



KubeCon



CloudNativeCon



OPEN SOURCE SUMMIT

China 2019



Stitching Things Together

Dan Kohn, CNCF Executive Director

@dankohn1

June 25, 2019

CNCF Hosted Projects





SUPPORTING THE CLOUD NATIVE ECOSYSTEM
www.cncf.io | @CloudNativeFdn

ORCHESTRATION.
CONTAINERIZATION.
MICROSERVICES.





CLOUD
NATIVE
CON
Europe 2017



ORCHESTRATION.
CONTAINERIZATION.
MICROSERVICES.

CNCF Cloud Native Definition v1.0

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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why



kubernetes?



2004





COLUMBIA UNIVERSITY

THE POWER OF KNOWLEDGE



E-MAIL



PASSWORD

LOGIN

SIGNUP

LOST PASSWORD



JUMP

GO



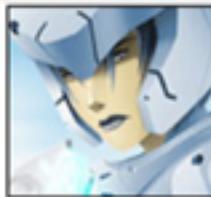
MAIN MENU

MY ACCOUNT

- tesstphotographs
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- tesstnews

FEATURED EXHIBITION

Exhibition Name



★★★★★

LATEST EXHIBITIONS



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LATEST FAVORITES



LATEST USERS

@\$adam

Adam Goldberg: 22F
Area of Interest

LATEST JOURNALS

@test

by adam

this is a multiline testing!
\$str; }

@test

by adam

This Is a Muhline Testing

@Complete Journal Entry

by adam

This is a complete journal entry.

@test



```
2007-01-11 10 1000  
0010 0 1  
110 0 1 1100  
0.010 010 101  
001 00 01  
010 01 010  
1010 1 10 0
```

[thefacebook]

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Puget Sound

quick search go

[My Profile](#) [edit]
[My Friends](#)
[My Groups](#)
[My Parties](#)
[My Messages](#)
[My Account](#)
[My Privacy](#)

Summer Jewish Adventure New York City

Brian Moore's Profile

Picture



[Send Brian a Message](#)

Poke Him!

Connection

You are in a relationship with Brian.

Mutual Friends

You have 19 friends in common with Brian.

Information

Account Info:

Name: Brian Moore

Member Since: May 21, 2005

Last Update: July 19, 2005

Basic Info:

School: Puget Sound '09

Status: Student

Sex: Male

Residence: Todd 311

Birthday: 09/02/1986

Home Town: Shorewood, WI 53211

High School: Shorewood Hi '05

Contact Info:

Email: bmoore@ups.edu

Screenname: DoctaBu

Mobile: 414.702.7426

CAMPUSNETWORK - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Stop Refresh Search Favorites Media Mail Links Go Links

Address: http://columbia.campusnetwork.net/

CAMPUSNETWORK™ MAIN BROWSE SEARCH SIGNUP

COLUMBIA UNIVERSITY THE POWER OF KNOWLEDGE

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FEATURED EXHIBITION
 [Exhibition Name](#)

 [by Username](#)
 [HISTORY](#)

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FEATURED MEMBERS
 [Kerla Hise](#) Area of Interest
 [Jennifer McFadden](#) Area of Interest
 [Amy Graeber](#) Area of Interest
 [Sarah Spurlock](#) Area of Interest
 [Vu Tran](#) Area of Interest
 [Briana Sklar](#) Area of Interest

LATEST JOURNALS
 [test](#) by adam This is a multi-line writing pen.
 [test](#) by adam This is a multi-line writing pen.
 [test](#) by adam This is a multi-line writing pen.
 [test](#) by adam This is a complete journal entry.
 [test](#) by adam test
 [test](#) by adam test

LATEST COMMENTS
 [Comment Title](#) by kerla Area of Interest
 [Comment Title](#) by kerla Area of Interest

INTERNET

thefacebook

home search global social net invite faq logout

Puget Sound

Brian Moore's Profile

quick search go

Picture

My Profile [edit]
[My Friends](#)
[My Groups](#)
[My Parties](#)
[My Messages](#)
[My Account](#)
[My Privacy](#)

Summer Jewish Adventure New York City

Send Brian a Message [Post Here!](#)

Connection
 You are in a relationship with Brian.

Mutual Friends
 You have 19 friends in common with Brian.

Access
 Brian is currently logged in from a non-residential location.

Friends at Puget Sound

Kerla Hise Jennifer McFadden Amy Graeber

Sarah Spurlock Vu Tran Briana Sklar

Information

Account Info:
 Name: Brian Moore
 Member Since: May 21, 2005
 Last Update: July 19, 2005

Basic Info:
 School: Puget Sound '09
 Status: Student
 Sex: Male
 Residence: Todd 311
 Birthday: 09/02/21986
 Home Town: Shorewood, WI 53211
 High School: Shorewood H '05

Contact Info:
 Email: bmoore@ups.edu
 Screenname: doctabu
 Mobile: 414.702.7426
 Websites: <http://www.doctabu.com> <http://www.livejournal.com/users/doctabu> <http://www.flickr.com/photos/doctabu>

