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North America 2018

# IoT Edge Working Group Intro

December 12, 2018



# Panelists



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Google  
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# Emerging use case for Kubernetes

What if we view K8s as a general management platform?



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Originally developed for specific use case of managing containerized apps in a data center

Kubernetes really is a resource management platform

Provides an API that accepts descriptions of desired states to drive controllers/operators



Popular, well architected API

Tremendous and growing collateral toolchain.. metrics, monitoring, more...

# Edge/IoT vs Cloud Data Center

Kubernetes has limitations today..but can we fix this?



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## Similar

Manage many nodes with compute, storage, networking

Want to containerize apps and services

Want standardized APIs, tools

Want security features (encryption, authentication)

## Different

Resource constrained (small node counts, low power CPUs, low resources)

Special network requirements (protocols, topologies)

Challenges of unattended, and disconnected operation

# Kubernetes for the Edge

ideas open for discussion



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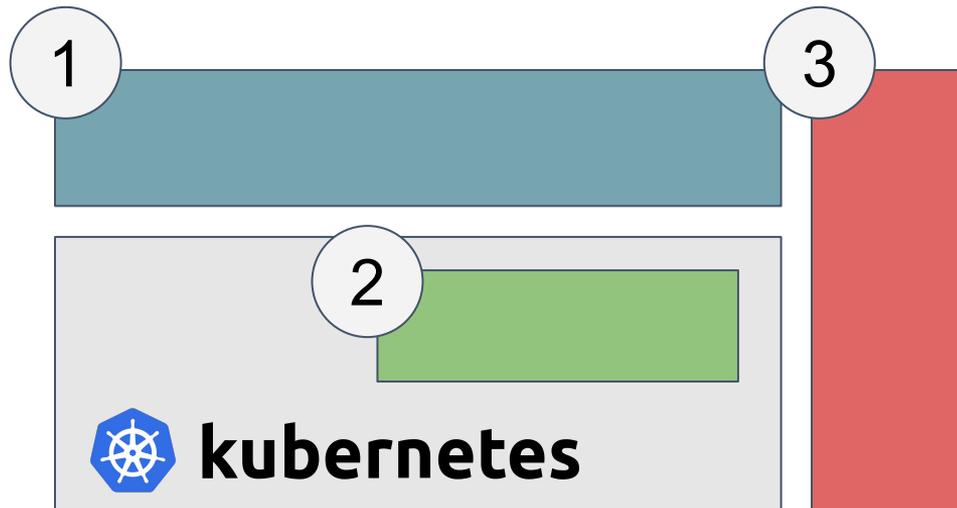


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How does Kubernetes interact with the Edge?

1. Edge workloads that run ON Kubernetes
2. Edge challenges mitigated BY Kubernetes
3. Edge capabilities not easily serviceable by Kubernetes



# Edge Categories

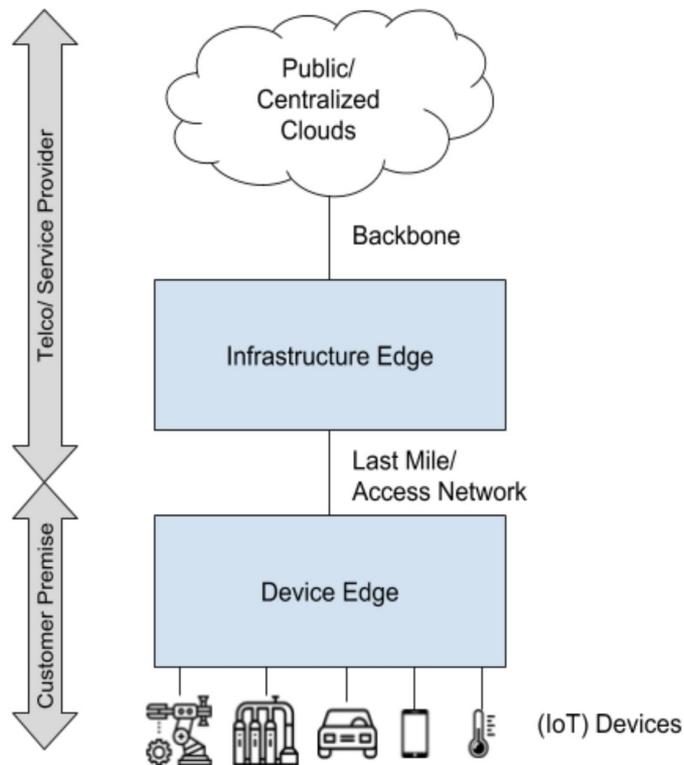


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# Panel Discussion



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What kind of use cases, workloads and applications are common to running K8s on the Edge?

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Why and how do you see Kubernetes  
can be a good fit to these Edge  
scenarios?

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What are the key challenges for  
deploying of Kubernetes to Edge  
today?

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Can you share more details about working group goals, materials and organization?

# Questions?

How to get involved in the Working Group, learn more...



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Regular Work Group Meeting: Fridays at 8:00am Pacific (bi-weekly)

- [Meeting notes and agenda](#)

Link to join the group

- <https://groups.google.com/forum/#!forum/kubernetes-wg-iot-edge>

Link to join Slack

- <https://kubernetes.slack.com/messages/wg-iot-edge>

White Paper

- <http://bit.ly/iot-edge-whitepaper>
  - Workloads being considered
  - Technical challenges
  - Available architectural solutions

**Deep Dive session: Tomorrow 2:35 PM 615-617 - <https://sched.co/HSCE>**