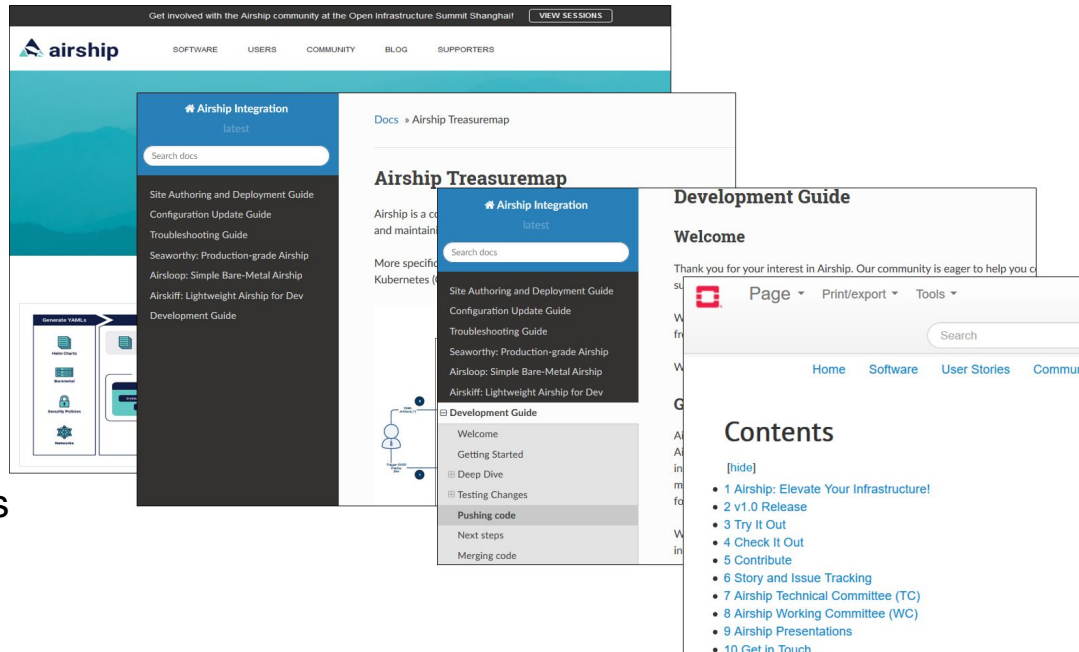
- Nishant Kumar, Ericsson
- Matt McEuen, AT&T
- Kaspars Skels, Ericsson
- Drew Walters, AT&T
- Stas Egorov, Mirantis

Technical Best Practices

Technical Best Practices: Documentation

Documentation includes:

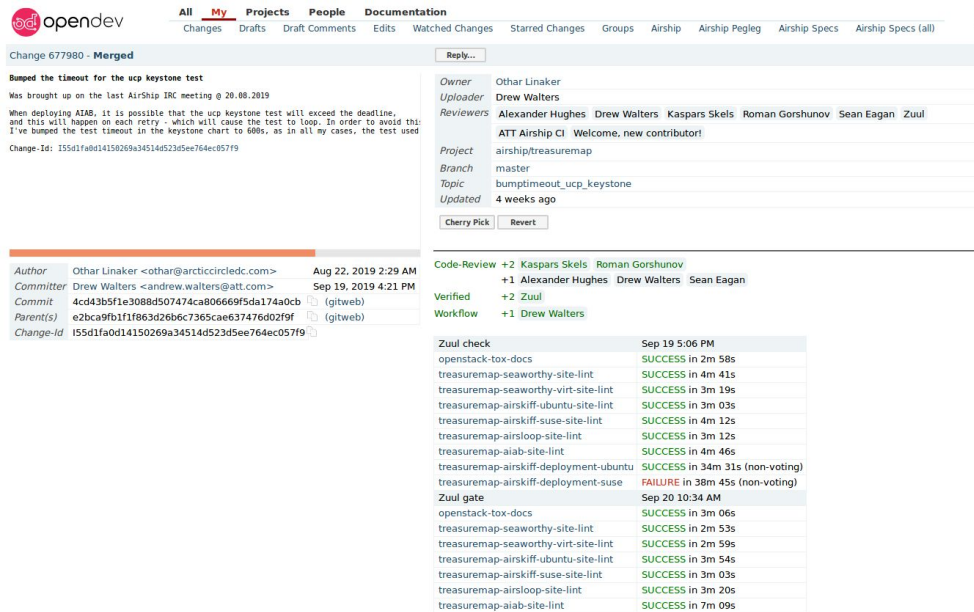
- Overview, Architecture, Getting Started
- Site Authoring and Deployment Guides
- Contributor / Review Guide
- Component and Integration Testing Docs
- Dev and Ops-focused Guides
- More on the way...



Technical Best Practices: Code Review

Code Review Follows Established OSF Community Norms

- Core Reviewer teams per Airship project, nominated/ratified by those core teams
- Two +2s, WF +1, and Zuul gating required for merge
- +1s from non-cores (and cores) strongly encouraged
- Documentation and CI/CD are reviewed as code



The screenshot shows the OpenDev interface for a code review. The top navigation bar includes links for All, My, Projects, People, and Documentation. The main content area displays the details of a change (677980 - Merged) titled "Bumped the timeout for the ucp keystone test". The change description explains that the timeout was bumped to 600s to avoid a loop during deployment. The change is attributed to Othar Linaker and Drew Walters. The right sidebar shows the review history, including a +2 from Kaspars Skels and a +1 from Roman Gorshunov. The bottom section displays the Zuul check results, showing successful status for various checks like openstack-tox-docs, treasurmap-seaworthy-site-lint, and Zuul gate.

