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Regional  
Community

# OCP TAIWAN DAY

Road to 5G · AI · Edge Computing





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## OCP Adoption in Datacenter, Legacy Facility, and Telco

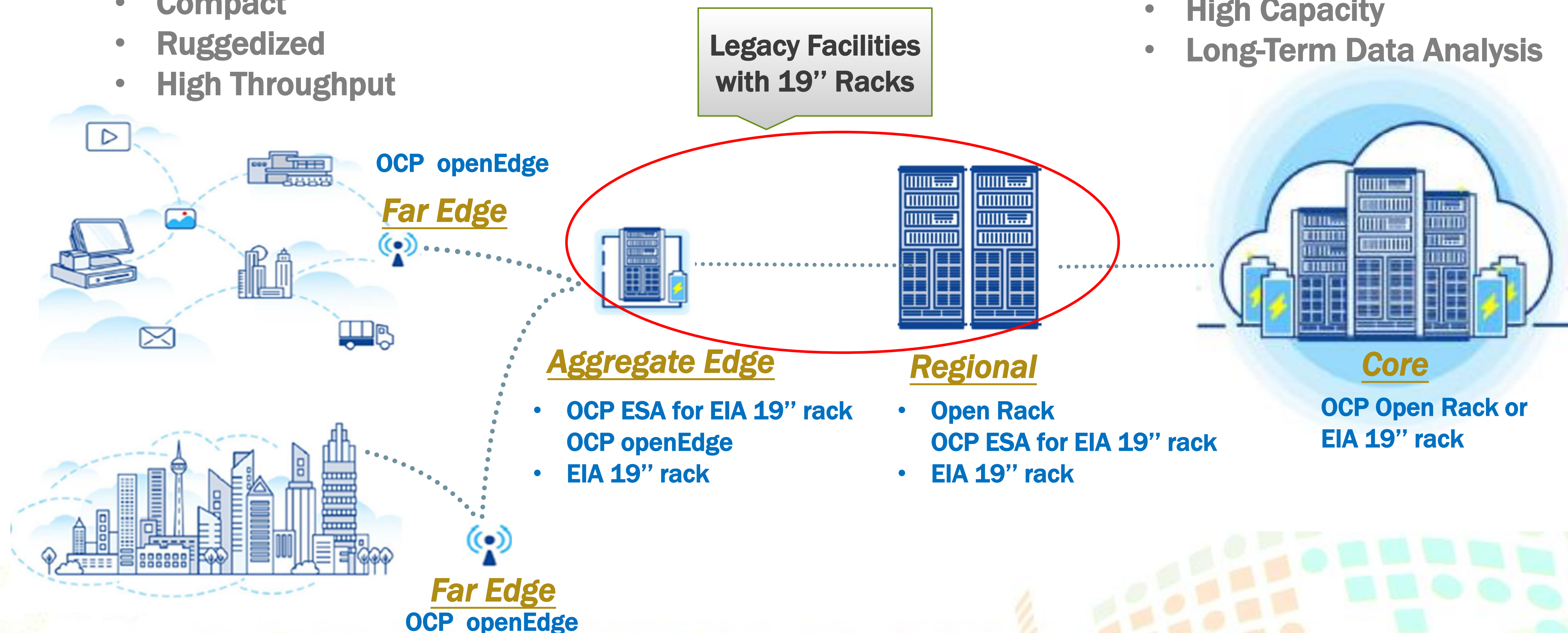
Hancock Chang , OCP Technical and System Lead



# OCP Solution – From Edge to Cloud

- Low Latency
- Compact
- Ruggedized
- High Throughput

- High Density
- High Capacity
- Long-Term Data Analysis



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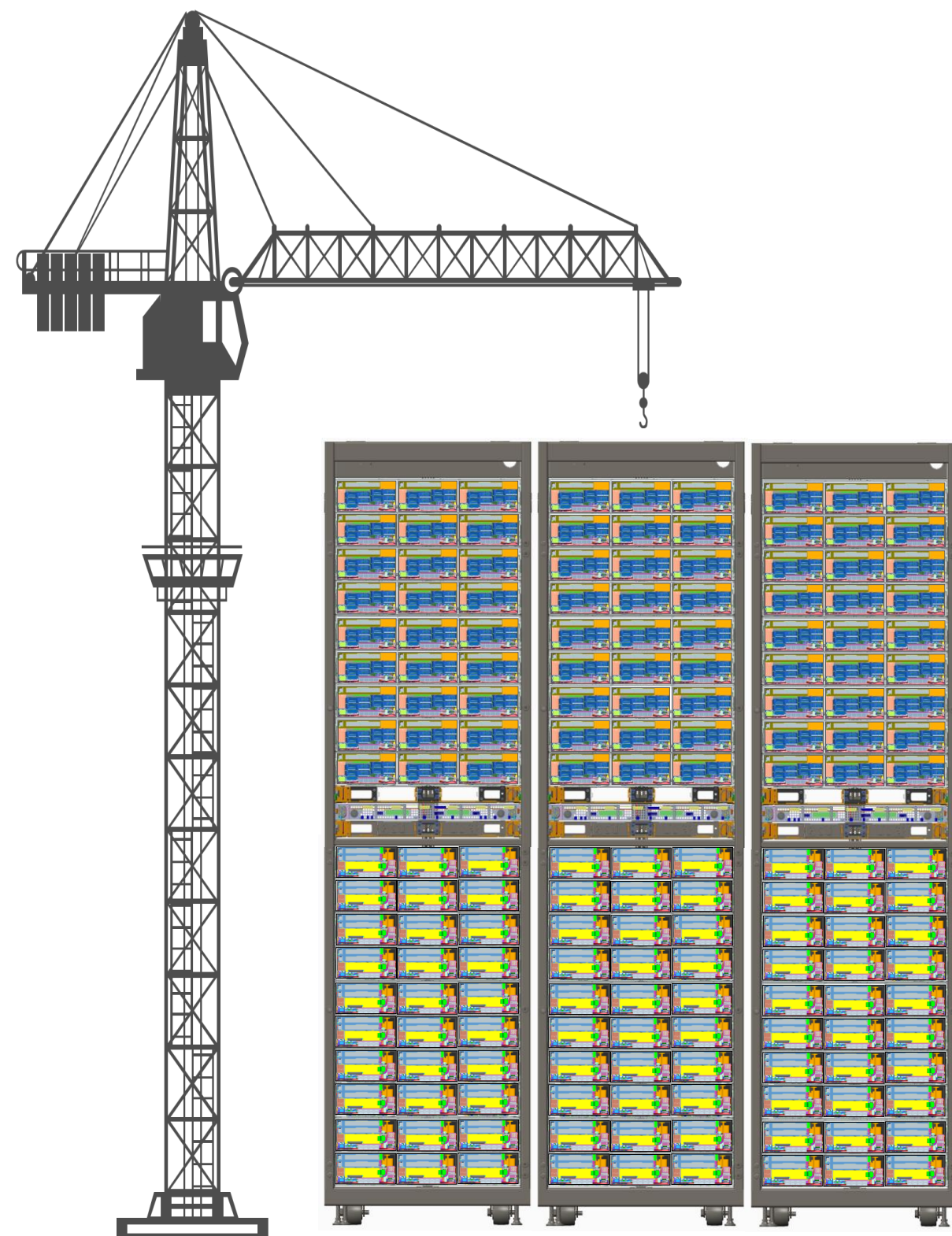
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# Consideration of Building Up a Green DC



