Agenda

- ➡️▸ Introduction
  - ▸ Jumping off the Edge
  - ▸ Authentication and Authorization
  - ▸ Federation
 - ▸ Telecommunication Implications and OpenStack

Open Discussions

Cloud Perspectives – Steve Woodward

- ## Standards, Governance and Compliance Internationally

  - **ISO/ IEC – Agile DevOps, Cloud, Edge, Data Handling & Jurisdictions, Systems, Quality Assurance, Billing, Partners, Brokers and Metrics**

  - **IEEE and NIST – Cloud Federations, Interoperability**, Non-Functional Sizing Metrics

  - Standards Council of Canada GDPR and AI Ethics activities

  - Cloud Security Alliance – Canadian Chapter Director

  - OMG CSCC – SLAs and Metrics

  - Telco communities: TM Forum, ITU-T, Quest Forum, OpenStack, PTC

  - Collaboration between other cloud SDOs including itSMF, AFCEA, ICEAA, IFPUG, ISACA, OWASP, IIBA, Agile and Quality Groups

  - Helping providers, customers and carriers in the private and public sector

Cloud/ Fog/ Edge – Plus Intermediary Providers

- Policies and controls also vary across jurisdictions
- Plus Connectivity!

Can build upon, not mutually exclusive

Cloud

Authentication

Authorization
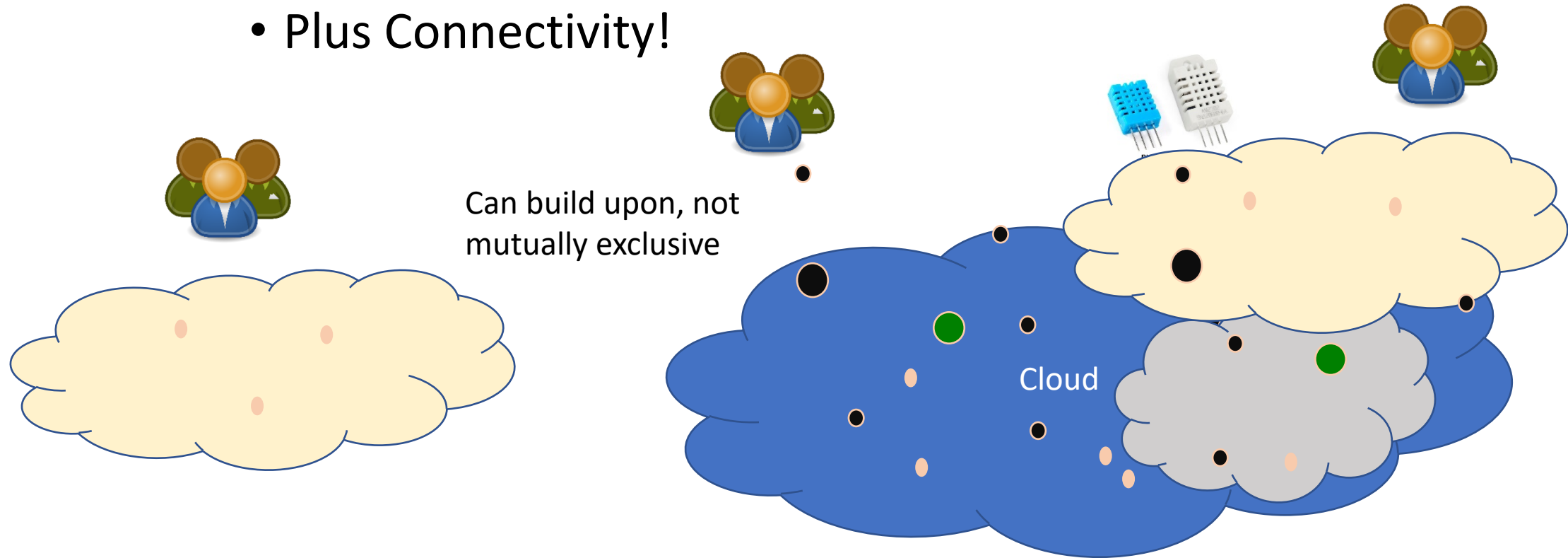
https://www.jpl.nasa.gov/blog/?search=&blog_columns=&blog_authors=John+Wright