Author	Othar Linaker <othar@arcticcircledc.com>	Aug 22, 2019 2:29 AM
Committer	Drew Walters <drew.walters@att.com>	Sep 19, 2019 4:21 PM
Commit	4cd43b5f1e3088d507474ca806669f5da174a0cb	(gitweb)
Parent(s)	e2bca9fb1f1f863d26b6c7365cae637476d02f9f	(gitweb)
Change-Id	I55d1fa0d14150269a34514d523d5ee764ec057f9	

Code-Review	+2 Kaspars Skels Roman Gorshunov
Verified	+2 Zuul
Workflow	+1 Drew Walters

Zuul check	Sep 19 5:06 PM
openstack-tox-docs	SUCCESS in 2m 58s
treasurmap-seaworthy-site-lint	SUCCESS in 4m 41s
treasurmap-seaworthy-virt-site-lint	SUCCESS in 3m 19s
treasurmap-airskiff-ubuntu-site-lint	SUCCESS in 3m 03s
treasurmap-airskiff-suse-site-lint	SUCCESS in 4m 12s
treasurmap-airloop-site-lint	SUCCESS in 3m 12s
treasurmap-aiab-site-lint	SUCCESS in 4m 46s
treasurmap-airskiff-deployment-ubuntu	SUCCESS in 34m 31s (non-voting)
treasurmap-airskiff-deployment-suse	FAILURE in 38m 45s (non-voting)
Zuul gate	Sep 20 10:34 AM
openstack-tox-docs	SUCCESS in 3m 06s
treasurmap-seaworthy-site-lint	SUCCESS in 2m 53s
treasurmap-seaworthy-virt-site-lint	SUCCESS in 2m 59s
treasurmap-airskiff-ubuntu-site-lint	SUCCESS in 3m 54s
treasurmap-airskiff-suse-site-lint	SUCCESS in 3m 03s
treasurmap-airloop-site-lint	SUCCESS in 3m 20s
treasurmap-aiab-site-lint	SUCCESS in 7m 09s

Technical Best Practices: Testing & CI/CD

Airship has multi-faceted testing:

- Linting and unit testing, via Zuul
- Lightweight integration testing per change, via Zuul
- Voting and non-voting checks
- VM-based 3rd-party integration run per Treasuremap change
- Nightly 3rd-party bare metal deployment testing
- Developer documentation for local testing

Code-Review +2 Matt McEuen Nishant Kumar
+1 Anthony Bellino Matt Carter Scott Hussey
Verified +2 Zuul
Workflow +1 Matt McEuen

Zuul check	Sep 23 3:07 PM
openstack-tox-docs	SUCCESS in 4m 11s
openstack-tox-pep8	SUCCESS in 3m 25s
airship-promenade-lint-ws	SUCCESS in 1m 39s
airship-promenade-docker-build-gate	SUCCESS in 5m 19s
airship-promenade-chart-build-gate	SUCCESS in 1m 52s
airship-promenade-chart-build-latest-htk	SUCCESS in 1m 46s (non-voting)
airship-promenade-genesis-gate	SUCCESS in 16m 08s
Zuul gate	Sep 26 11:17 AM
openstack-tox-docs	SUCCESS in 3m 36s
openstack-tox-pep8	SUCCESS in 3m 19s
airship-promenade-lint-ws	SUCCESS in 1m 46s
airship-promenade-docker-build-gate	SUCCESS in 5m 07s
airship-promenade-chart-build-gate	SUCCESS in 2m 43s
airship-promenade-genesis-gate	SUCCESS in 16m 27s

Code-Review +2 Drew Walters Matt McEuen
+1 Matt Carter Samuel Pilla Scott Hussey
Verified +2 Zuul
Workflow +1 Sean Eagan

Zuul check	Sep 23 10:23 AM
openstack-tox-cover	SUCCESS in 4m 30s
openstack-tox-docs	SUCCESS in 5m 48s
openstack-tox-py35	SUCCESS in 6m 07s
openstack-tox-py36	SUCCESS in 5m 49s
openstack-tox-pep8	SUCCESS in 4m 47s
armada-chart-build-gate	SUCCESS in 2m 31s
armada-chart-build-latest-htk	SUCCESS in 2m 11s (non-voting)
armada-docker-build-gate-ubuntu_bionic	SUCCESS in 5m 29s
armada-docker-build-gate-ubuntu_xenial	SUCCESS in 5m 13s
armada-docker-build-gate-opensuse	SUCCESS in 10m 27s
armada-airskiff-deploy	FAILURE in 1m 33s (non-voting)
Zuul gate	Sep 26 11:34 AM
openstack-tox-docs	SUCCESS in 5m 14s
openstack-tox-py35	SUCCESS in 5m 03s
openstack-tox-py36	SUCCESS in 3m 28s
openstack-tox-pep8	SUCCESS in 4m 36s
armada-chart-build-gate	SUCCESS in 2m 27s
armada-docker-build-gate-ubuntu_bionic	SUCCESS in 5m 50s
armada-docker-build-gate-ubuntu_xenial	SUCCESS in 4m 35s
armada-docker-build-gate-opensuse	SUCCESS in 7m 32s

Queue: airship/deckhand

airship/deckhand	7 min
684366.8	45 min
openstack-tox-cover	failure
openstack-tox-pep8	success
openstack-tox-py27	failure
openstack-tox-docs	success
openstack-tox-py36	failure
openstack-tox-py37	failure
deckhand-tox-py27-postgresql	failure
deckhand-tox-py35-postgresql	failure
deckhand-functional-uwsgi-py35 (non-voting)	failure
deckhand-functional-docker-py35-ubuntu	failure
deckhand-functional-docker-py35-opensuse	failure
deckhand-integration-uwsgi-py35 (non-voting)	failure
deckhand-integration-docker-py35-ubuntu (non-voting)	
deckhand-integration-docker-py35-opensuse (non-voting)	
deckhand-chart-build-gate	success
deckhand-chart-build-latest-htk (non-voting)	success
deckhand-docker-build-gate-ubuntu	success
deckhand-docker-build-gate-opensuse	success
deckhand-airskiff-deployment (non-voting)	failure