Power Efficiency

Openness  
&  
Standardization

Quick Deployment

Less Expenditure



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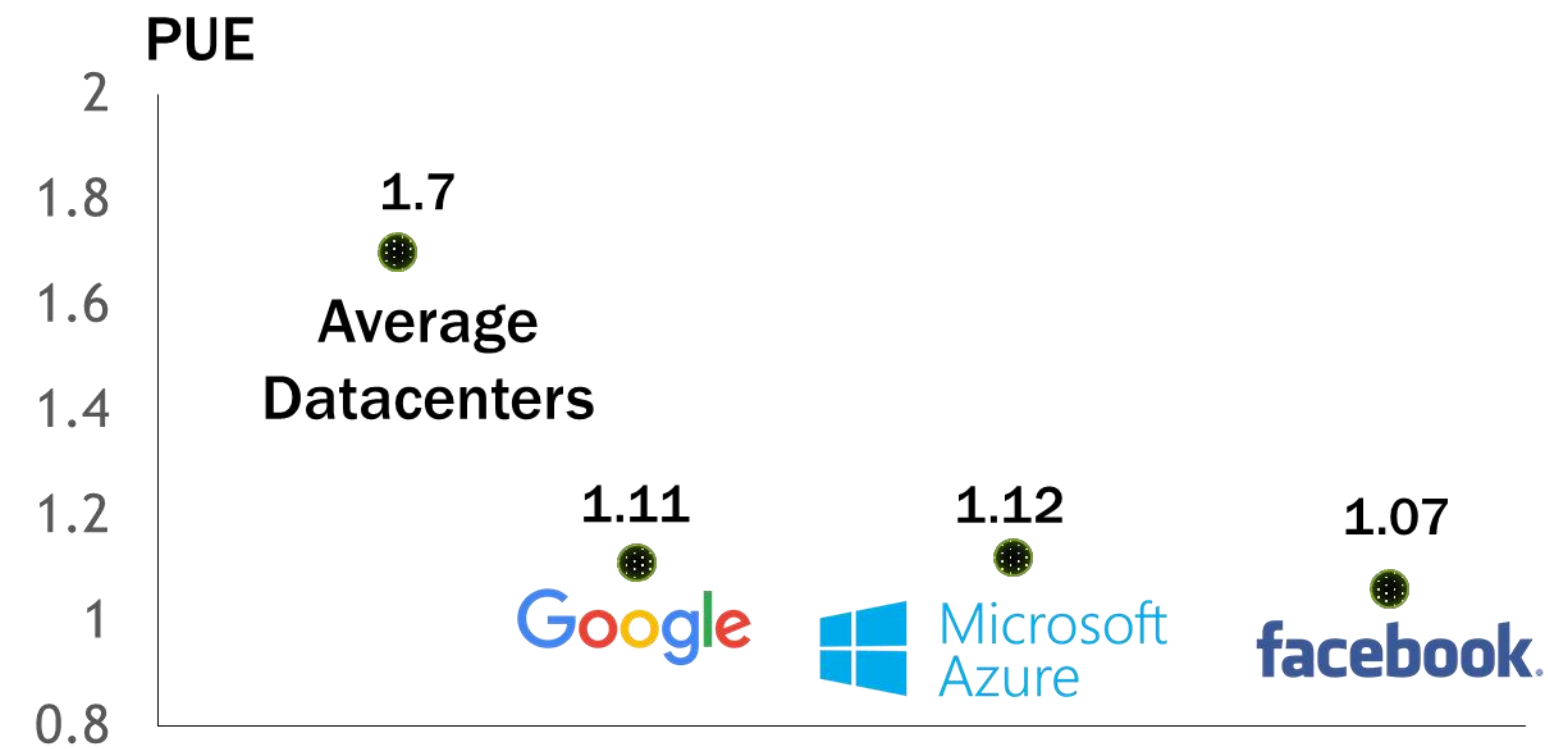
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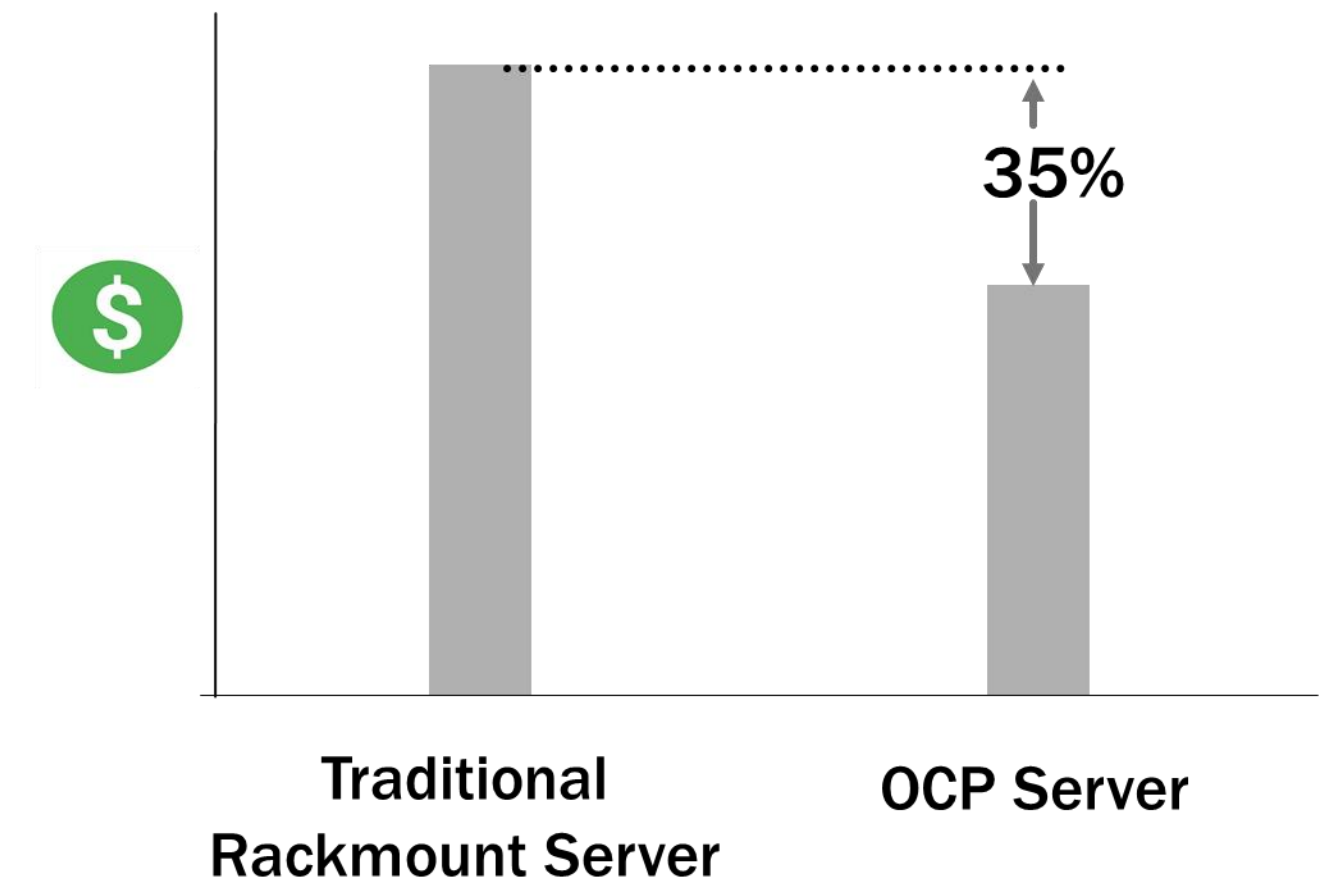
# Why OCP Solution For DC