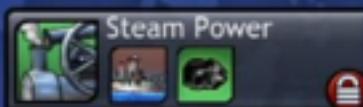
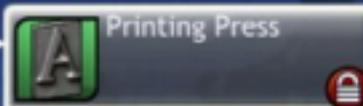
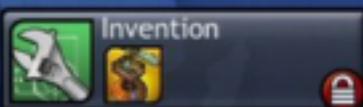
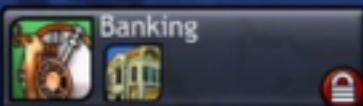
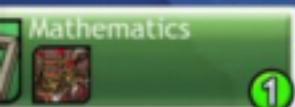
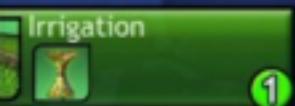
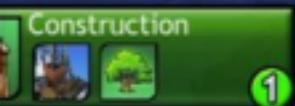
Personal Info:
 Looking For: Friendship
 Interested In: Women
 Relationship Status: In a Relationship with Rachel Buell (Tiny Tikes Day Care)

Political Views: Very Liberal
 Interests: Film, Graphic Design, Video Editing, Computers, Bowling, Dancing, Acting, Singing, Listening to Decent Music, Sleeping, Being Crazy

Favorite Music: Bed, The Beatles, They Might Be Giants, Phoenix, Paul Simon, Outcast, Avenue Q, Radiohead, Red Hot Chili Peppers, Steely Dan, Styx, U2, Zero 7, Office Space, Garden State, Eternal Sunshine of the Spotless Mind, Triplets of Belleville, Amelie

About Me:
 What is there to say? I dunno. I'm a mild 5'10" skinny-ass that wants to be creative. I like making movies and stuff like that.





