



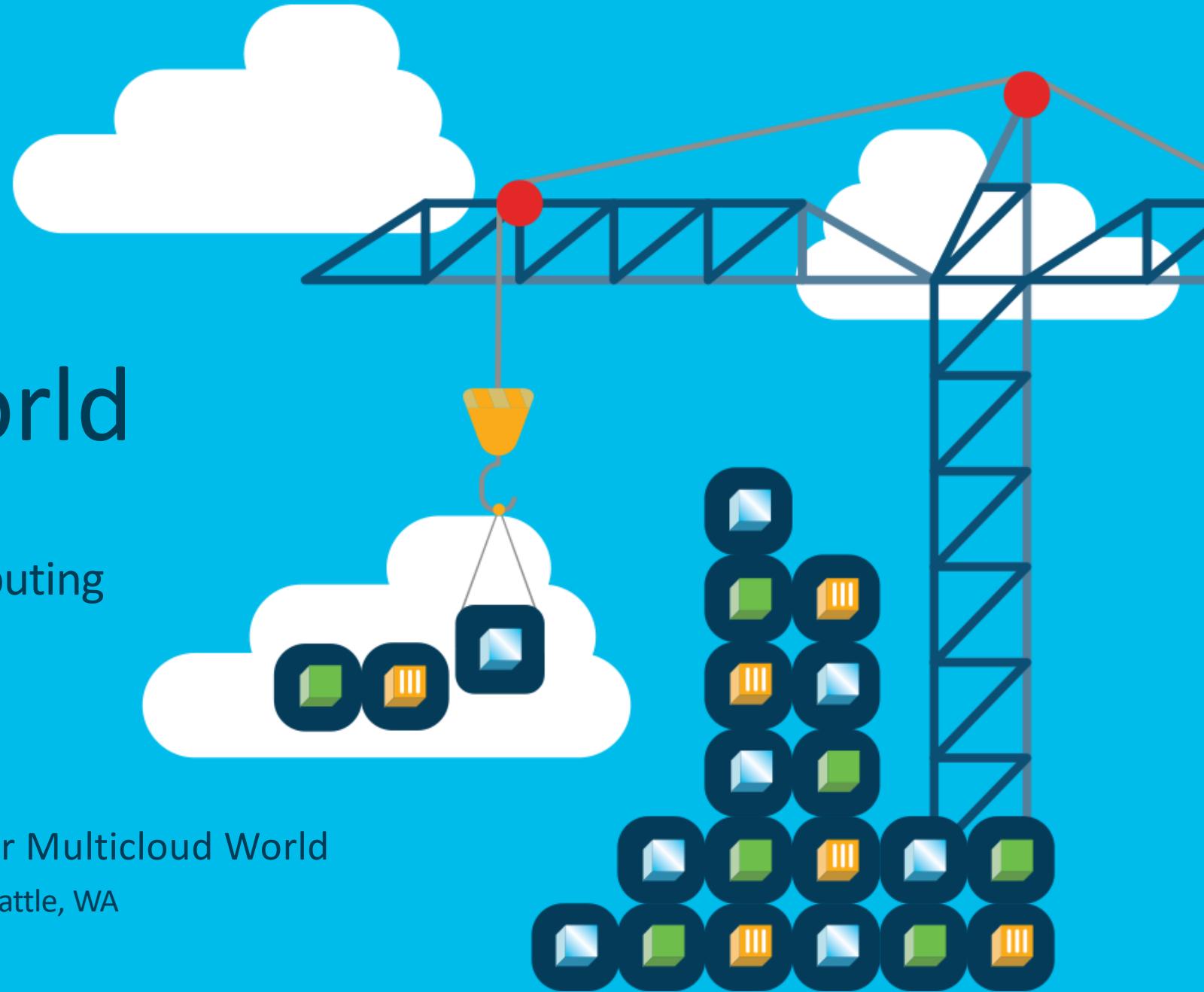
# The Emerging Multicloud World

Lew Tucker, VP/CTO Cloud Computing  
Cisco Systems, Inc.