search   All blogs   John Wrig
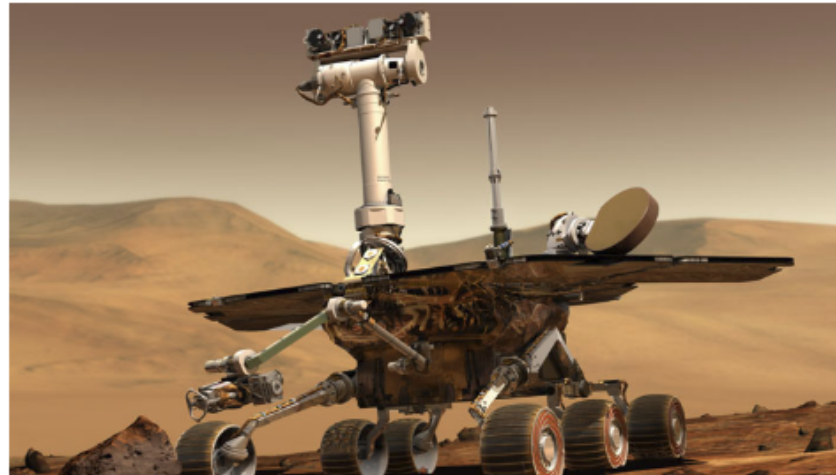
Blogs by John Wright

John Wright was one of the rover drivers for the Spirit rover on Mars.