L Change Selection

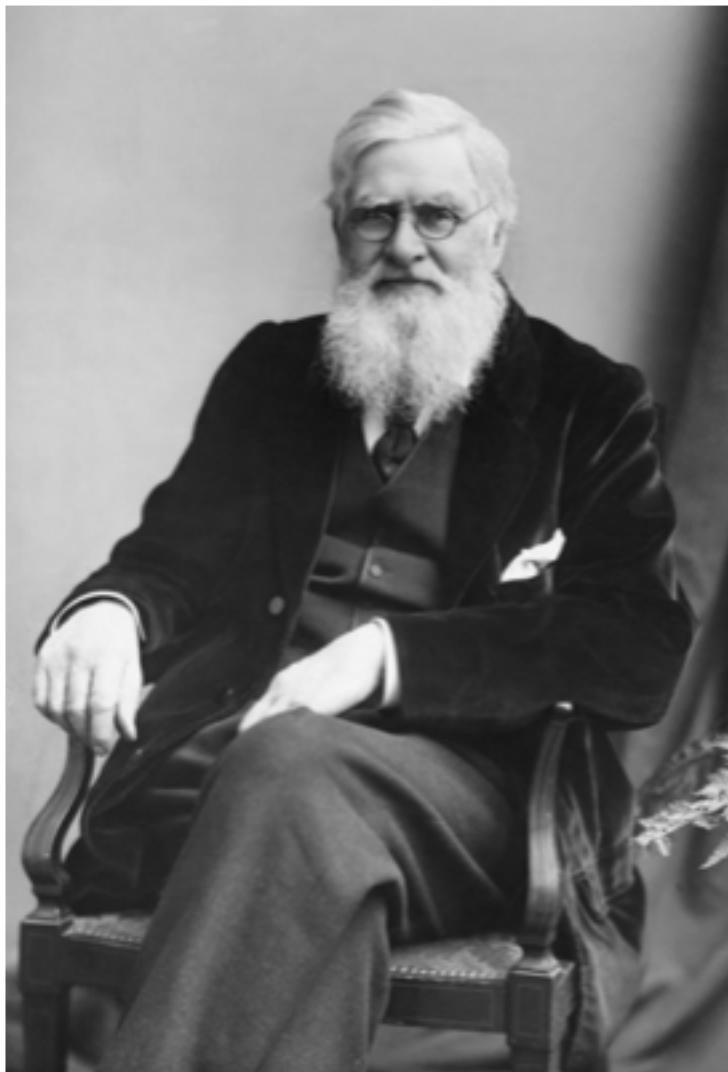
R Look Around

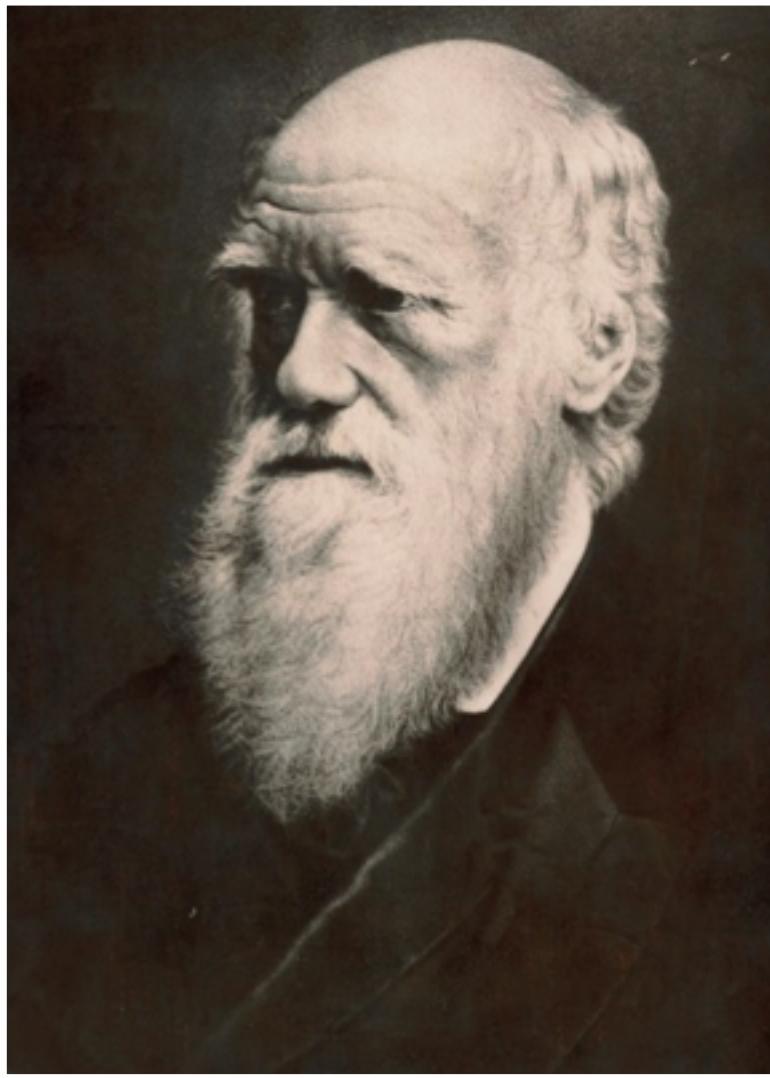
△ Civilopedia

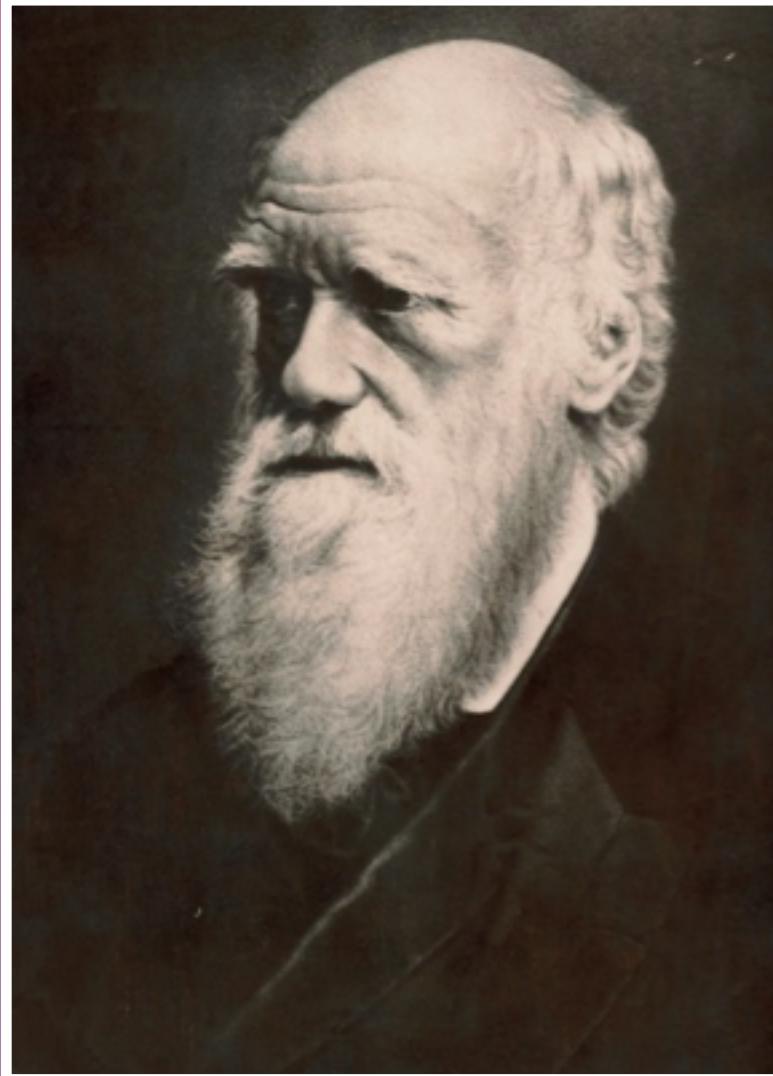
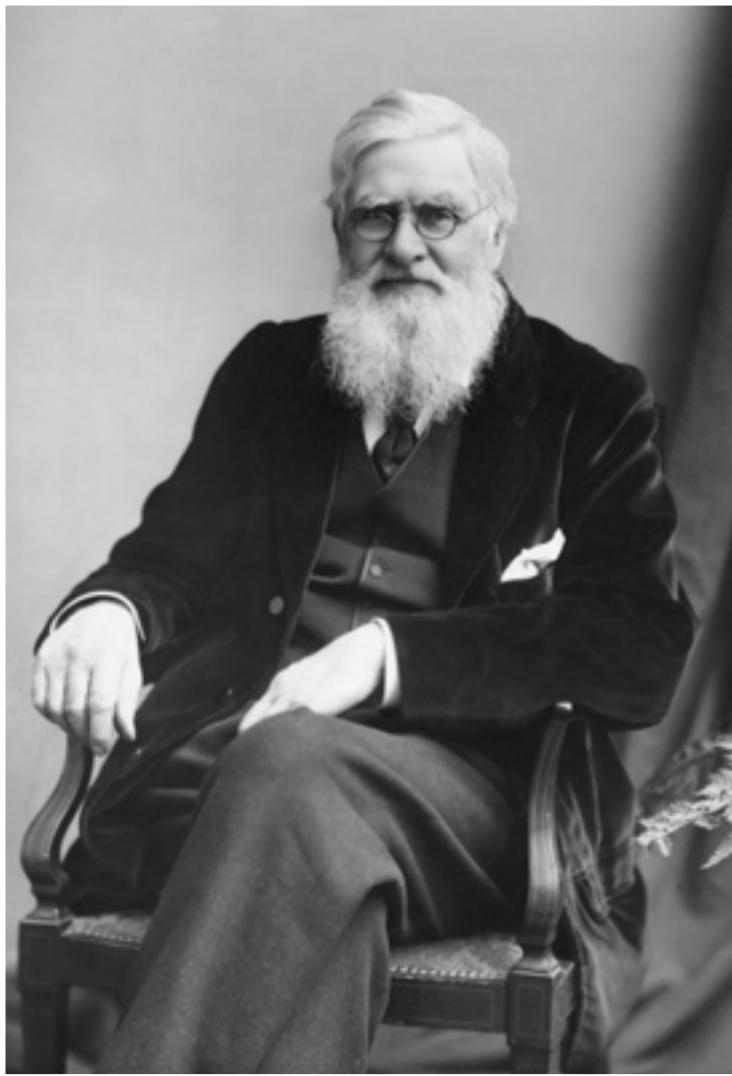
X Exit