@lewrtucker

**Build Together:** Kubernetes for Your Multicloud World

Cisco at KubeCon 2018 • December 11-13 • Seattle, WA

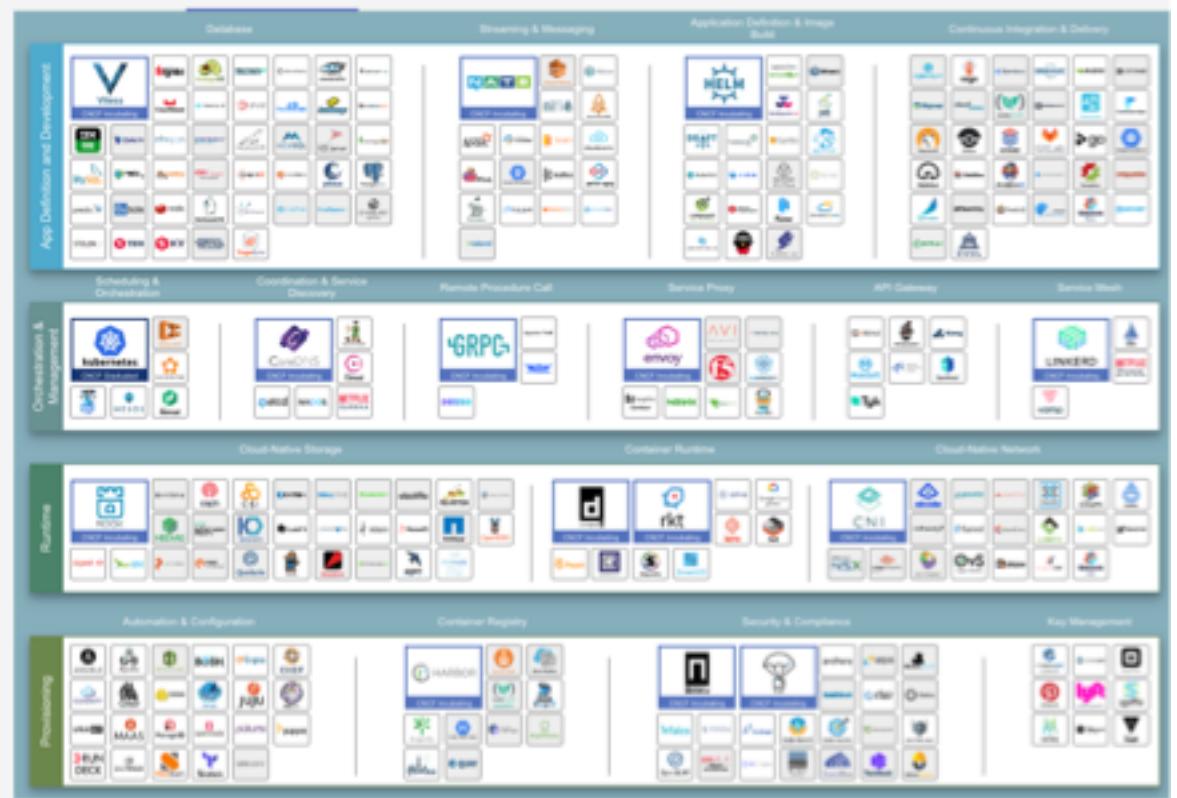


# Abstractions, platforms, and the Internet

- The Internet today is clearly the most important platform driving innovation
  - Where computing happens and businesses are disrupted
  - Cloud computing has revolutionized IT infrastructure
- APIs abstract away complexity – allowing developers to focus on features
  - Have layers, stacks, platforms, and services
  - Software and developers rule
- Impact: new apps and services at an ever faster rate

## CNCF Cloud Native Interactive Landscape

We've entered the  
Golden Age of open  
source software



Software collaboration is happening at a global scale

# GitHub: 95 Million Repositories: 31 Million Developers



# GitHub

CiscoCloud / mantl

Code Issues 118 Pull requests 41 Wiki Pulse Graphs

Watch 225 Star 2,188 Fork 300

Mantl is a modern platform for rapidly deploying globally distributed services <http://mantl.io>

2,698 commits 54 branches 26 releases 64 contributors

Branch: master Now pull request New file Find file HTTPS https://github.com/CiscoC Download ZIP

ryane Merge pull request #1251 from CiscoCloud/feature/collectd-addon ... Latest commit 7b076b9 5 days ago