JPL | DECEMBER 11, 2009

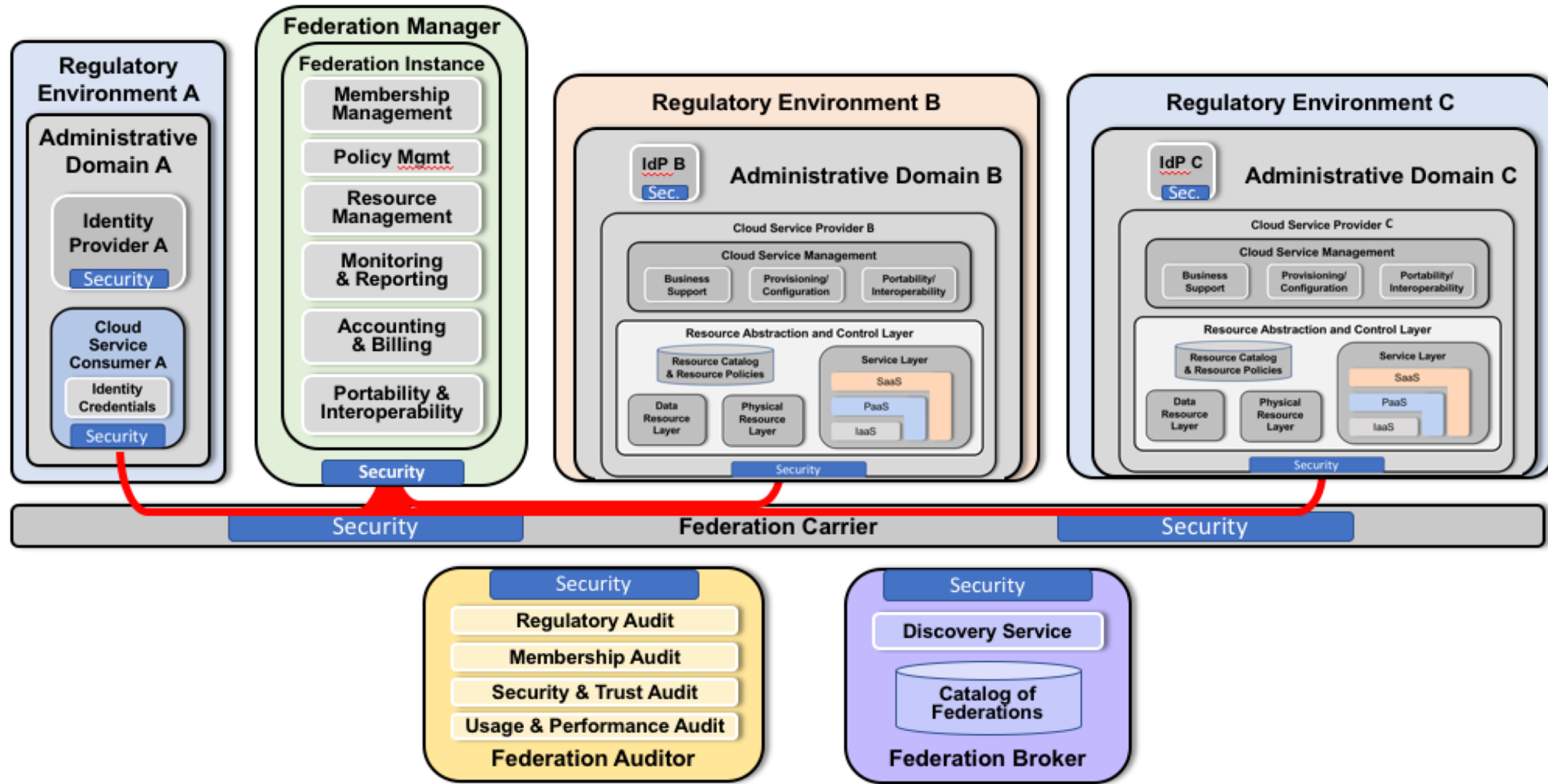## Over the Hills and through the Sand: Six Years of Driving on Mars
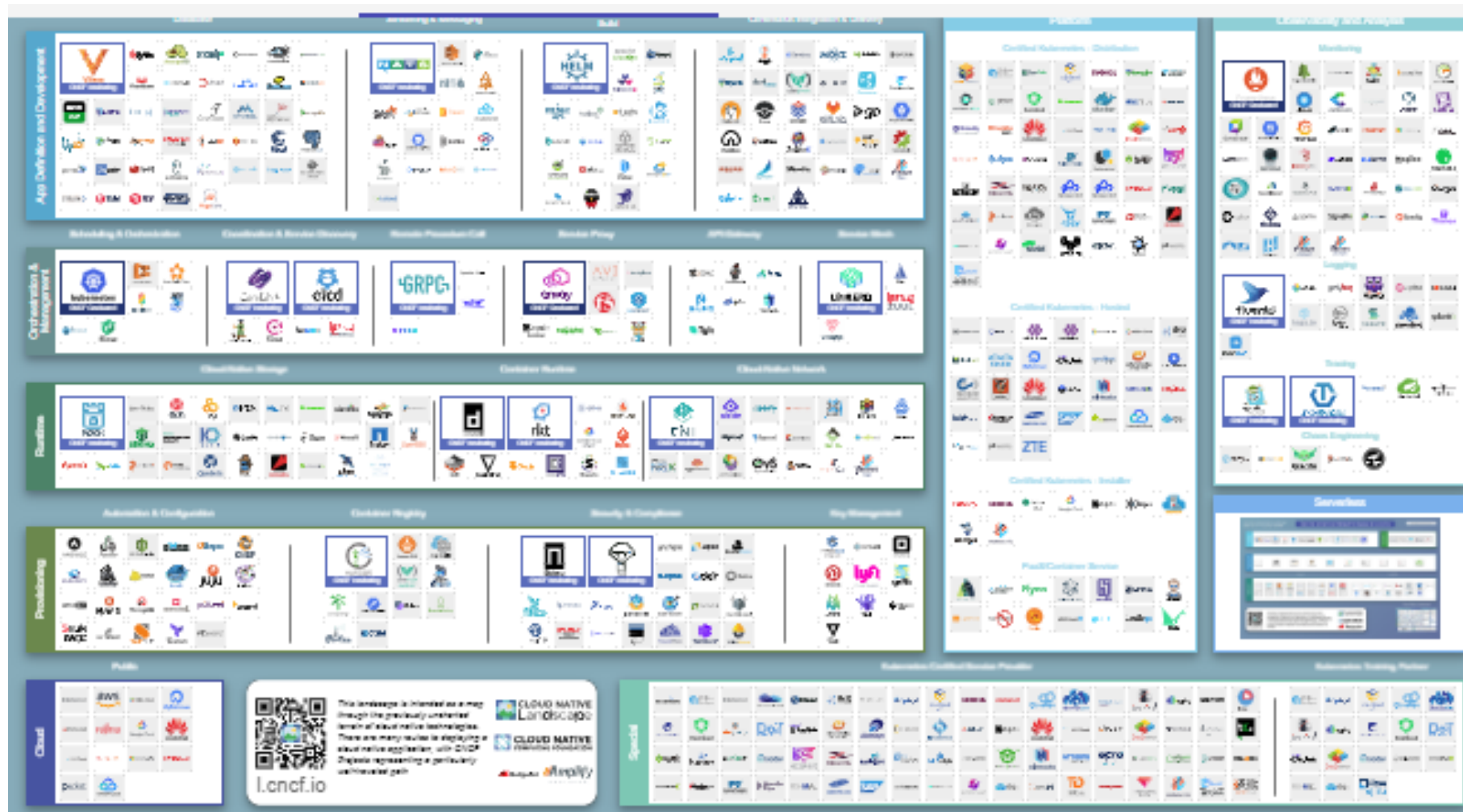
By John Wright

Artist concept of Mars Opportunity Rover

I almost didn't get to drive the rovers.