Simultaneous Invention

1858







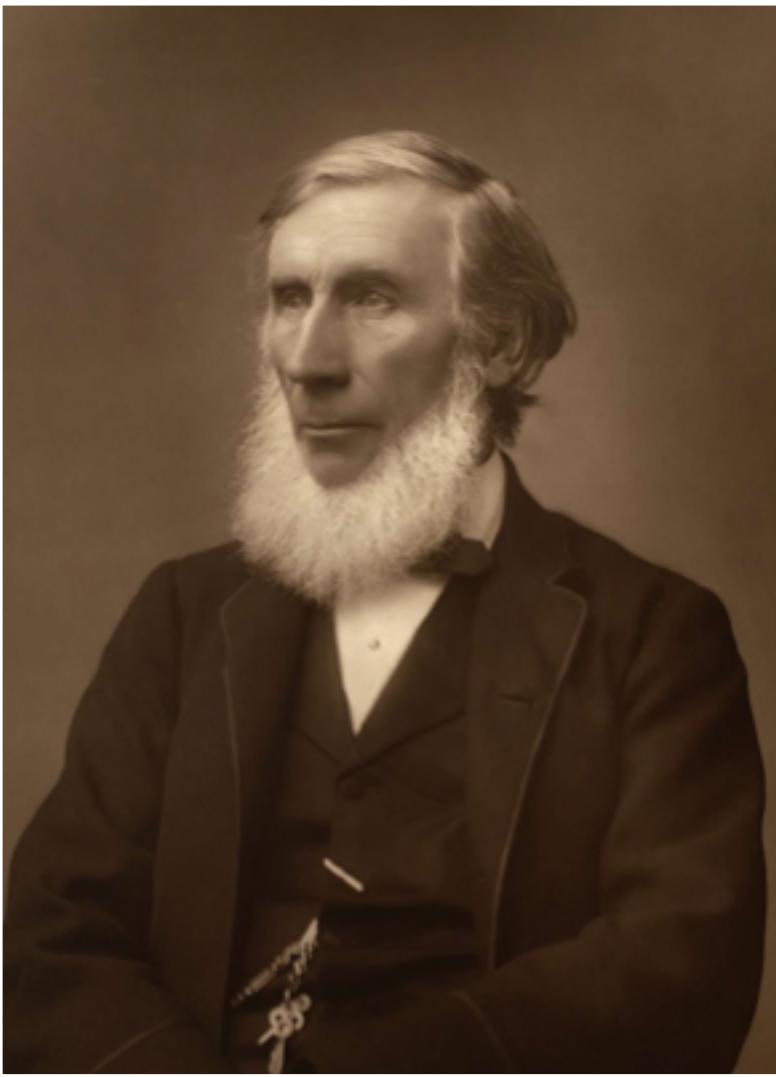
“[T]his principle is exactly like that of the centrifugal governor of the steam engine, which checks and corrects any irregularities almost before they become evident; and in like manner no unbalanced deficiency in the animal kingdom can ever reach any conspicuous magnitude”

- Alfred Russel Wallace, 1858

1687



1856



CIRCUMSTANCES

Affecting the Heat of the Sun's Rays.

BY MRS. EUNICE FOOTE.