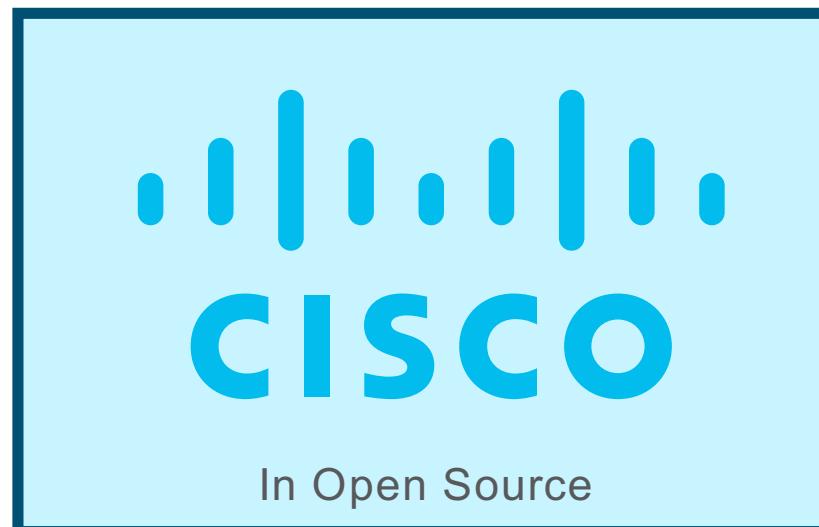
.github pull request template: remove rebase requirement a month ago