User to Cloud Federation – IEEE & NIST P2302
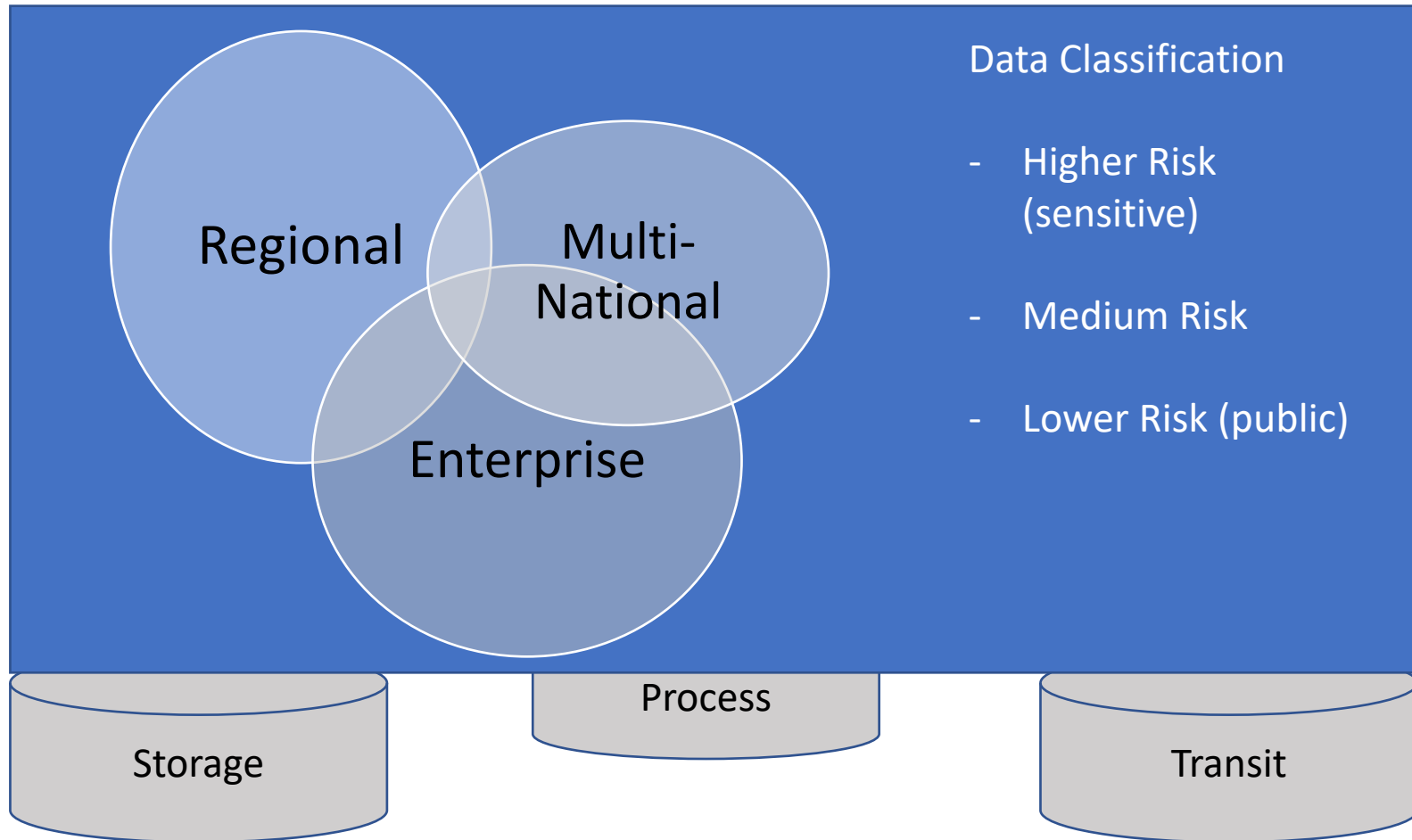
Cloud Native Landscape (l.cncf.io)