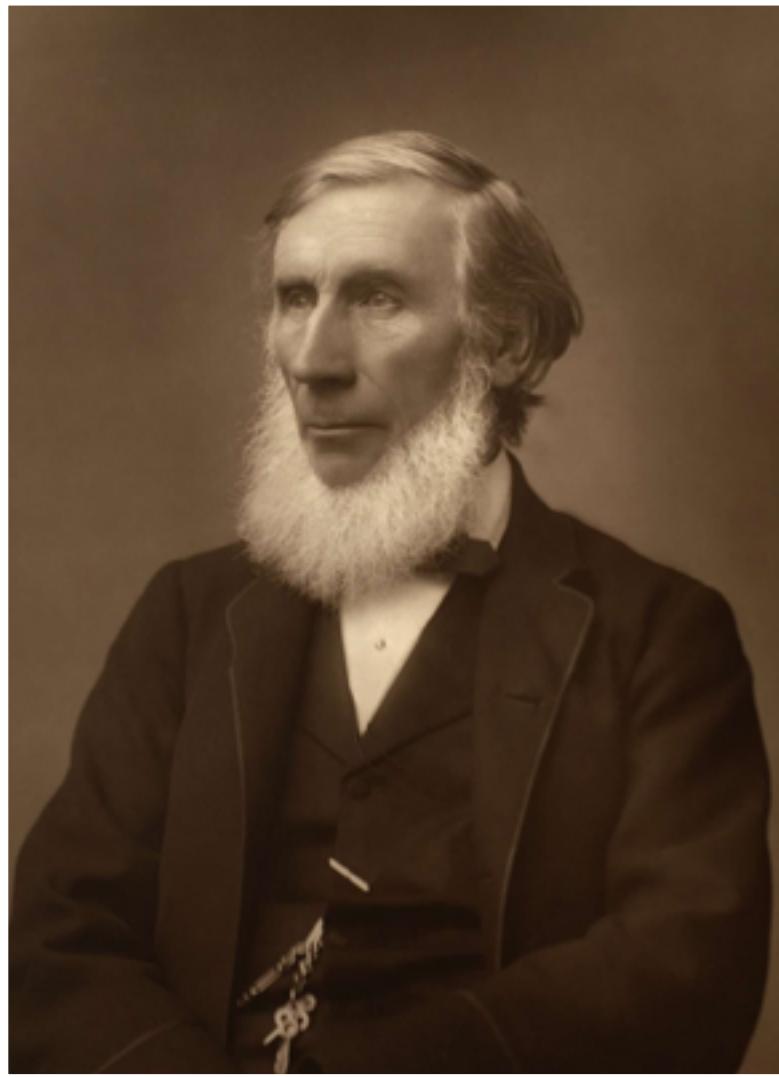
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AUGUST 15, 1850.

SARATOGA SPRINGS:

STEAM PRINTING PRESSES OF G. M. DAVIDSON.

1856.



CIRCUMSTANCES

Affecting the Heat of the Sun's Rays.

BY MRS. EUNICE FOOTE.

Read before the American Association for the Advancement of Science,

AUGUST 26, 1856.

SARATOGA SPRINGS:

STEAM PRINTING PRESSES OF G. M. DAVIDSON.

1856.