addons addons: move collectd to an addon 8 days ago

docs Kubernetes by default 10 days ago

examples Examples/spark 10 days ago

group\_vars/all Kubernetes by default 10 days ago



# Configuration and Cabling Becomes Code

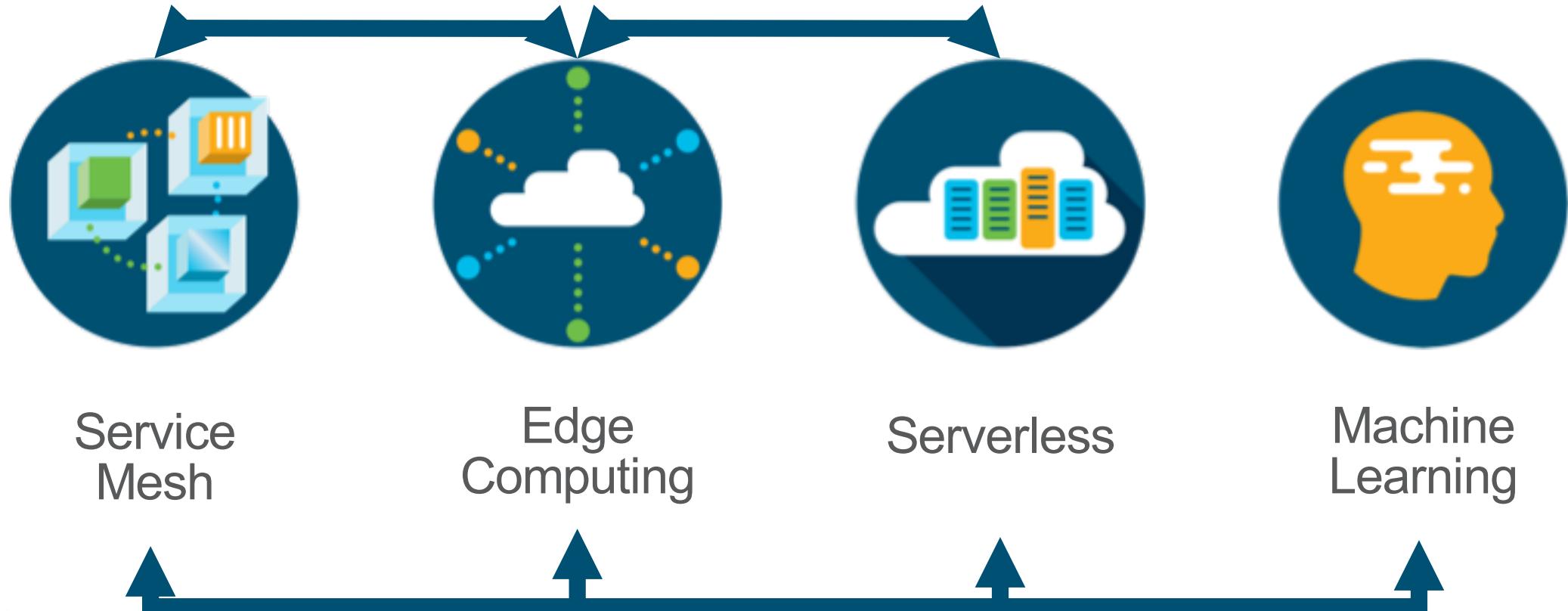
Automation and declarative models replace manual procedures

```
submodule execd-routes {
    import inet-types { prefix inet; }
    include execd-types;

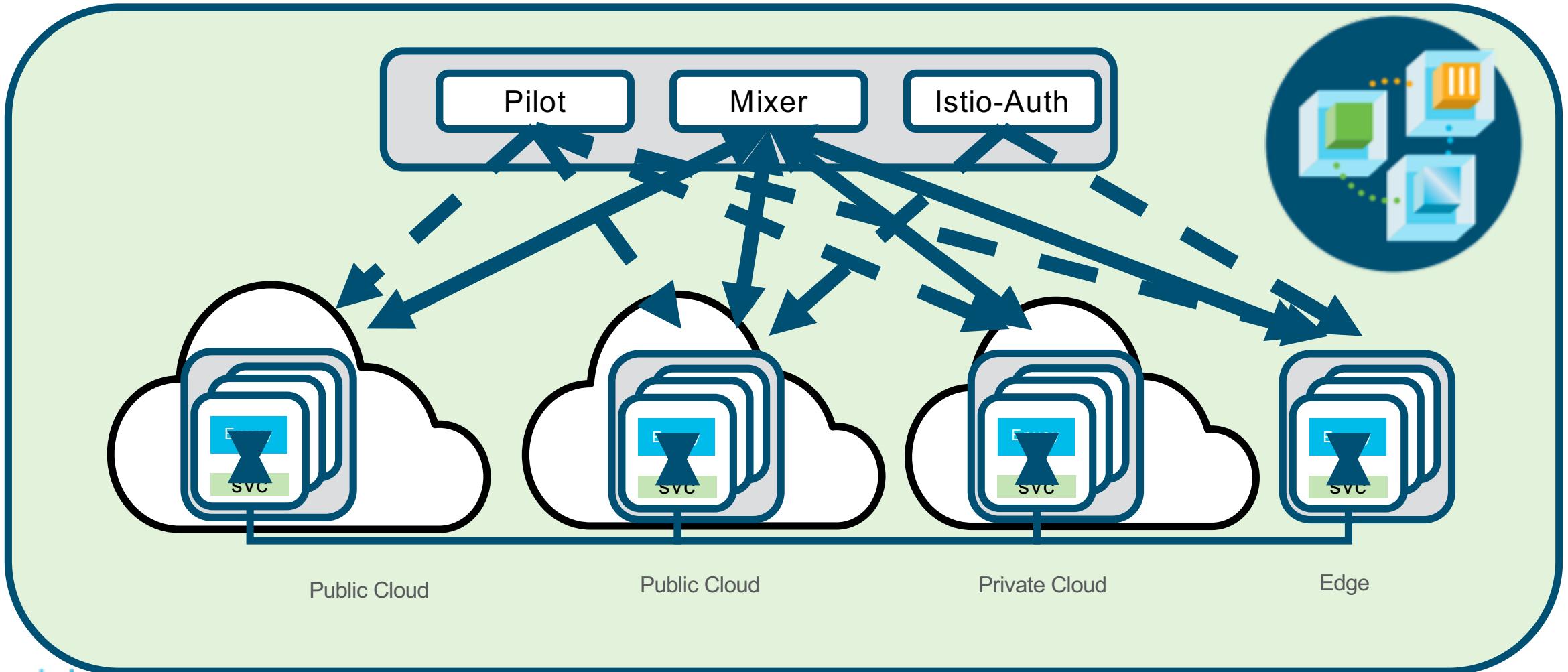
    description
        "provides for configuring static routes
         (IPv4 and IPv6).

    grouping routes {
        container inet {
            list route {
                key "name prefix-length";
                leaf name {
                    type inet:ipv4-address;
                }
                leaf prefix-length {
                    type prefixLengthIPv4;
                }
                leaf enabled {
                    type boolean;
                    default true;
                }
            }
        }
    }
}
```