OpenStack

- Designed for Edge & Multi-Jurisdictions?
- Designed for Cloud Federation and Confederation?
- OpenStack FEMDC
  - https://www.openstack.org/videos/vancouver-2018/can-we-operate-and-use-an-edge-computing-infrastructure-with-openstack

- Can it scale to perform adequately in high volume, distributed, complex, secured federations?
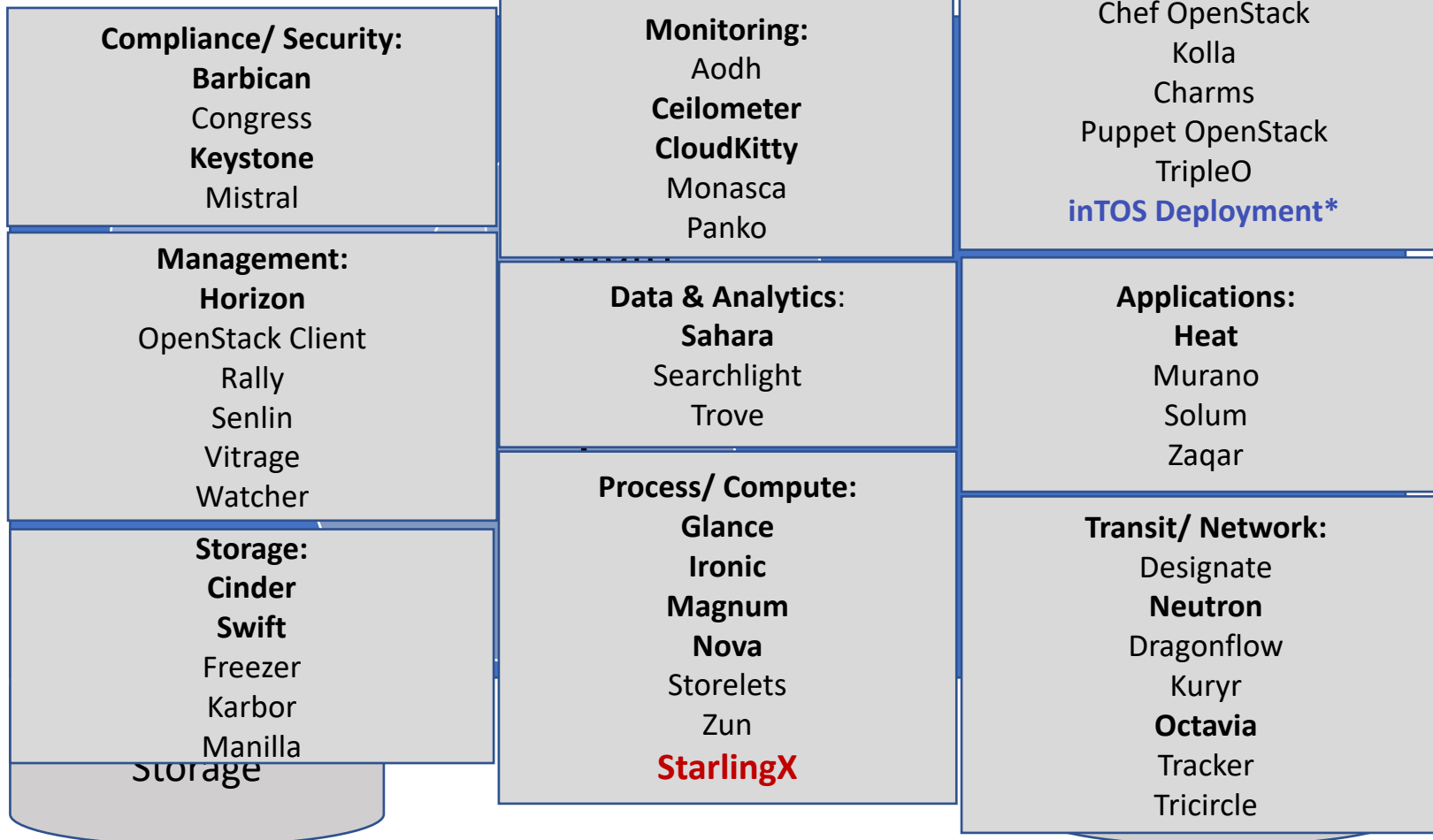
- StarlingX