Simultaneous Invention

2010s

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Cambrian
Ancient Life

Cambrian Era



Alibaba Sigma

阿里巴巴

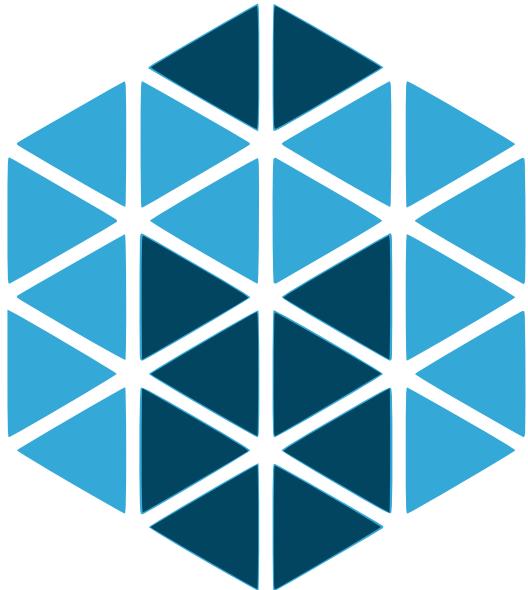


Alibaba.comTM

Amazon Apollo



Apache Mesos



Apache
MESOSTM

Baidu Matrix

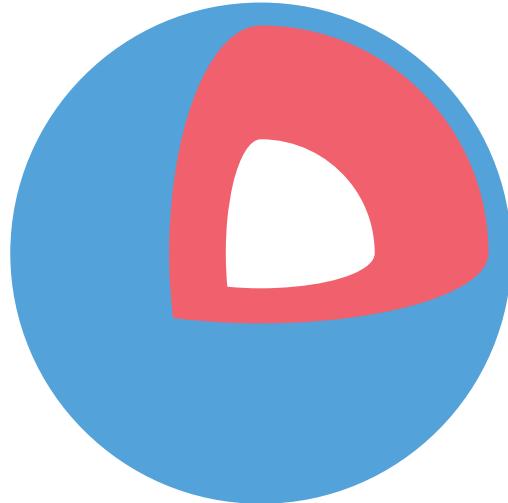


Cloud Foundry Garden & Diego



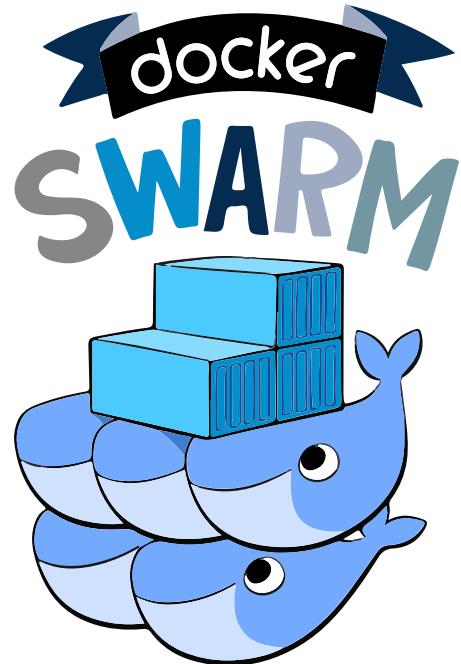
CLOUD **FOUNDRY**

CoreOS Fleet

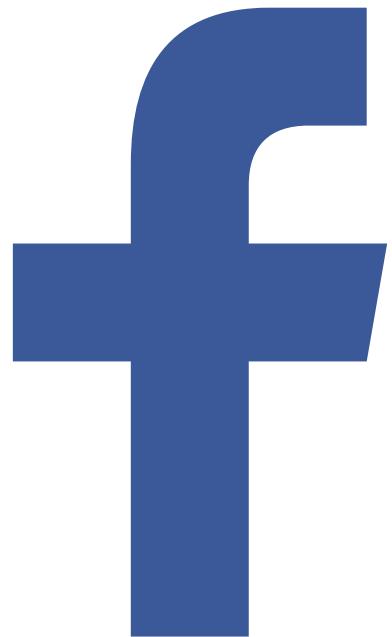


Core OS

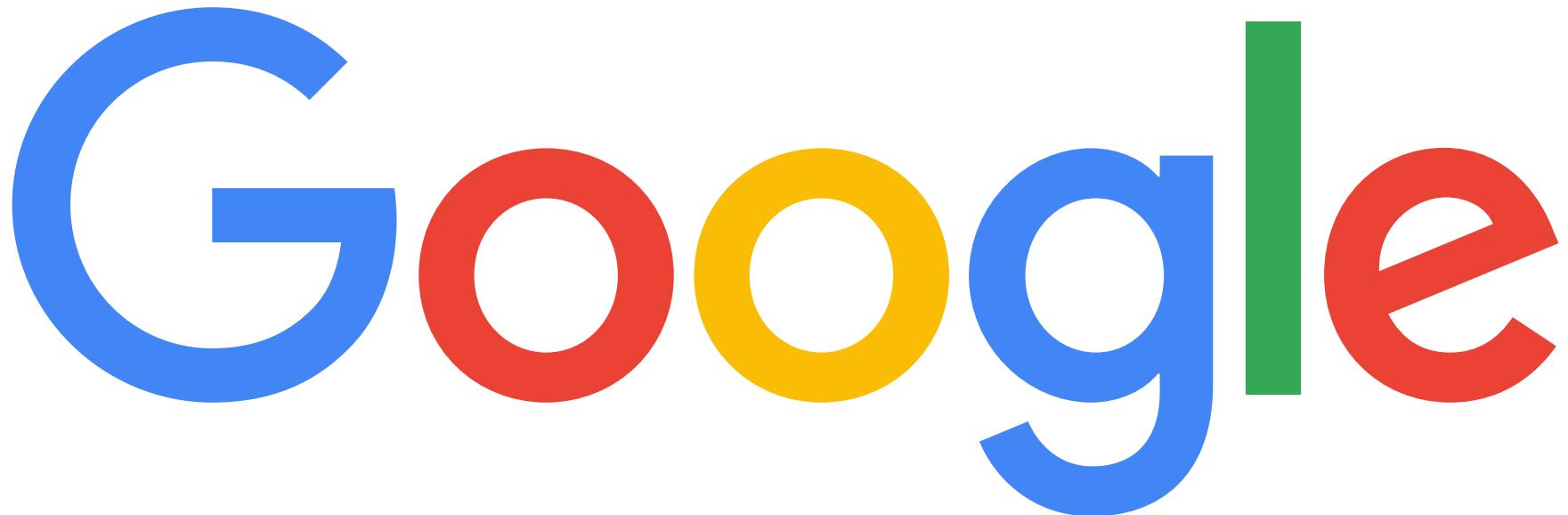
Docker Swarm



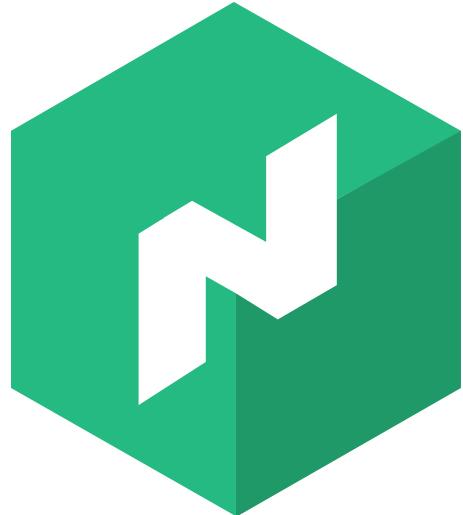
Facebook Tupperware



Google Borg & Omega



HashiCorp Nomad



HashiCorp
Nomad