# New application development and delivery models

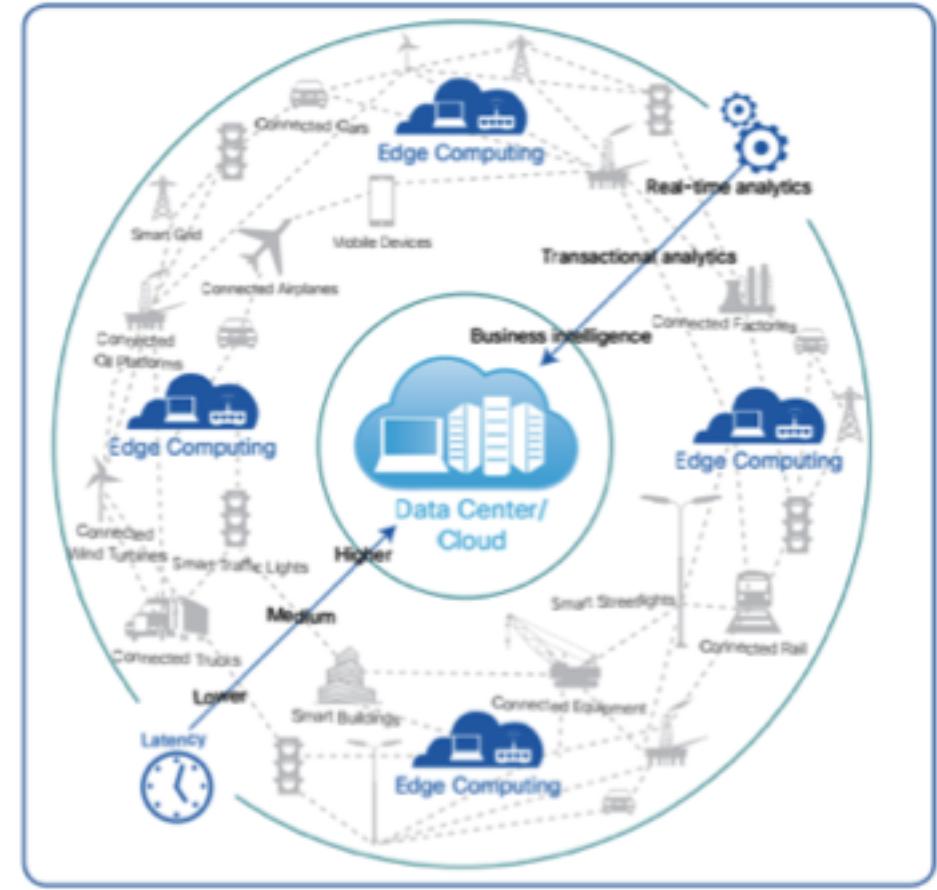


# Service mesh stitches together services with security and telemetry



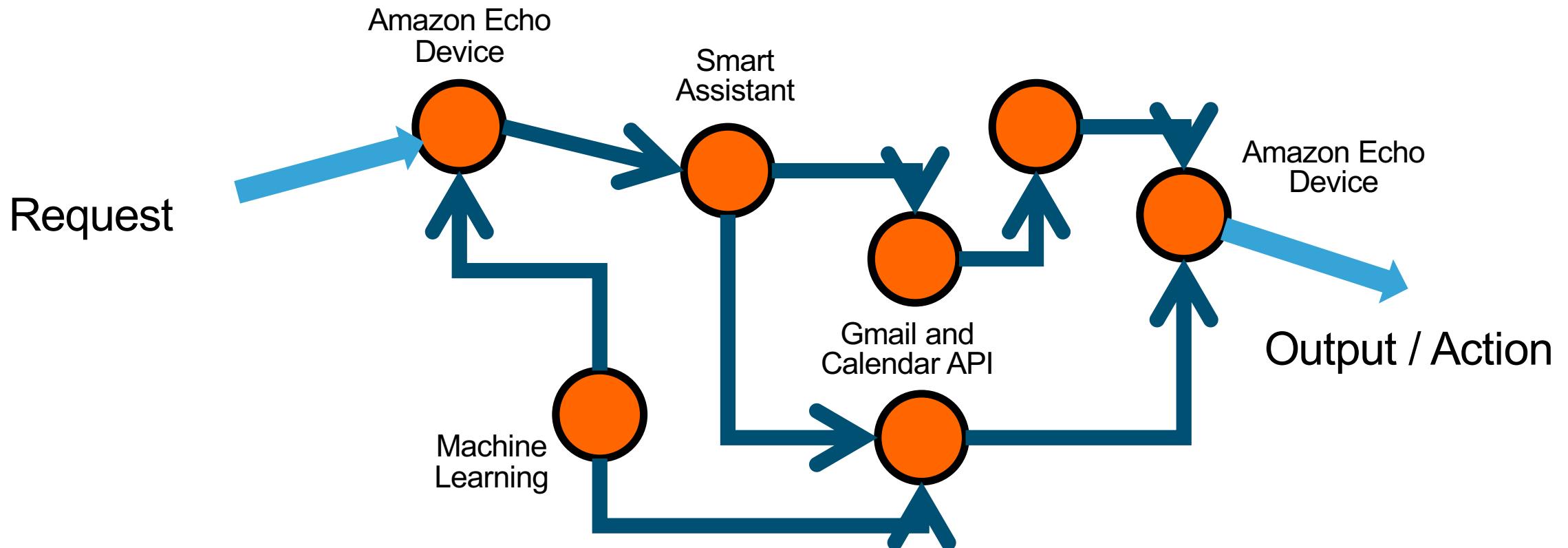
# Computing is moving to the edge

- Latency-sensitive workloads
- 1,000's of resource-constrained devices
- Unreliable connectivity
- Remote management / provisioning
- Real-time analytics and security



Source: Cisco, 2014

“Serverless,” function-as-a-service paradigms connect services across multiple clouds – lambda, Knative...