Geo-Jurisdictions & OpenStack Elements
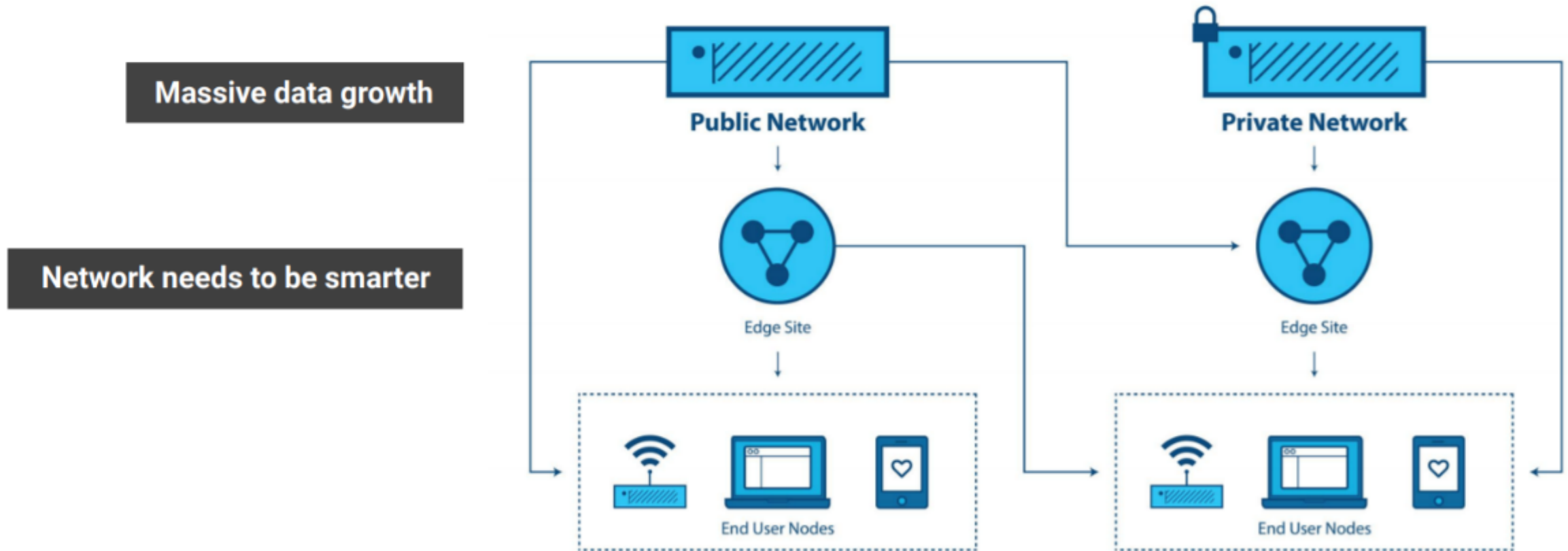
Geo-Jurisdictions & OpenStack Elements

Compliance/ Security:
Barbican
Congress
Keystone
Mistral

Management:
Horizon
OpenStack Client
Rally
Senlin
Vitrage
Watcher

Storage:
Cinder
Swift
Freezer
Karbor
Manilla

Storage

Monitoring:
Aodh
Ceilometer
CloudKitty
Monasca
Panko

Data & Analytics:
Sahara
Searchlight
Trove

Process/ Compute:
Glance
Ironic
Magnum
Nova
Storelets
Zun
StarlingX

Deployment:
Ansible OpenStack
Chef OpenStack
Kolla
Charms
Puppet OpenStack
TripleO
inTOS Deployment*