ATT Airship CI

Patch Set 8:

Build Started <https://jenkins.atlantafoundry.com/job/airship-in-a-bottle/1025/>

ATT Airship CI

Patch Set 8:

Build Successful

<https://jenkins.atlantafoundry.com/job/airship-in-a-bottle/1025/> : SUCCESS

Open Collaboration

Open Collaboration

Airship community believes in and follows “[The Four Opens](#)” governing principles:

- Open Source
- Open Design
- Open Development
- Open Community

☐ Adheres to the [OpenStack Foundation Community Code of Conduct](#)

☐ Airship code is distributed under the Apache 2 license

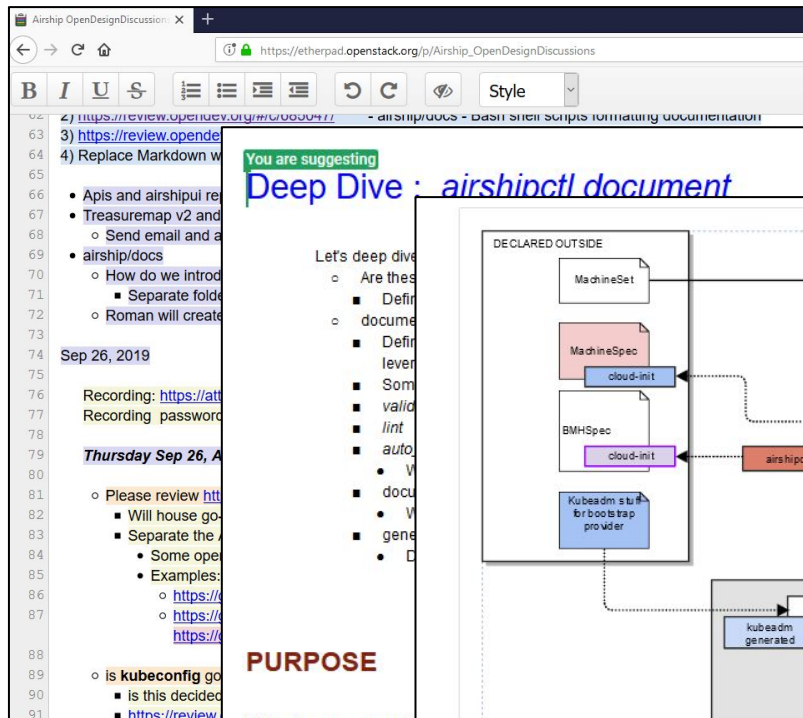
☐ Meetings and discussions are held in public open forums

- One open dev IRC meeting, one JIRA meeting, two open design meetings, and three open SIG meetings every week.

Open Design

Airship follows an inclusive design process

- Open agenda etherpads
- Open design documents
- Opt-in SIG design sessions
- Weekly scope grooming
- All meetings recorded



Airship OpenDesignDiscussion

https://etherpad.openstack.org/p/Airship_OpenDesignDiscussions

3) <https://review.openstack.org/#/c/600047/> - airshipdocs - Bash shell scripts formatting documentation

4) Replace Markdown w

- Apls and airshipui re
- Treasuremap v2 and
 - Send email and a
- airship/docs
 - How do we introd
 - Roman will create

Sep 26, 2019

Recording: <https://att>

Recording password

Thursday Sep 26, A

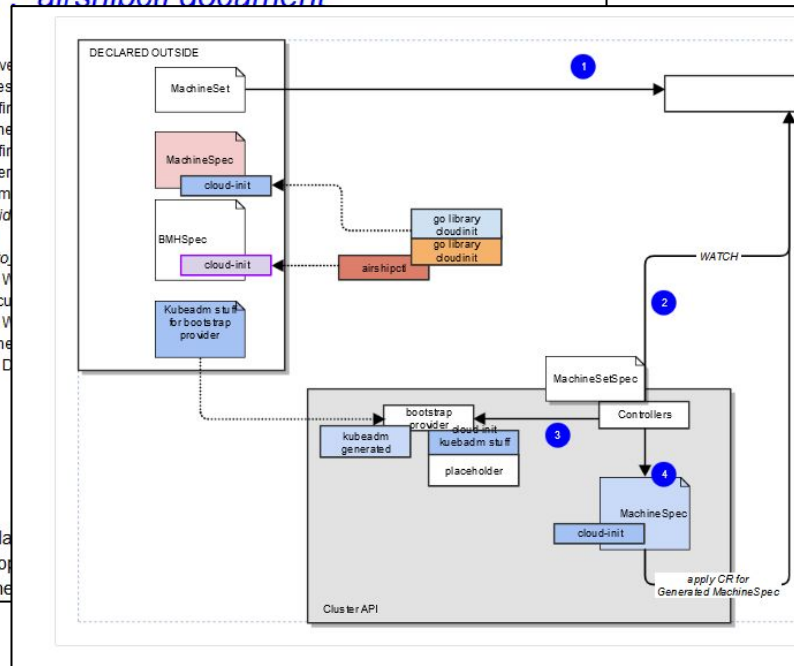
- Please review <https://ht>
 - Will house go
 - Separate the
 - Some open
 - Examples:
 - <https://k>
 - <https://k>
 - <https://k>
- is kubeconfig go
 - is this decided
 - <https://review>