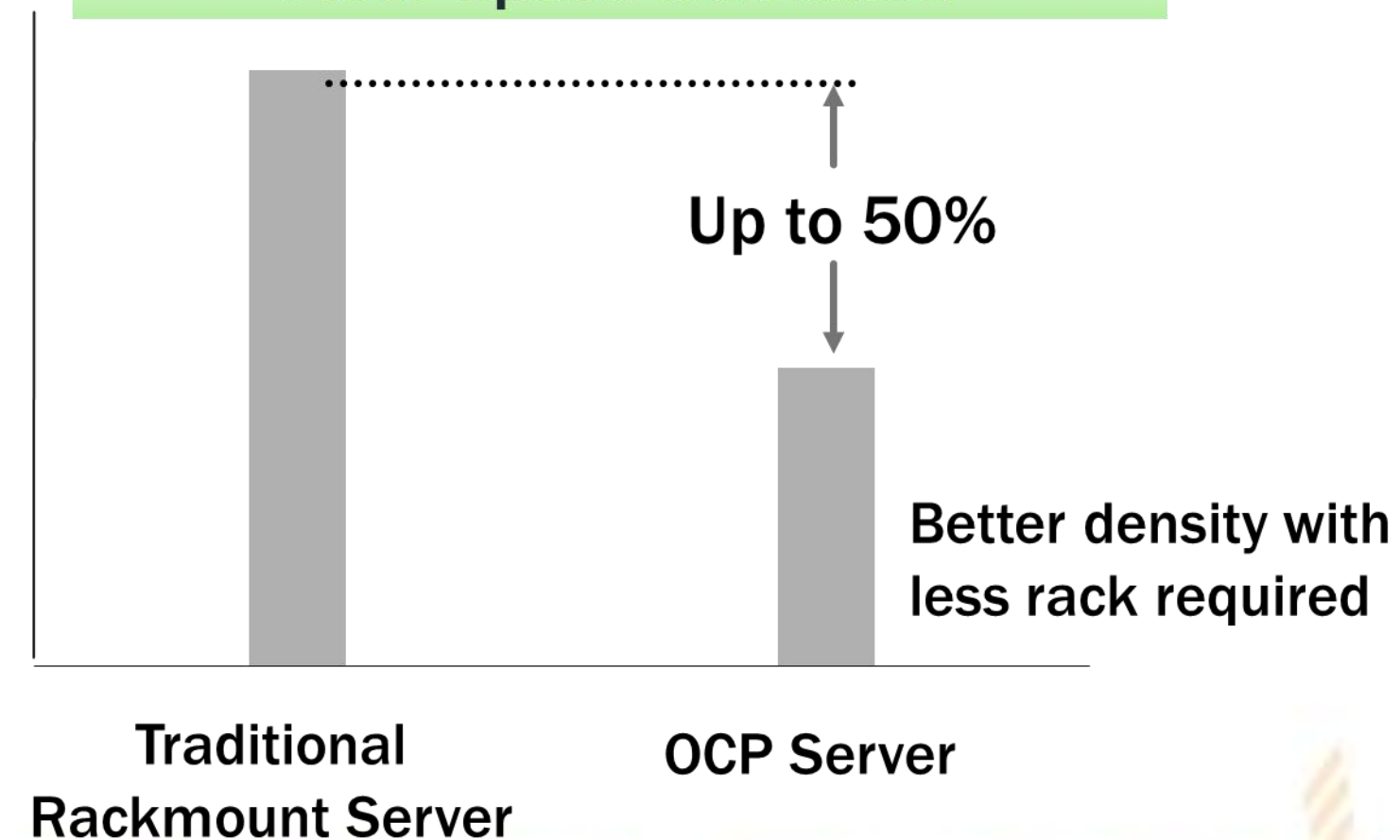
## Datacenter Power Efficiency



## OPEX Reduction with Low PUE



## Floor Space Utilization



Tool-Less design to speed up Datacenter Deployment

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# How to Migrate Legacy Facility to OCP



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# OCP ESA – Enclosure Sub Assembly

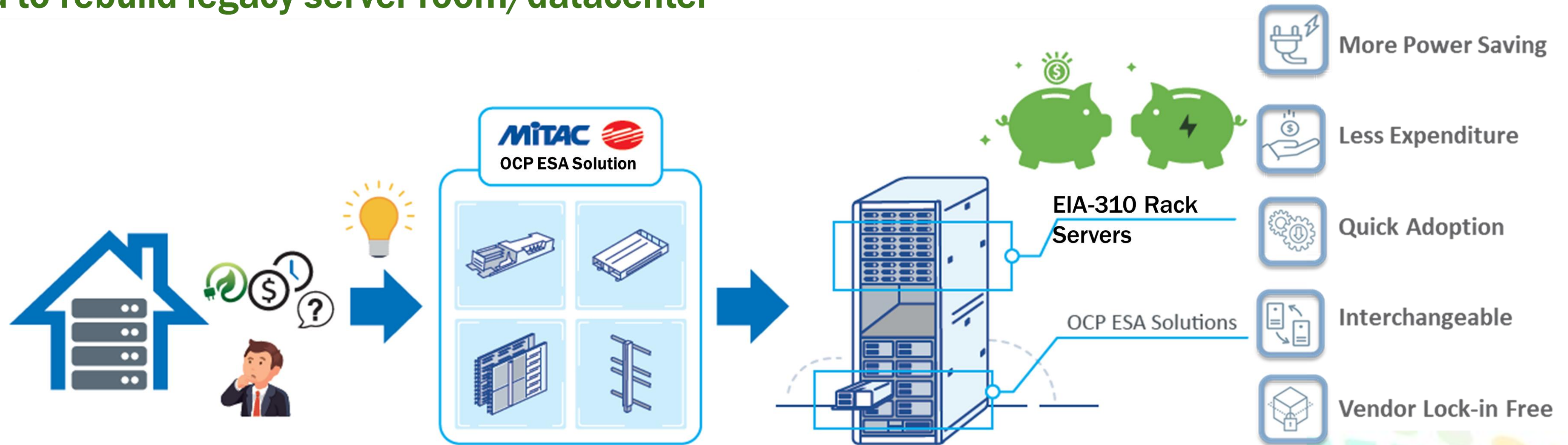


RACK & POWER



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OCP-ESA is in order to have EIA rack can be used with OCP solution, no need to rebuild legacy server room/datacenter



★ OCP ESA Spec has been contributed in 2018 July by MiTAC Computing Technology

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**MiTAC**

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# OCP ESA Kit Specification



RACK & POWER

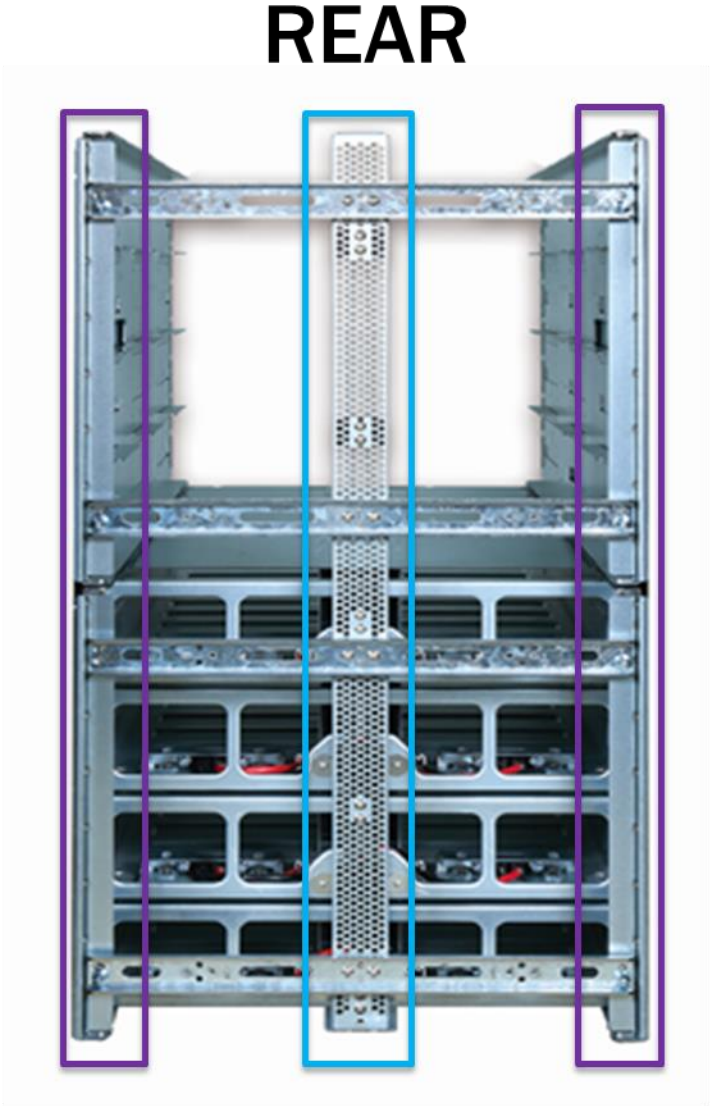


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19" SHELF

ESA RAIL KIT

BUSBAR



	Specifications
19" Shelf	D30" x W17" x H3.9" (765 x 431 x 98mm)
ESA Rail Kit	D33" x W19" x H15.6" (837 x 483 x397mm)
Capacity	8 sleds per ESA kit (8 OU)
Weight	~ 30kg