IBM Platform Symphony



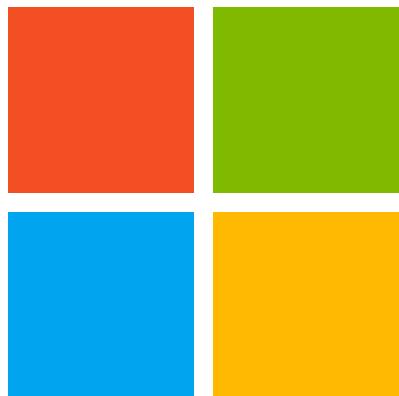
Joyent Triton



Lyft v3 Infra



Microsoft Service Fabric

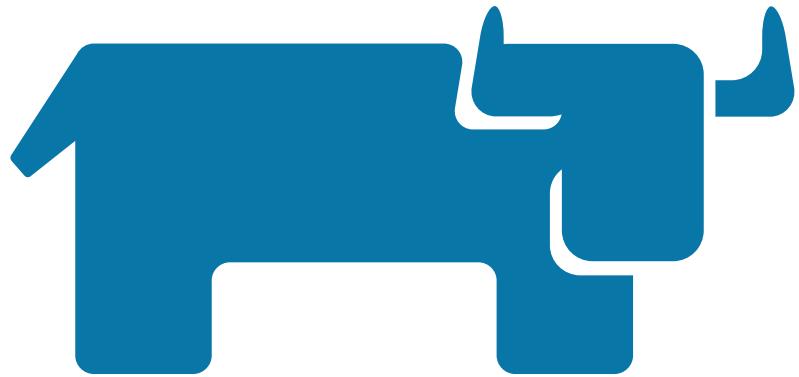


Microsoft

Netflix Titus

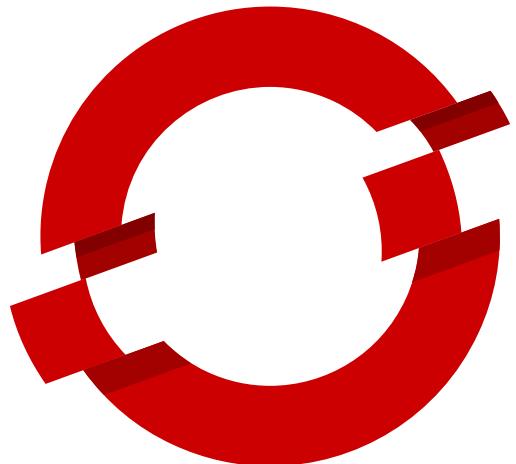
NETFLIX

Rancher Cattle



RANCHER[®]

Red Hat OpenShift v2 Broker



RED HAT®
OPENSHIFT

Spotify Helios

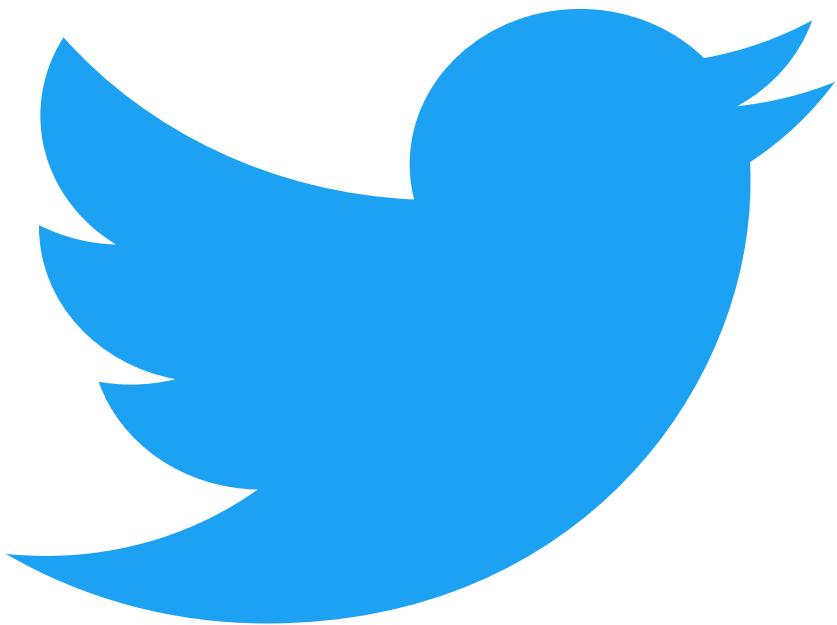


Spotify®

Tencent Gaia

Tencent 腾讯

Twitter Aurora



Uber Peloton

uber

In the Air



“If I have seen further it is by standing on the shoulders of giants”

- Isaac Newton

“Bernard of Chartres used to say that we are like dwarfs on the shoulders of giants...”