You are suggesting

Deep Dive : *airshipctl document*

PURPOSE

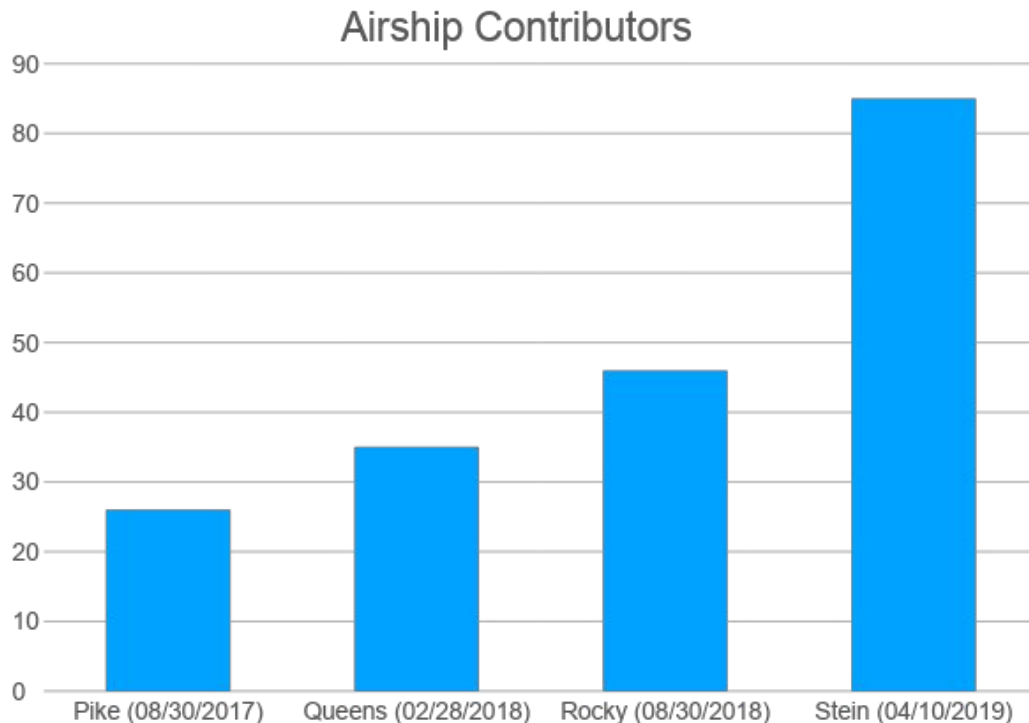
This document explains
It will outline all the op
It will also define whe



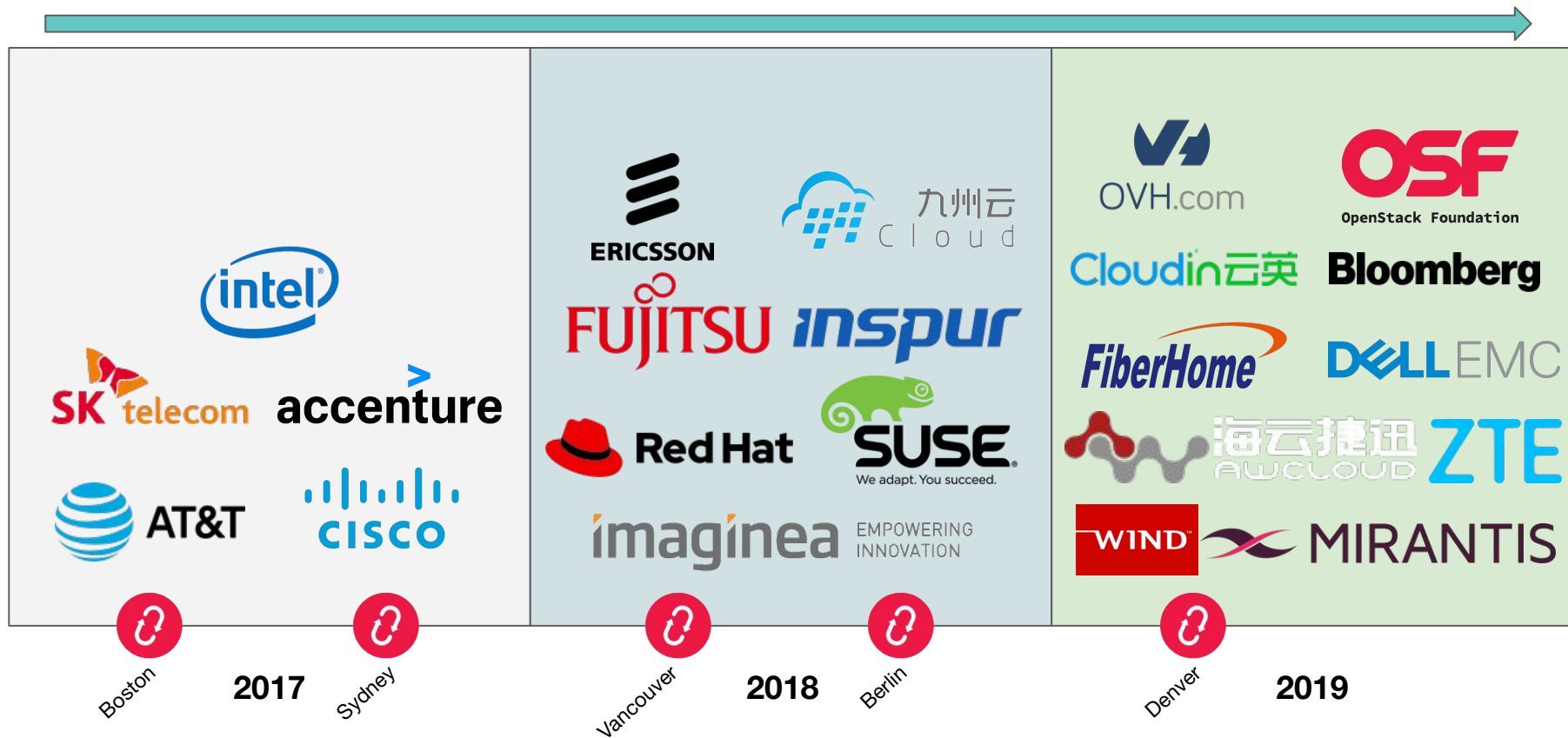
Expanding Contributor Base and Growth of Community