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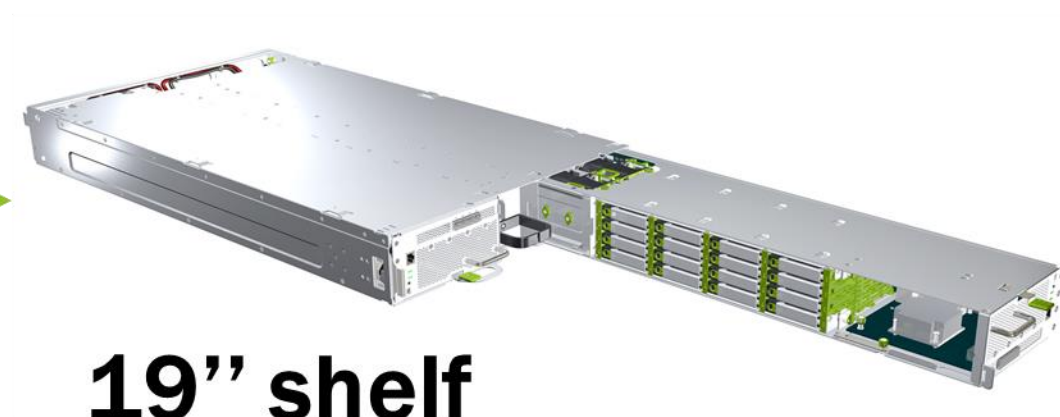


# Key Features of New OCP JBOF

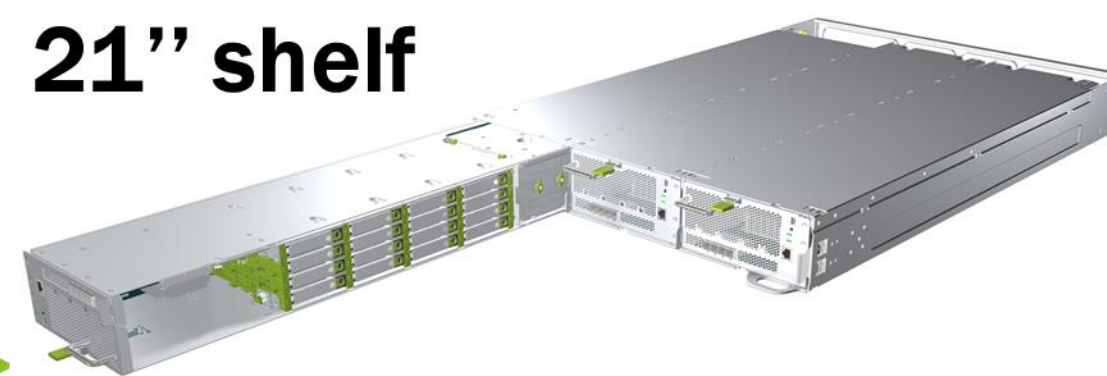


- Concept contributed by MiTAC Computing Technology
- Sled form factor for JBOF
- Can be deployed to 19" rack (EIA-310) and 21" rack (Open Rack v2)
- More Density (up to 48 NVMe SSD with 3 sleds, U.2)
- PCIe Gen 4 (will deliver PCIe Gen 3 version first in 2019)

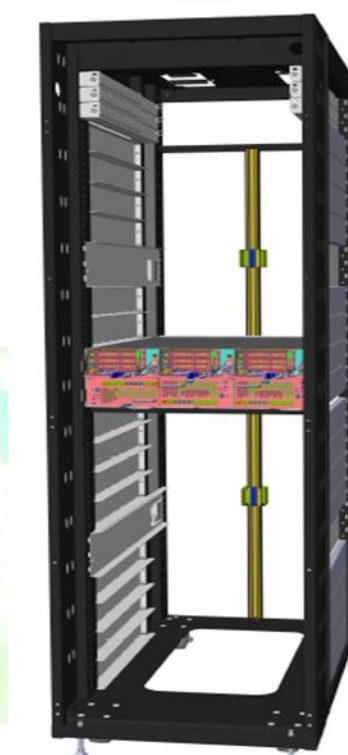
**JBOF Sled  
(Crystal Lake)**



**EIA Rack**



**Open Rack v2**



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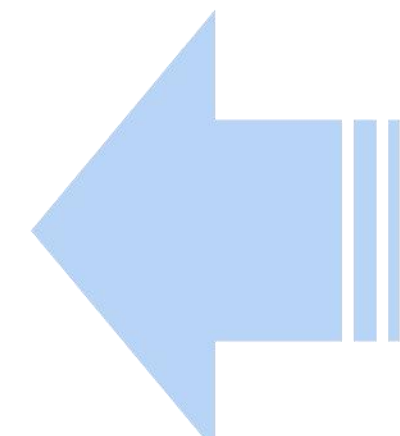
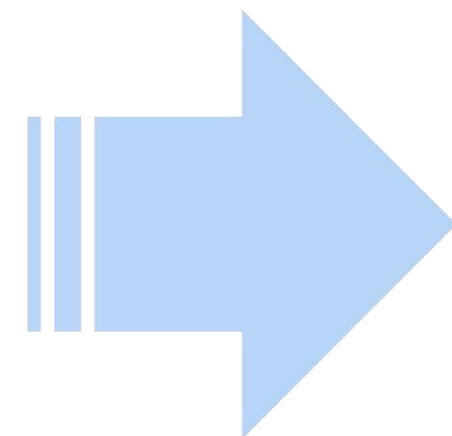
# OCP Solution in EIA 19" Rack

Just need less than 15 minutes to migrate EIA 19" Rack to OCP (with 8 OU)