Applications:
Heat
Murano
Solum
Zaqar

Transit/ Network:
Designate
Neutron
Dragonflow
Kuryr
Octavia
Tracker
Tricircle

ComputingStack

Thanks for sharing elements of their edge initiative

Plus Other Open Source and Proprietary Products

StarlingX impacting and improving across many elements (deployment, compliance/ security, transit/ network)
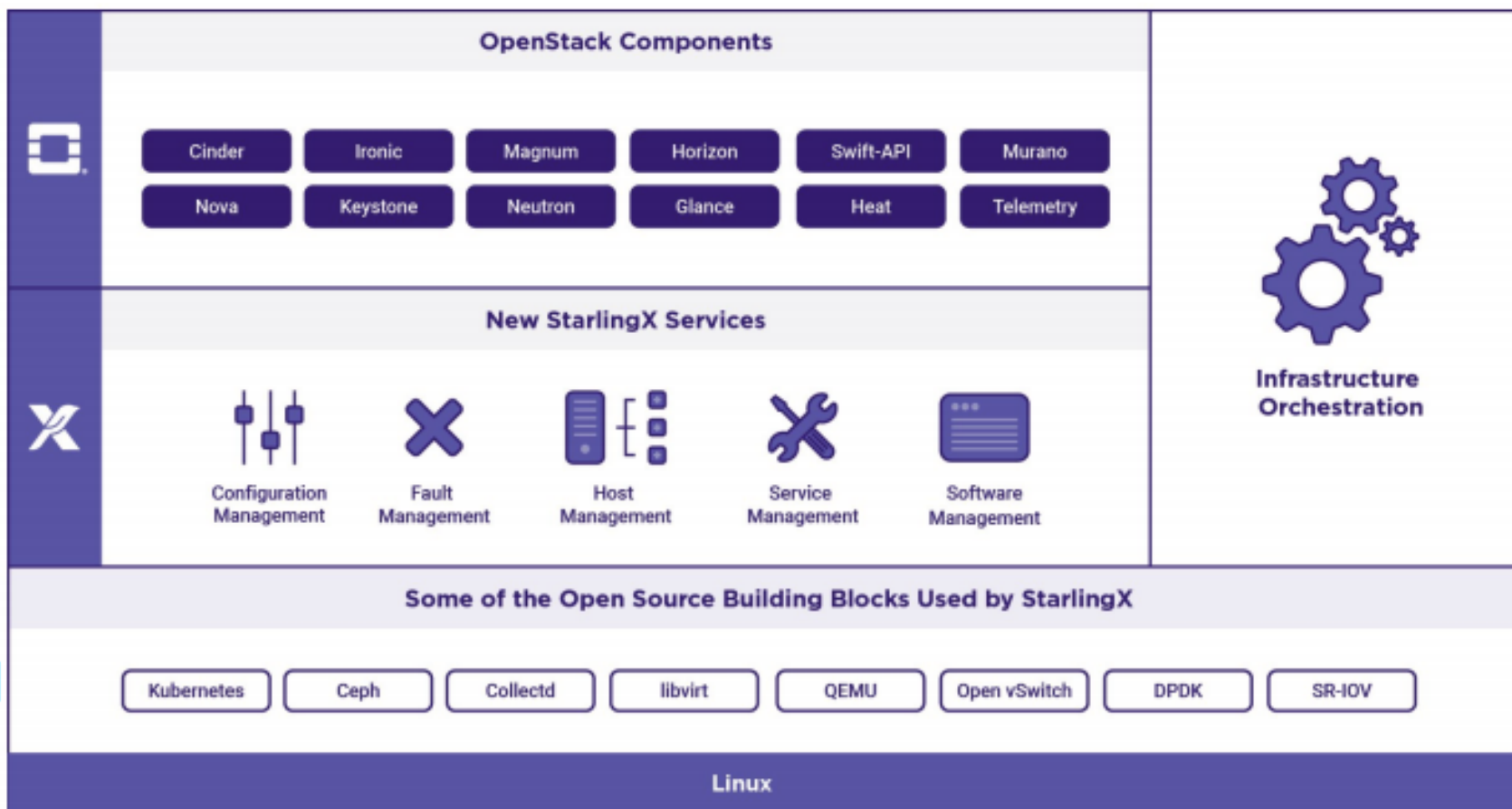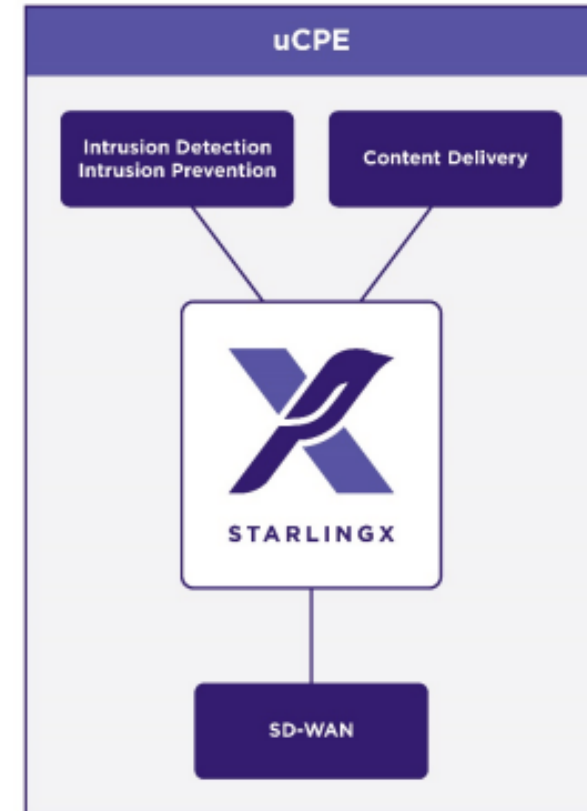
Edge Challenge and StarlingX