All Time Metrics

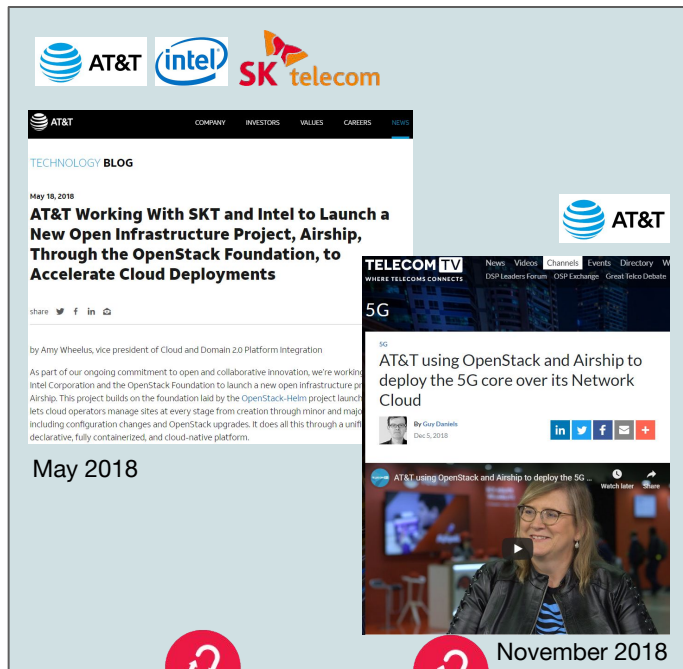
- 3,862 commits in 25 repos
- 174 authors representing 20+ companies



Airship Contributor Growth (cumulative)



Airship Contributor & User Announcements



AT&T Working With SKT and Intel to Launch a New Open Infrastructure Project, Airship, Through the OpenStack Foundation, to Accelerate Cloud Deployments

May 16, 2018

by Amy Wheelus, vice president of Cloud and Domain 2.0 Platform Integration

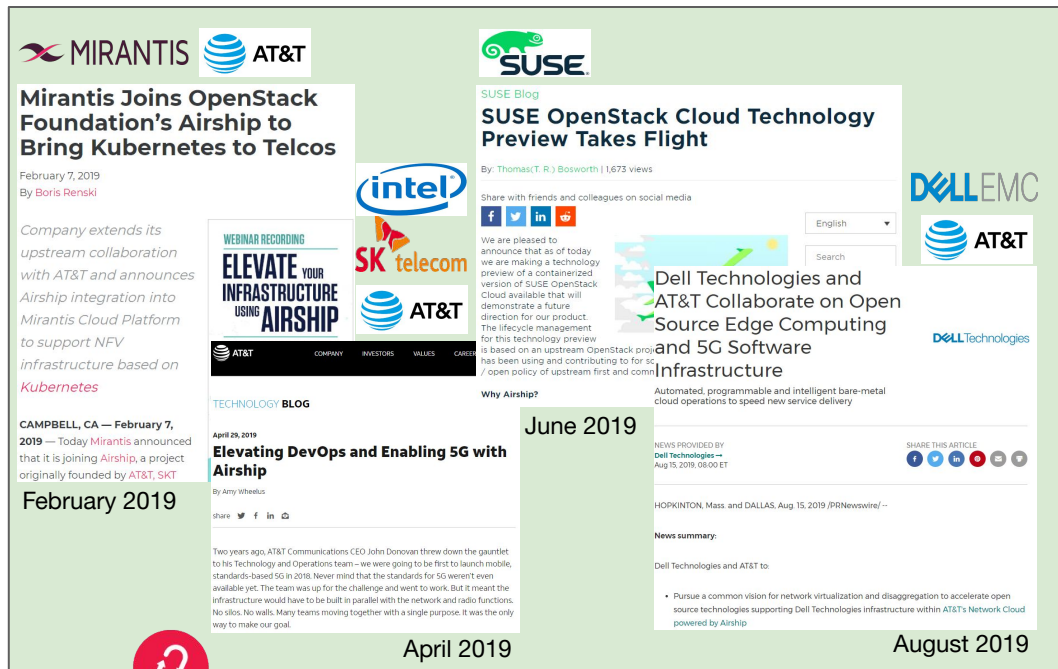
As part of our ongoing commitment to open and collaborative innovation, we're working with Intel Corporation and the OpenStack Foundation to launch a new open infrastructure project, Airship. This project builds on the foundation laid by the OpenStack-Helm project launch, lets cloud operators manage sites at every stage from creation through minor and major including configuration changes and OpenStack upgrades. It does all this through a unified declarative, fully containerized, and cloud-native platform.