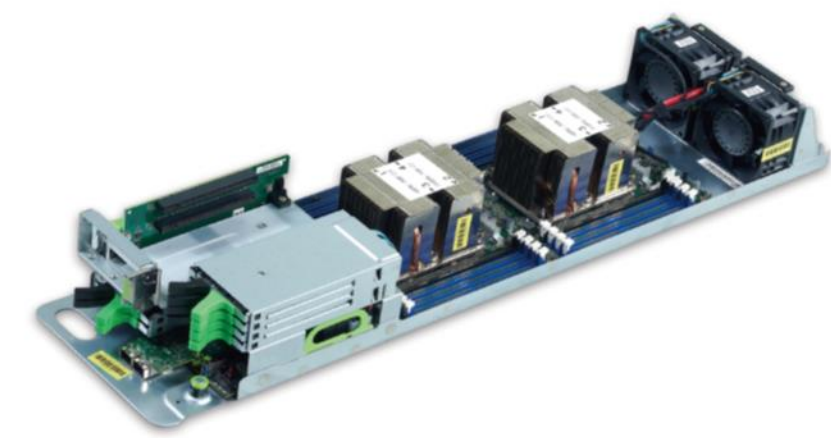
OCP ESA Kit



19" Power Shelf



OCP Compute Node



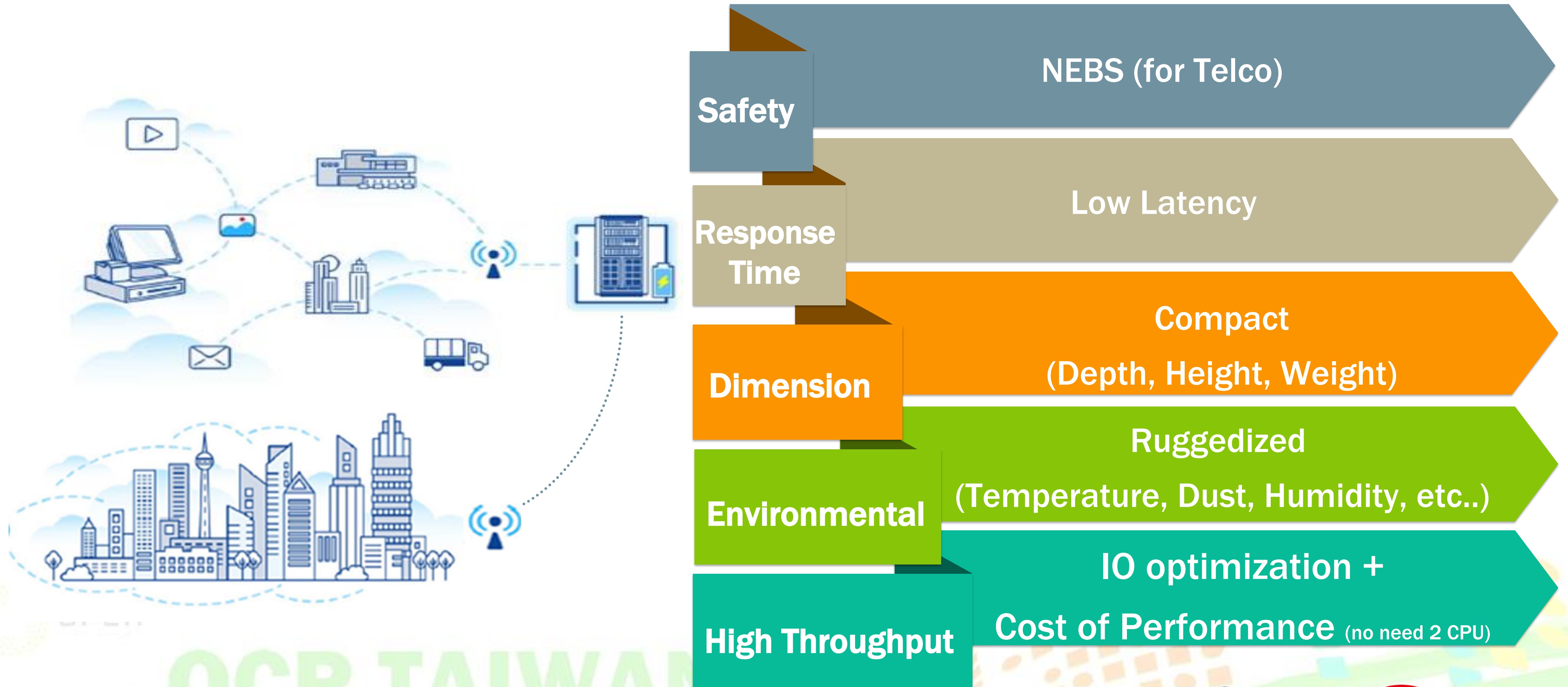
OCP JBOF

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# Requirement of The Edge Computing



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# OCP openEDGE for Telco

Optional Sled in future?

OLT

Or

Fabric/TOR

Or

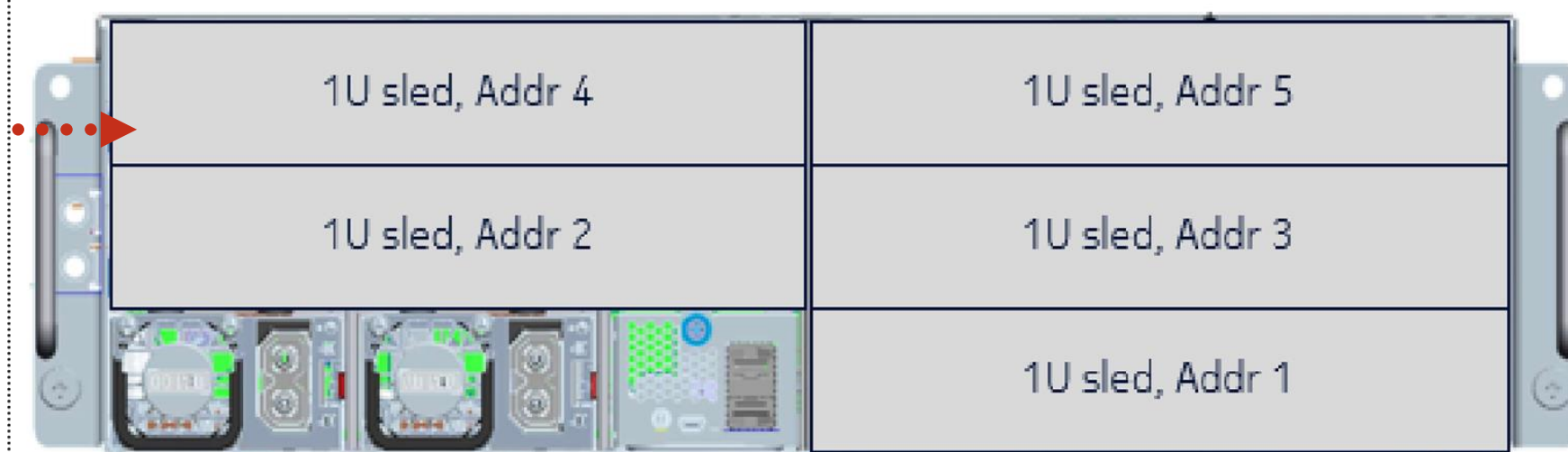
Storage

Physical topology

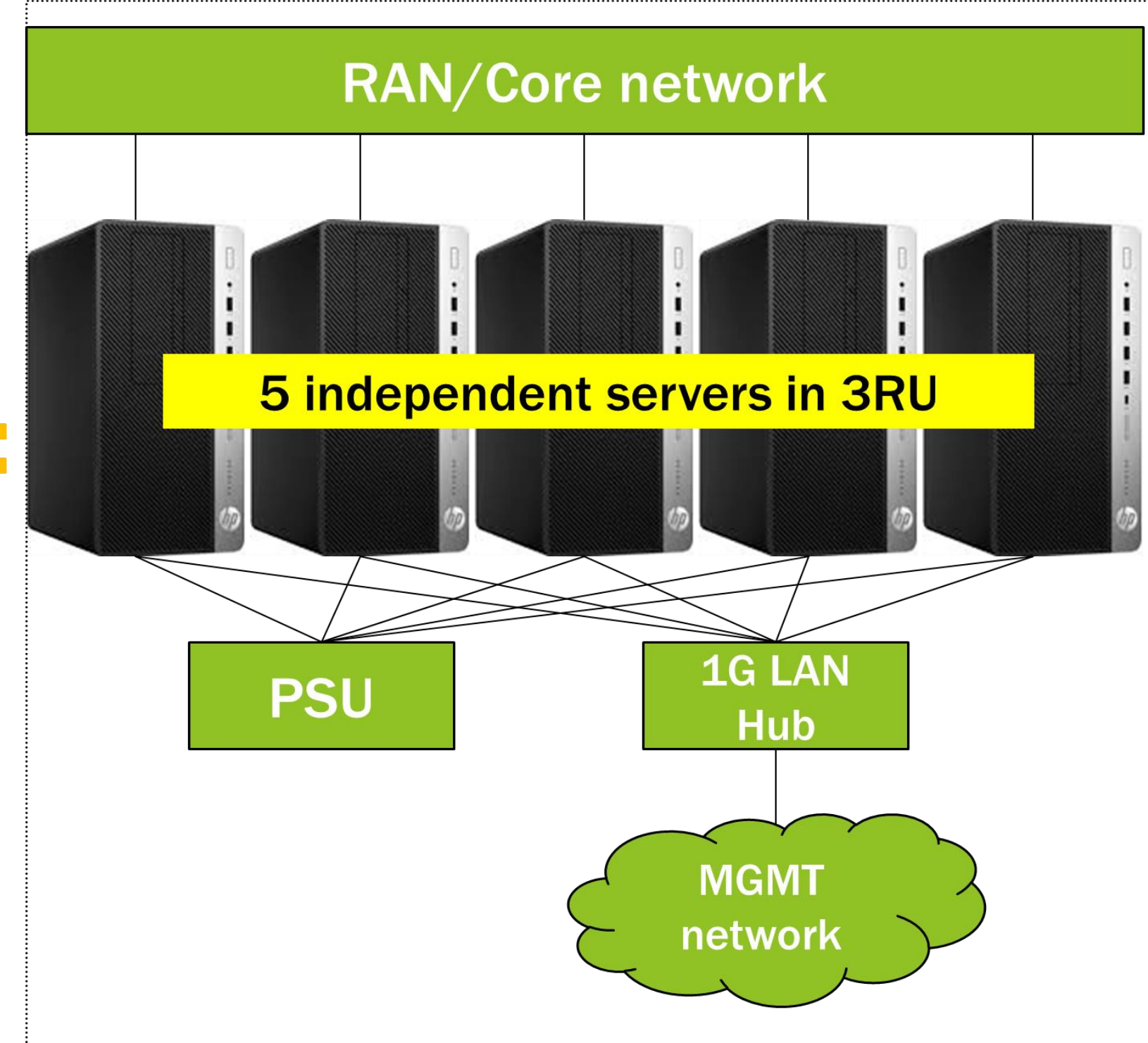
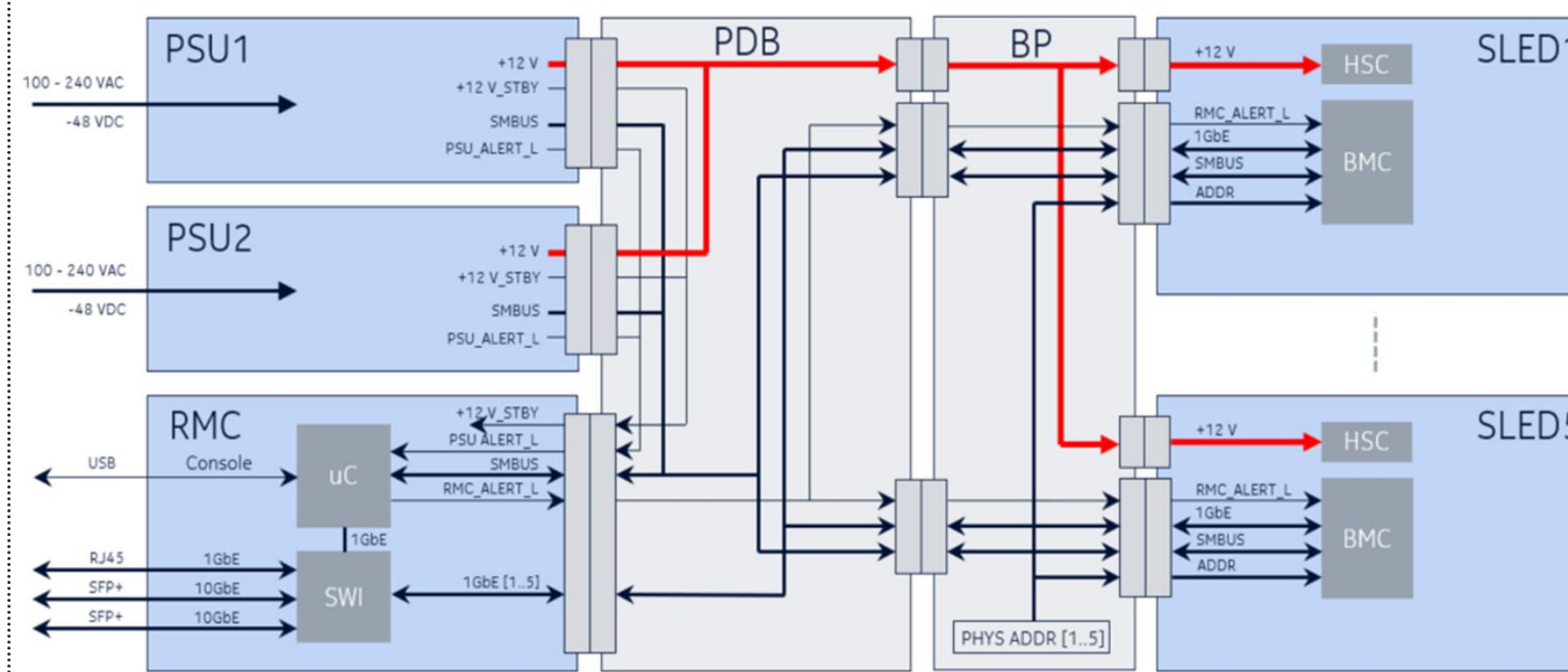
equivalent to