- John of Salisbury

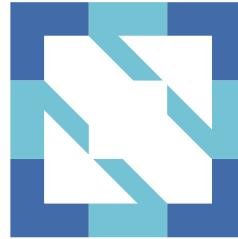


Everything is a Remix

2019



KubeCon



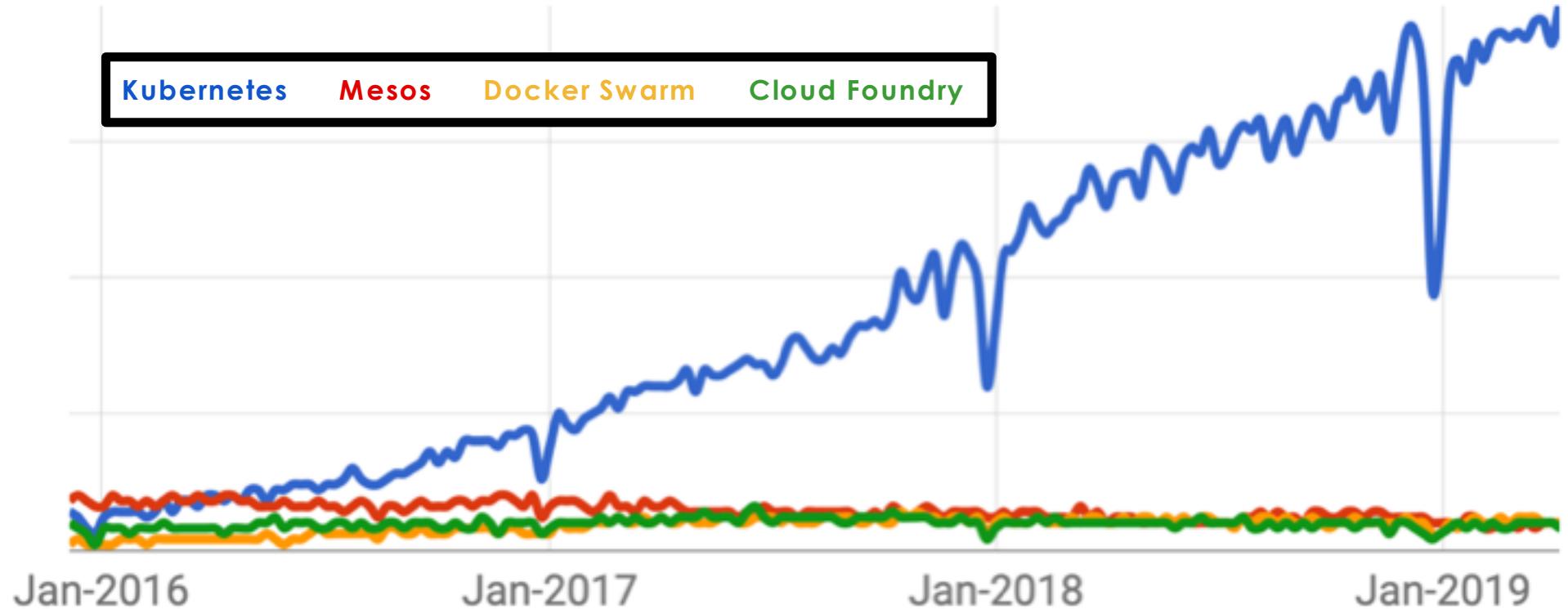
CloudNativeCon



OPEN SOURCE SUMMIT

China 2019

Kubernetes **Mesos** **Docker Swarm** **Cloud Foundry**



why



kubernetes?

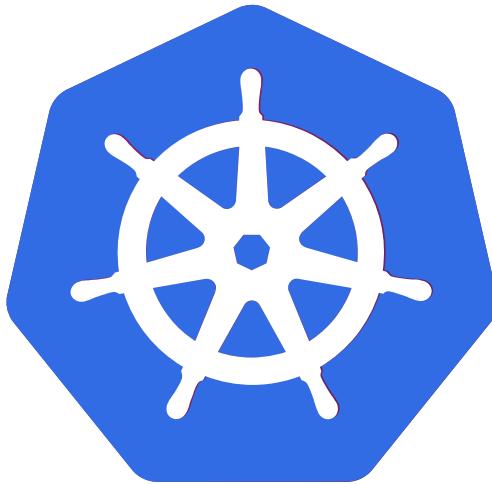
1

It Works Really Well

2

Vendor-Neutral Open Source

certified



kubernetes

3

It's the People

A man wearing a cap and an apron lies on his back on a metal conveyor belt in a factory setting. He is positioned horizontally across the frame, with his head towards the top left and feet towards the bottom right. The conveyor belt is covered in numerous small, yellow, cube-shaped pieces. In the background, there are large industrial tanks, pipes, and more conveyor belts. The lighting is bright, highlighting the yellow cubes and the metallic surfaces of the machinery.

SOYLENT GREEN IS PEOPLE!



1

It Works Really Well

2

Vendor-Neutral Open Source

3

It's the People



David Roberts

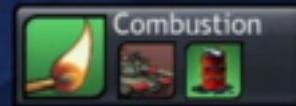
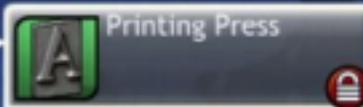
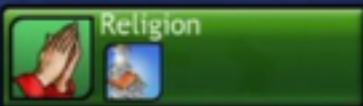
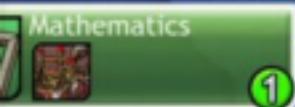
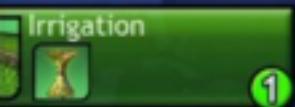
@drvox

Following



Whereas, stitching things together,
building up institutions that work, finding
policy mechanisms that improve lives
without unanticipated side effects,
figuring out how to keep diverse
interests on the same page -- that stuff
is difficult, emotionally & intellectually.

2:32 PM - 1 Feb 2019



L Change Selection

R Look Around

△ Civilopedia

X Exit



**“The way of progress was
neither swift nor easy”**

- Marie Curie





PEOPLE
~~MEN AND~~
~~WOMEN~~
AT WORK



KubeCon



CloudNativeCon



OPEN SOURCE SUMMIT

China 2019

Thank You

@dankohn1

Endnotes

- Slate: [The Other Social Network](#) by Christopher Beam
- [Technoloav Trees](#) by Tuur Ghys
- Quartz: [Simultaneous Invention](#)
- [The Myth of the Sole Invention](#) by Mark Lemley
- New Yorker: [In the Air](#) by Malcolm Gladwell
- Smithsonian.com: [This Lady Scientist Defined the Greenhouse Effect](#) by Leila McNeil
- ACM Queue: [Bora, Omega, and Kubernetes](#)
- [Everything is a Remix](#), Episode 2
- [Shanahai Tower](#)
- David Roberts [tweet](#)