May 2018

Vancouver

2018

Berlin



Mirantis Joins OpenStack Foundation's Airship to Bring Kubernetes to Telcos

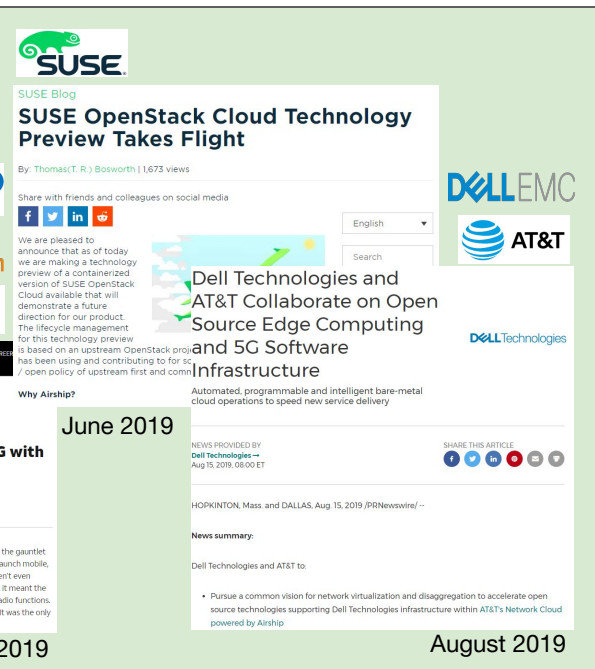
February 7, 2019

By Boris Renski

Company extends its upstream collaboration with AT&T and announces Airship integration into Mirantis Cloud Platform to support NFV infrastructure based on Kubernetes

CAMPBELL, CA — February 7, 2019 — Today Mirantis announced that it is joining Airship, a project originally founded by AT&T, SKT

February 2019



SUSE OpenStack Cloud Technology Preview Takes Flight

By Thomas(T. R.) Bosworth | 1,673 views

Share with friends and colleagues on social media

We are pleased to announce that as of today we are making a technology preview of a containerized version of SUSE OpenStack Cloud available that will demonstrate a future direction for our product. The lifecycle management for this technology preview is based on an upstream OpenStack project has been using and contributing to for so / open policy of upstream first and community.

Why Airship?

Automated, programmable and intelligent bare-metal cloud operations to speed new service delivery

June 2019

NEWS PROVIDED BY Dell Technologies → Aug 15, 2019, 06:00 ET

HOPKINTON, Mass. and DALLAS, Aug. 15, 2019 /PRNewswire/ --

News summary:

Dell Technologies and AT&T to:

- Pursue a common vision for network virtualization and disaggregation to accelerate open source technologies supporting Dell Technologies infrastructure within AT&T's Network Cloud powered by Airship

August 2019

Denver

April 2019

2019

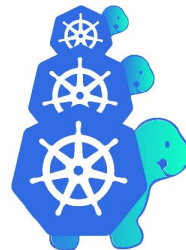
August 2019

Active Engagement

Community Participation

- OpenStack Summits: Vancouver 2018, Berlin 2018, Denver 2019, Shanghai 2019
- PTG: Ireland 2017, Denver 2018, Denver 2019 and Shanghai 2019
- OpenStack and Open Infrastructure Days & Meetup events:
 - June 28-29 2018: OpenInfra Days, Seoul, South Korea
 - June 11-12, 2019: OpenInfra Days, Krakow City, Poland
 - June 21-23, 2019: IISc Global Conference, Palo Alto, CA
 - July 18-19, 2019: OpenInfra Days, Seoul, South Korea
- KubeCon San Diego: November 2019

Collaborations and Integrations



Airship Early Adoption



AT&T



MIRANTIS



STARLINGX

CNTT



OPNFV



AKRAINO
EDGE STACK

ERICSSON



九州云

Cloud



"More than 20 Network Cloud regions deployed and managed by Airship to date, and 5G Core deployments inflight."



"Airship has been an important part of SK Telecom's cloud native infrastructure development. SK Telecom is integrating Airship not only with telco network, but also with innovative services like AI, Media, and Mobile Edge Computing systems."



"Aside from contributing to Airship upstream and collaborating with AT&T on key roadmap features, Mirantis is integrating much of the code into Mirantis Cloud Platform (MCP), Mirantis's core product that empowers telcos and enterprises to efficiently run Kubernetes on-premises."



"Ericsson is positive of an alignment between Airship and CNCF. We are increasing our upstream investments to the related opensource projects, and will work closely with AT&T and the Airship and CNCF communities to align and evolve capabilities in both communities."



"StarlingX uses Airship Armada for orchestrating the deployment of multiple Helm charts."



"Airship is core to realizing high-availability cloud services optimized for edge computing systems and applications."

Future Plans

Future Plans



November 2019

- Bootstrap First Host
- Ephemeral Cluster
- Target Cluster
- Baremetal Provisioning
- Kubernetes Provisioning

February 2020

- Workflows for Software LCM
- MVPs for Most other Features
- Demonstrate at least one alternative to Baremetal

May 2020

- Full Feature Set



Community Channels

Mailing Lists: lists.airshipit.org

Freenode IRC: #airshipit

Website: www.airshipit.org

OpenDev: <https://opendev.org/airship>

YouTube: <https://www.youtube.com/user/OpenStackFoundation/>

AT&T and Mirantis Airship Webinar: [Elevate Your Infrastructure](#)

[Using Airship](#)

Q&A

Technical Overview

Technical Overview

MOTIVATIONS FOR AIRSHIP:

The Airship Community wants to accelerate the growth of SDN as a whole, and we believe the Open Infrastructure needs to be simpler, faster and cheaper to do so.

Cloud Operators experience challenges in creating, updating, and managing the entire lifecycle of their own private cloud infrastructure, such as:

- 1) Lengthy and complicated processes;
- 2) The need for custom development to enable an ecosystem of various open source and proprietary software integrated into one cloud platform;
- 3) Demands for resources with a wide array of deep skillsets;
- 4) Difficulties keeping up with the cadence of new open source releases due to the slow process of deployment and upgrades; and
- 5) Challenges of scalability and security.