Logical topology

Chassis and sled



PWR and BMC fabric



Source: OCP openEDGE spec → <https://www.opencompute.org/wiki/Telcos/openEDGE>



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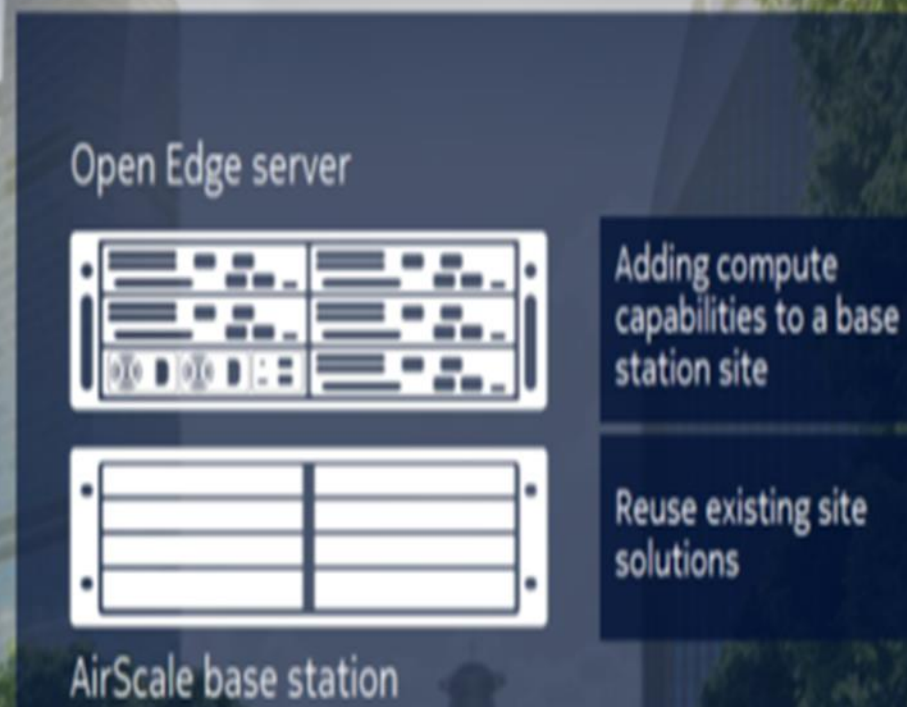
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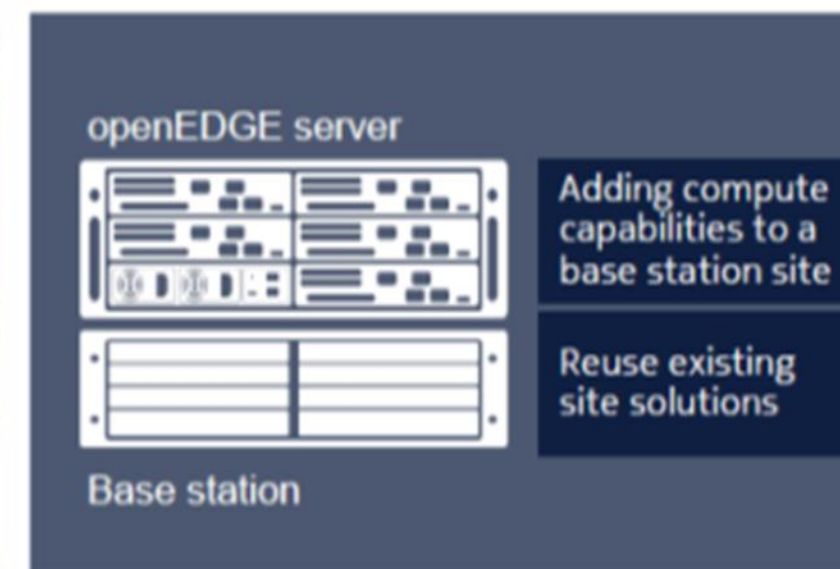
# The openEdge for Outdoor

## Reuse existing BBU/Cellsite Cabinet Options

A compact data center with a base station form factor  
No need for additional radio sites for edge data center HW