# The long AI winter is finally over



# Learn AI online – Make ML/AI accessible to all



<http://playground.tensorflow.org/>

# Changing the way we think about development

Bring application development closer to **assembly** of proven, highly-scalable services running anywhere from the edge to the cloud.

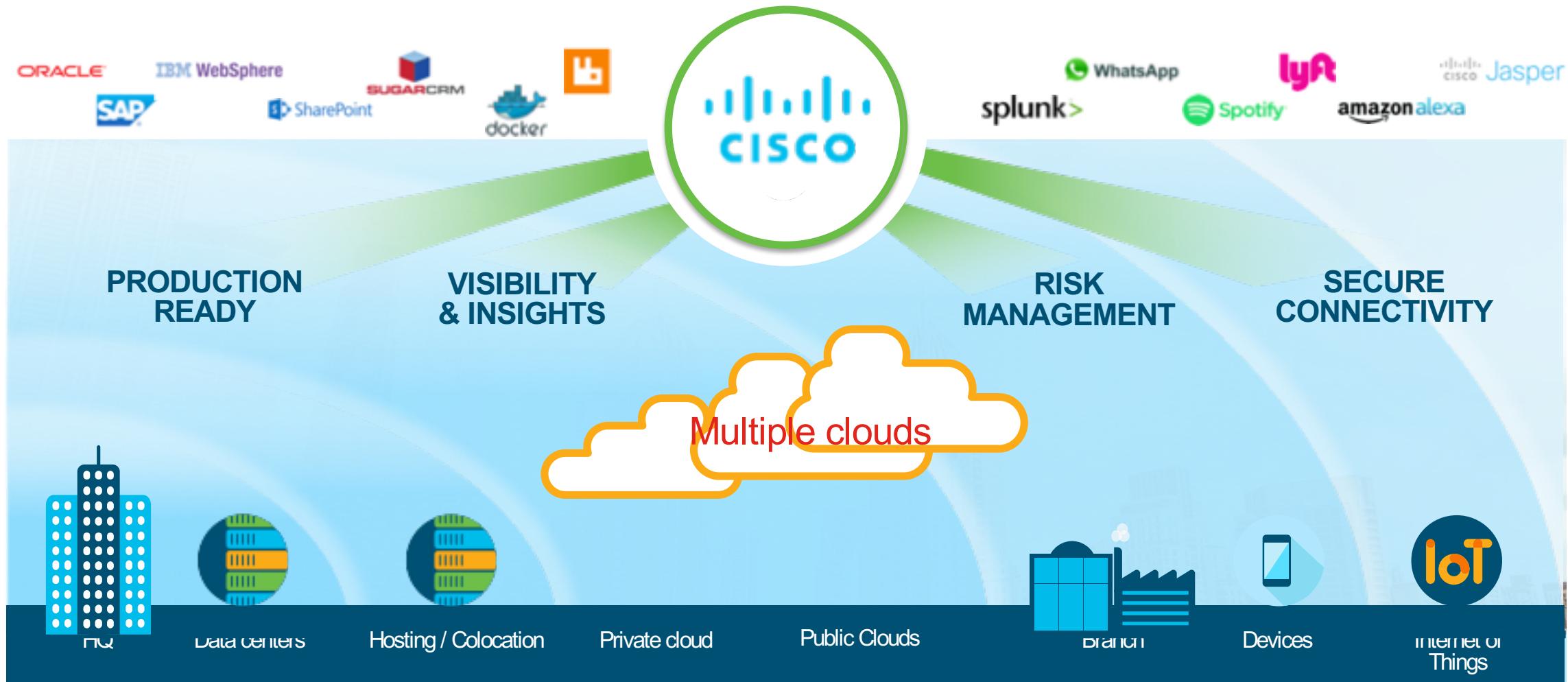


Code



Assembly of services

# Come see a multicloud world made possible



Thank you!