Technical Overview

AIRSHIP AS AN ANSWER:

When AT&T, SKT and Intel set out to apply the learnings from years of building and managing Open Infrastructure at scale, we set clear goals to solve these very challenges:

- 1) Open Source Orchestration with Batteries Included
- 2) Simplified Singular Deployment Method
- 3) Predictable Fast and Seamless Deployments and Upgrades of the End-to-End Platform
- 4) Resiliency and Enterprise-Grade Security Built In From the Ground Up
- 5) Not Be Opinionated on the Use Case (wide adoption)

Technical Overview

Airship 1.0 Core Principles

Focus

The focus is a declarative platform to introduce OpenStack on Kubernetes (OOK), and the lifecycle mgmt. of the resulting cloud, with the scale, speed, resiliency, flexibility & operational predictability demanded of network clouds.

Key Tenets

DECLARATIVE



Sites are declared using YAML, including both hard assets & soft assets. You manage the document and Airship implements it.

CONTAINER BASED



Containers are the unit of software delivery for Airship. This allows progress from dev, to testing, and production with confidence.

ONE WORKFLOW



One workflow that handles both initial deployments and future site updates with virtually no difference in interacting with the two

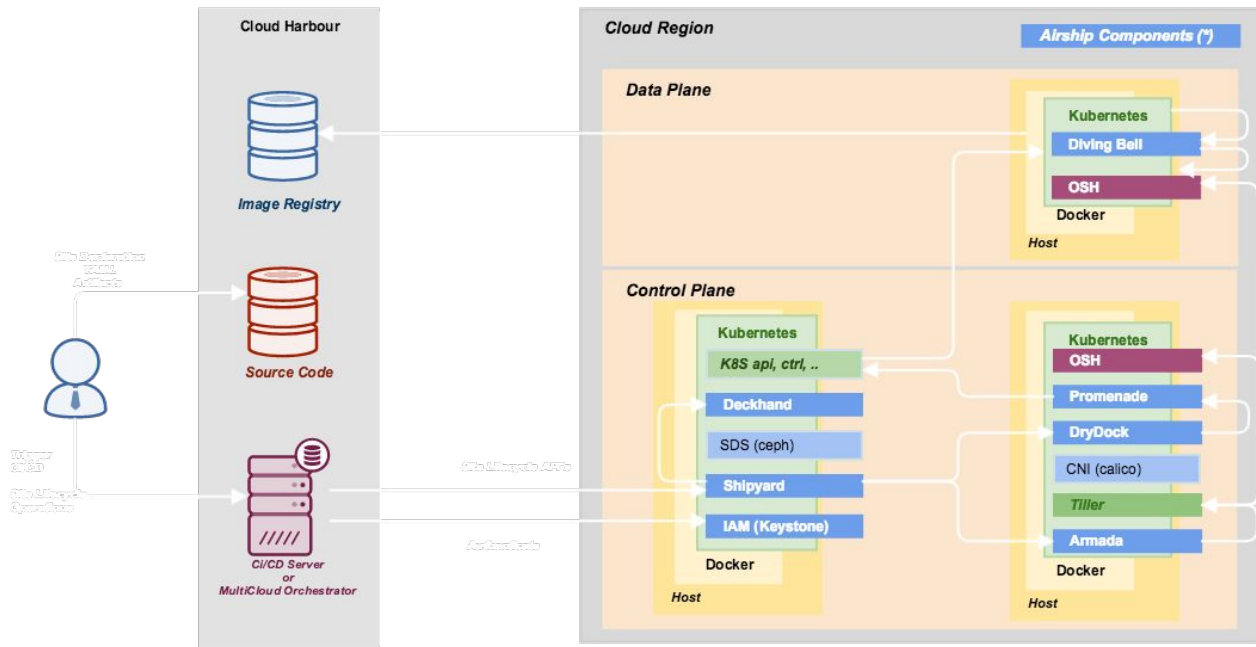
ARCHITECTURALLY FLEXIBLE



Airship manages our entire cloud platform, not just OpenStack including small and large environments

Technical Overview

Airship 1.0 Architecture

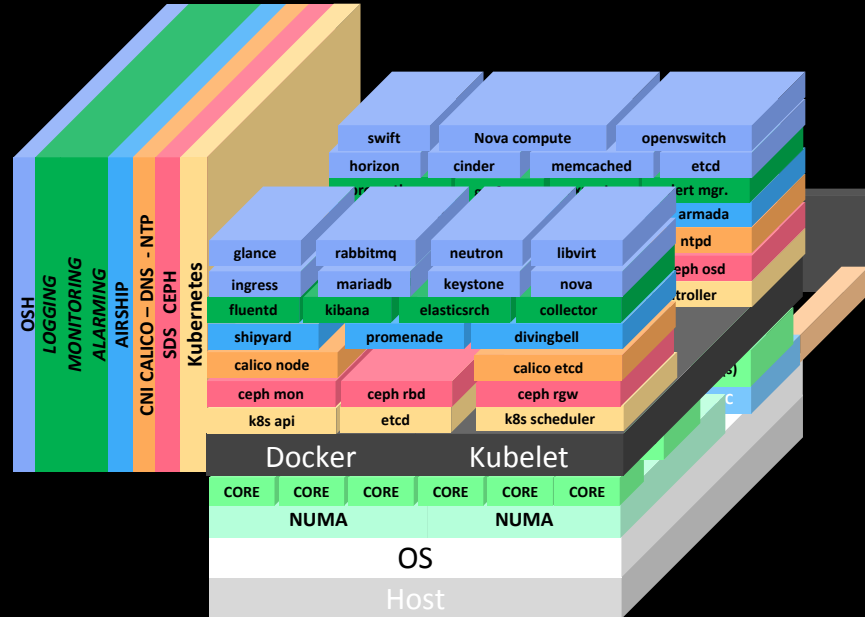
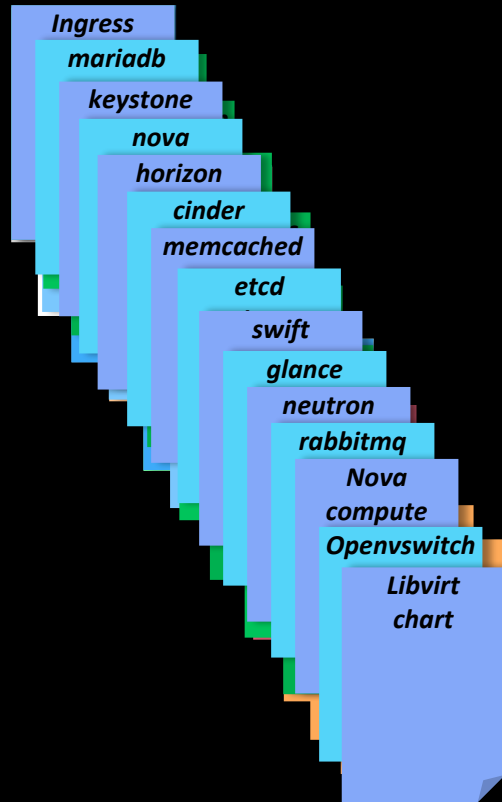