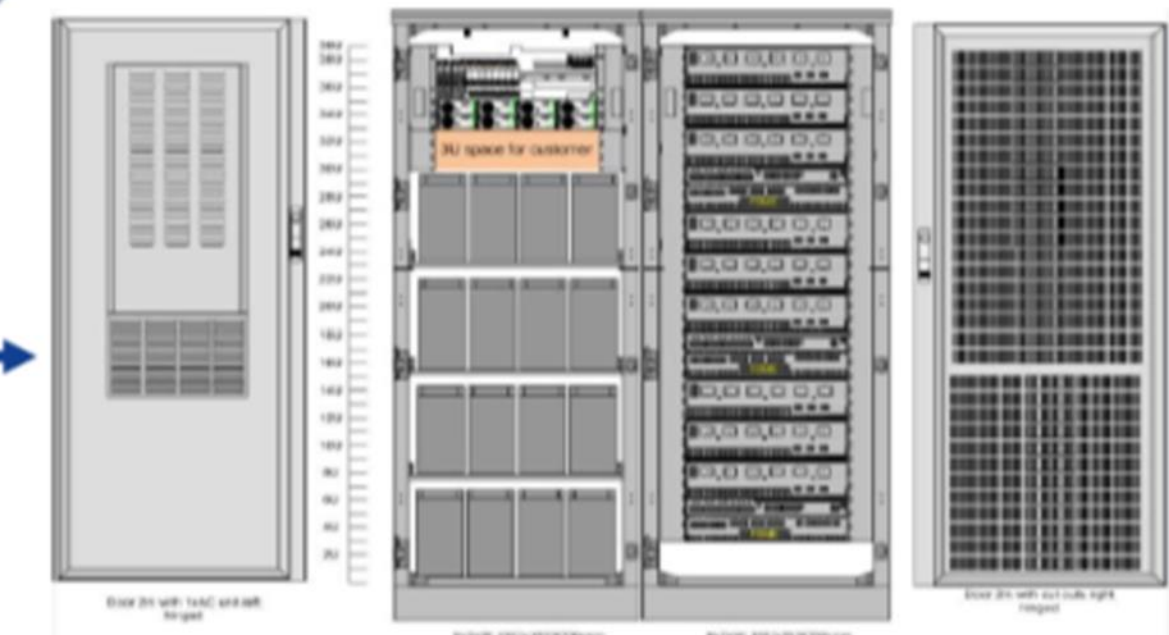
### Intersection Case Configuration



### Block Case Configuration



Outdoor cabinet



Dual/Street Cabinet Solution

Source: Nokia



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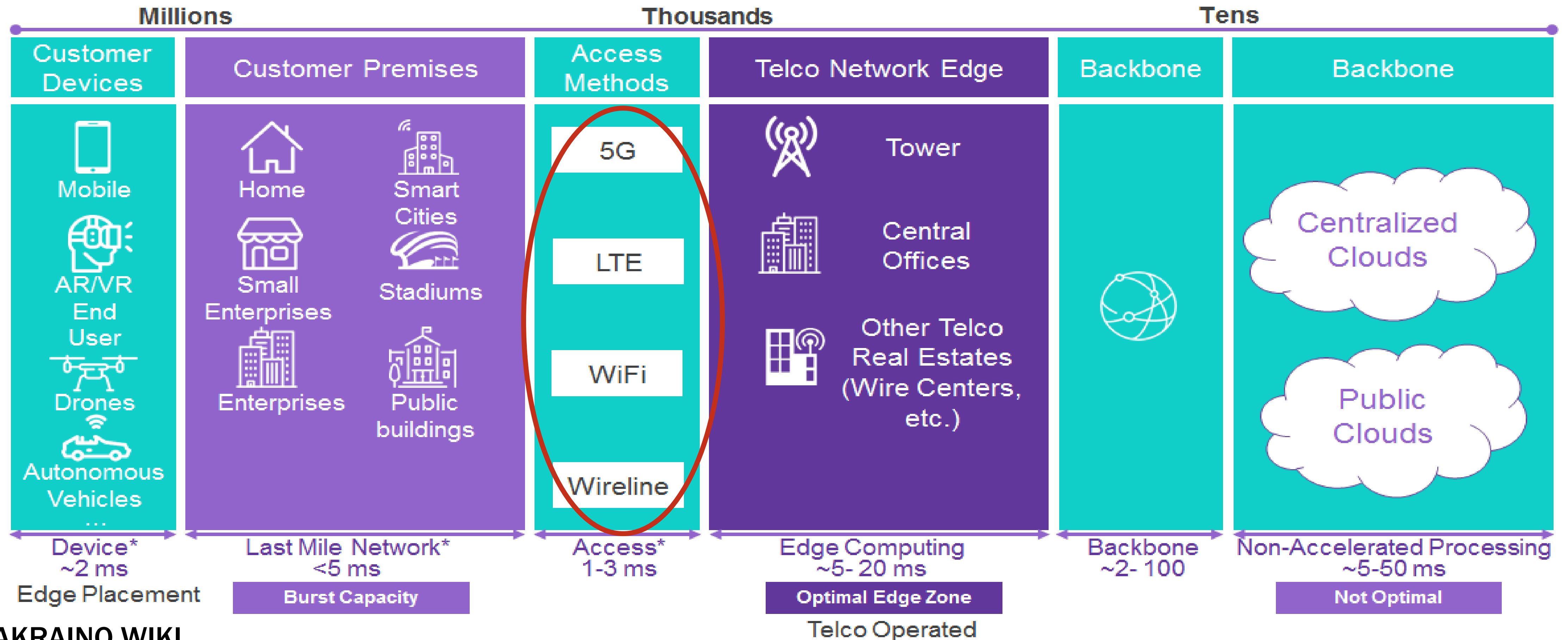
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## Telco Solution Integration with OCP