Massive data growth

Network needs to be smarter

Public Network

Private Network

Edge Site

Edge Site

End User Nodes

End User Nodes

https://www.starlingx.io/collateral/StarlingX_OnePager_Web-102318.pdf
https://www.starlingx.io/collateral/StarlingX-Onboarding-Deck-Web.pdf

OpenStack StarlingX – Edge Platform

StarlingX Edge Use Cases

Transportation
- Rail/Locomotive Mass transit
- Autonomous Shipping
- STARLINGX
- Smart City Autonomous Vehicle

Industrial Automation
- Robotics
- Digital Twin
- STARLINGX
- vPLC
- HMI

uCPE
- Intrusion Detection Intrusion Prevention
- Content Delivery
- STARLINGX
- SD-WAN
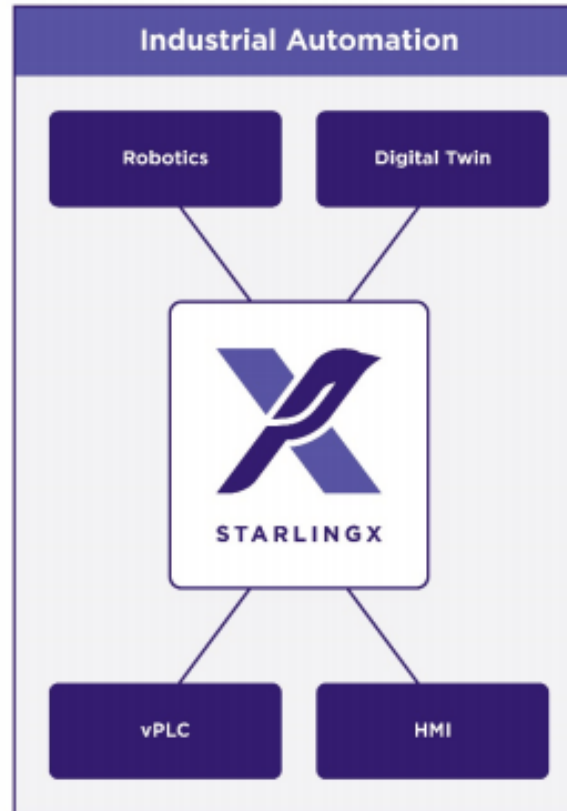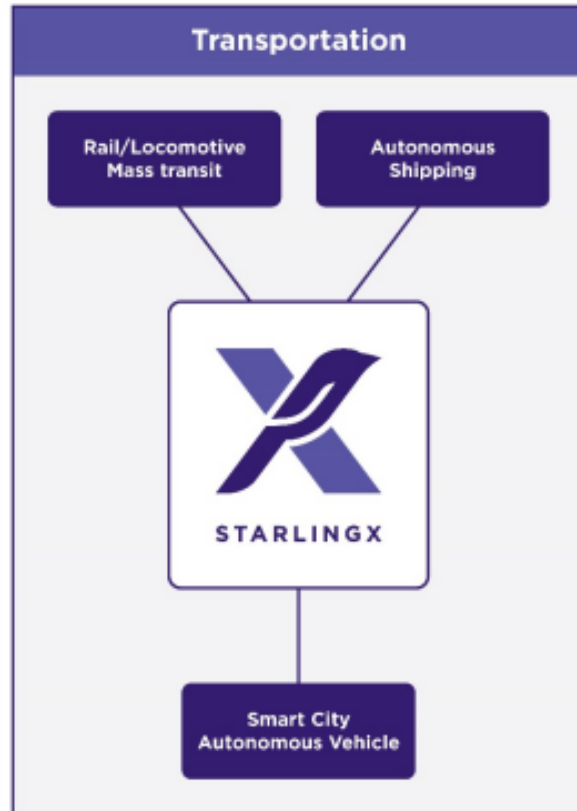
uCPE == universal Customer Premises Equipment

Sustained Incremental Progress

PACIFIC TELECOMMUNICATIONS COUNCIL

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PTC'19 | FROM PIPES TO PLATFORMS
20–23 January 2019 | Honolulu, Hawaii

Mahalo!

Innovation and Roadmaps to Succeed

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