Technical Overview

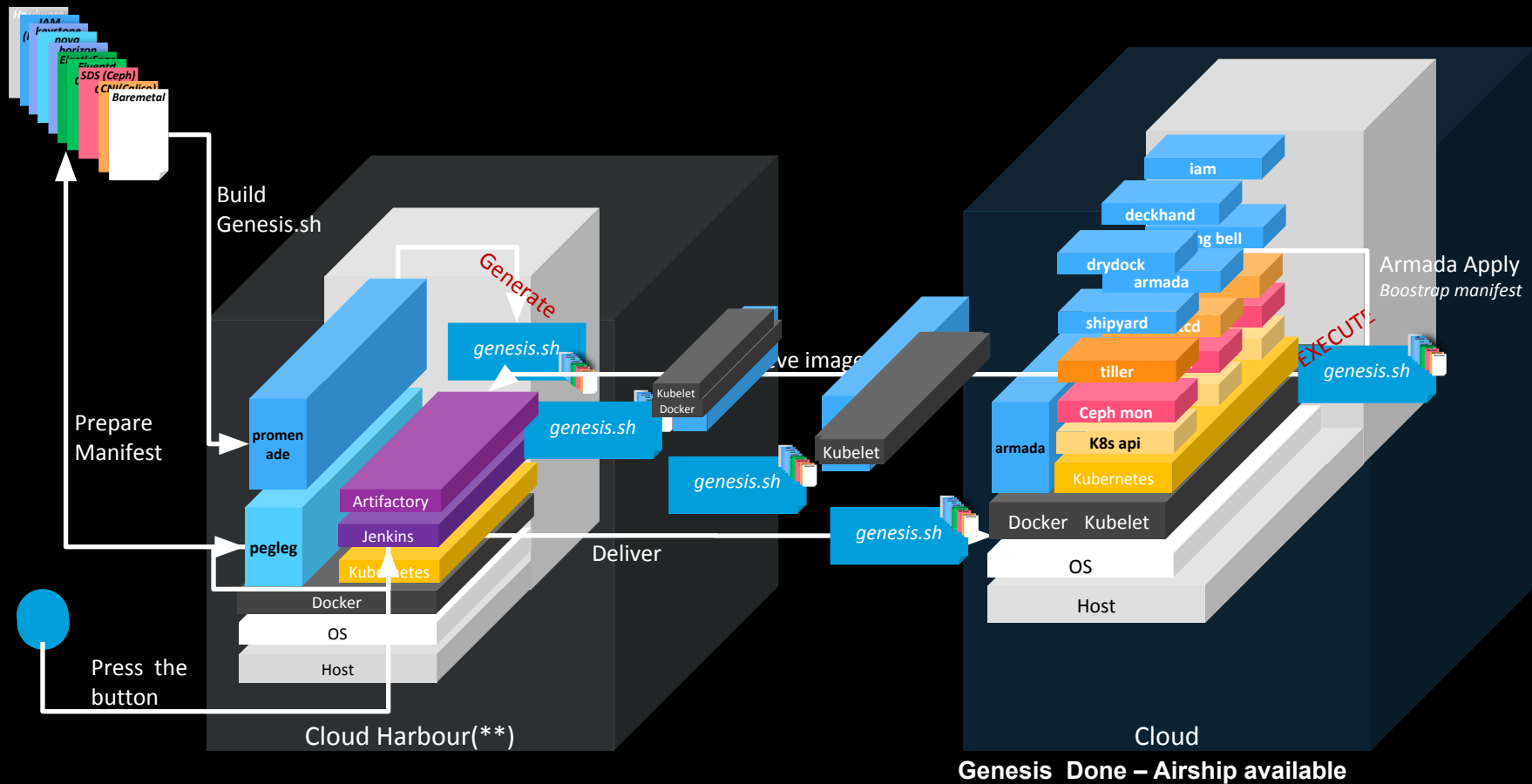
Airship 1.0 Core Components

Component	Purpose
Drydock	Declarative Baremetal Provisioning
Deckhand	Customization of YAML (Layering, Substitution, ...)
Promenade	Declarative Kubernetes + etcd HA Cluster Bootstrapping and LCM
Armada	Declarative Helm Chart Orchestration
Shipyard	Orchestration Engine for Airship Workflows
Pegleg	Configuration Organization Tool
DivingBell	Declarative Host OS Management and LCM

How do we use Airship | What do we mean by declarative



How do we use Airship| How do we bootstrap the cloud?



How do we use Airship| How do we deploy a cloud?