# Multi-access Edge Computing



\* Estimates

SOURCE: AKRAINOWIKI

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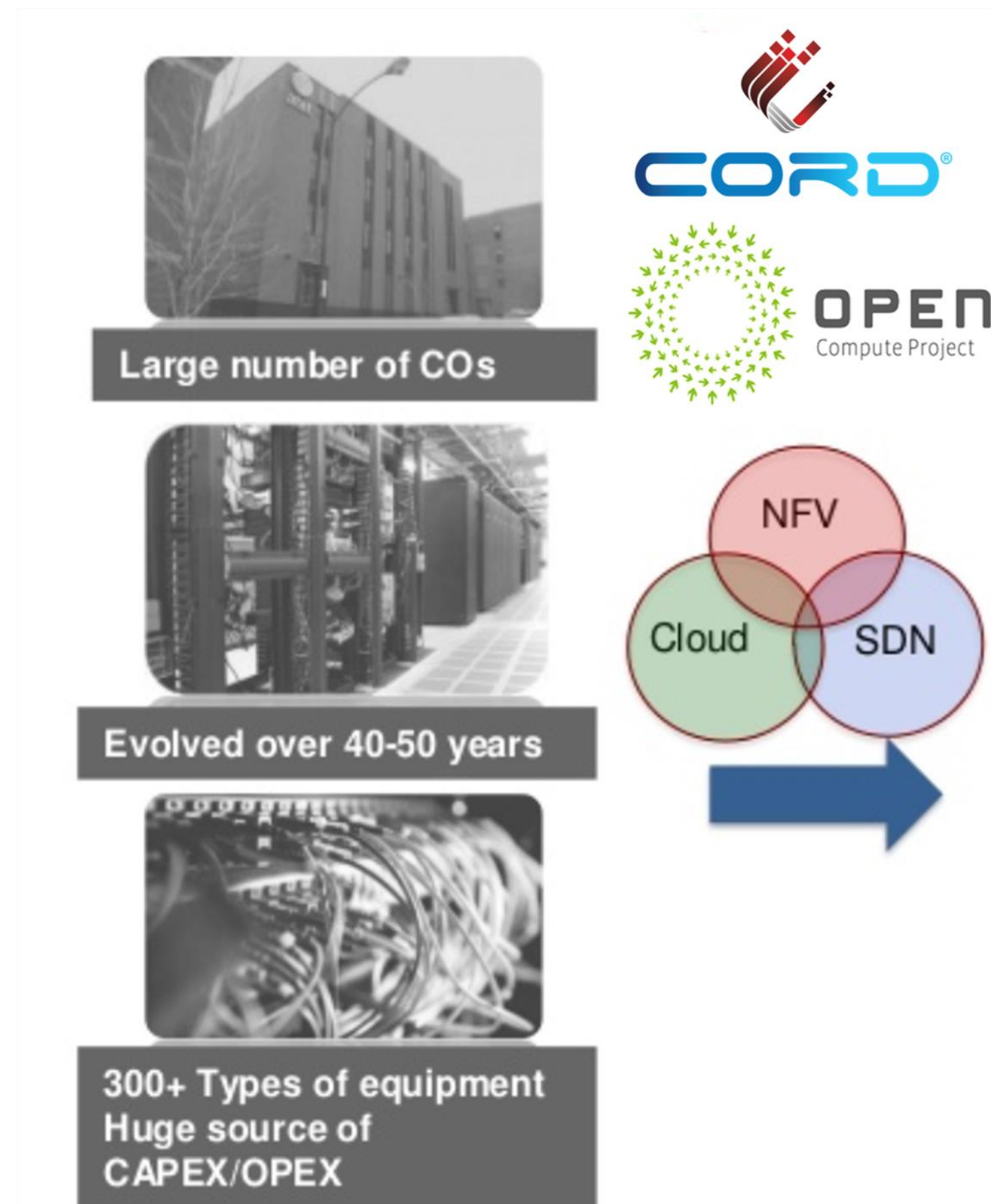
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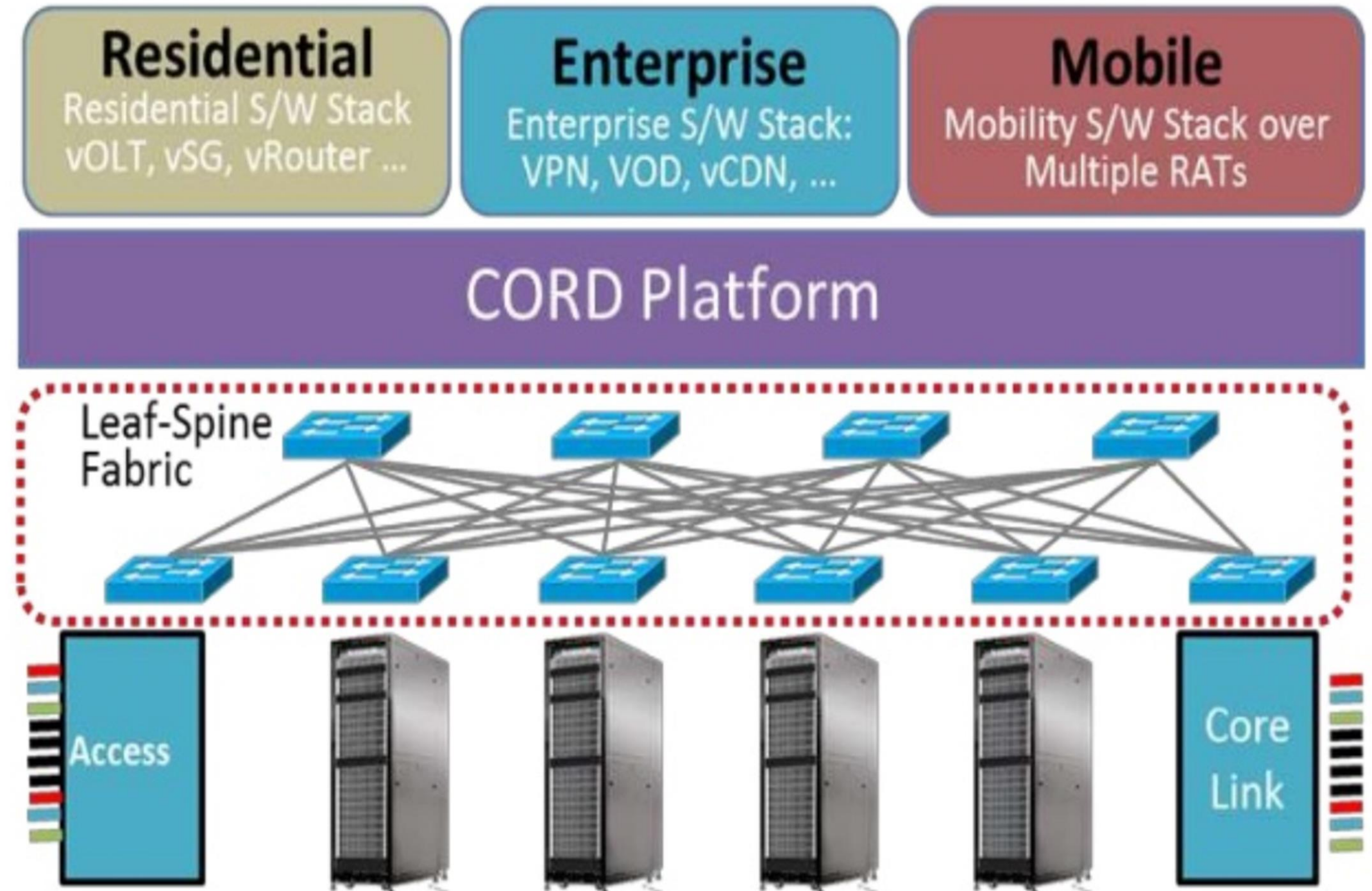
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# Central Office Re-architected as Datacenter



Source: ONF



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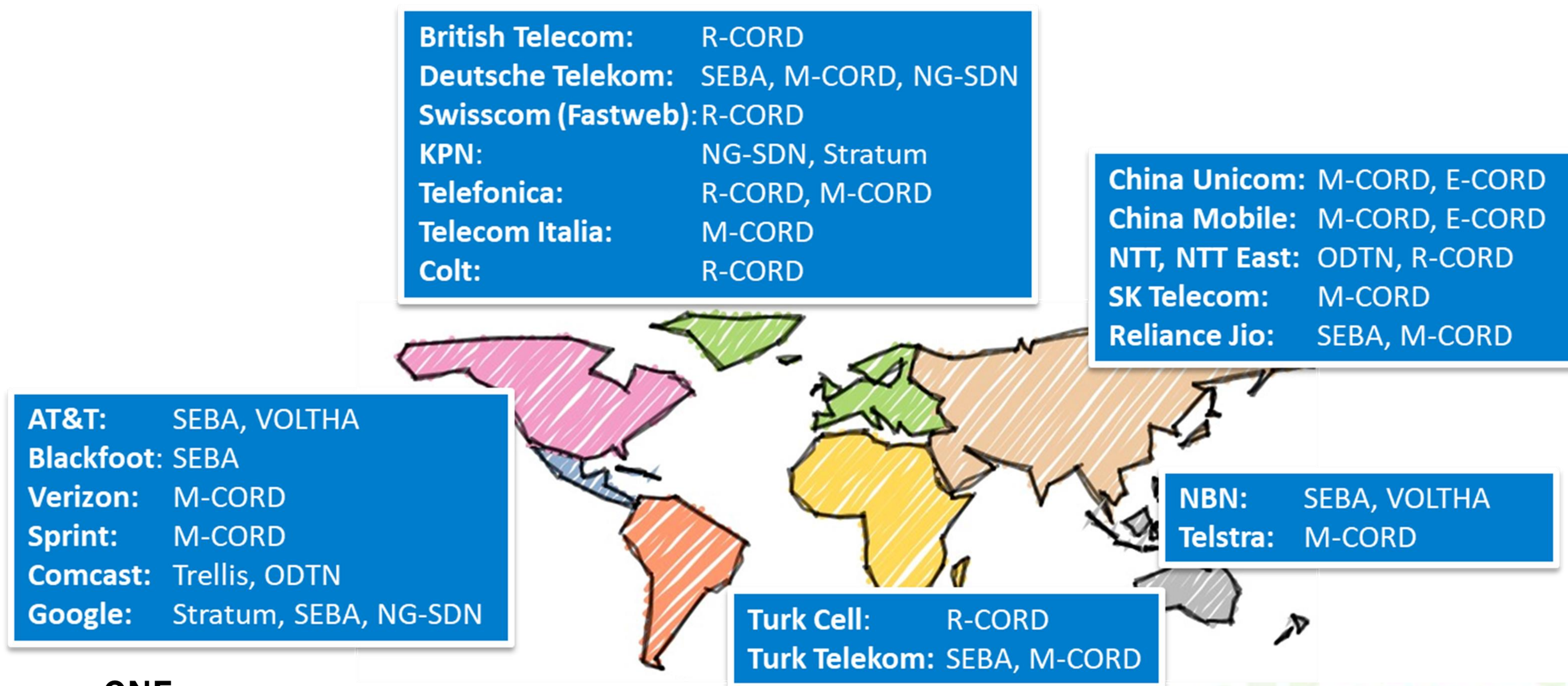
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# Operator Traction Worldwide



Source: ONF

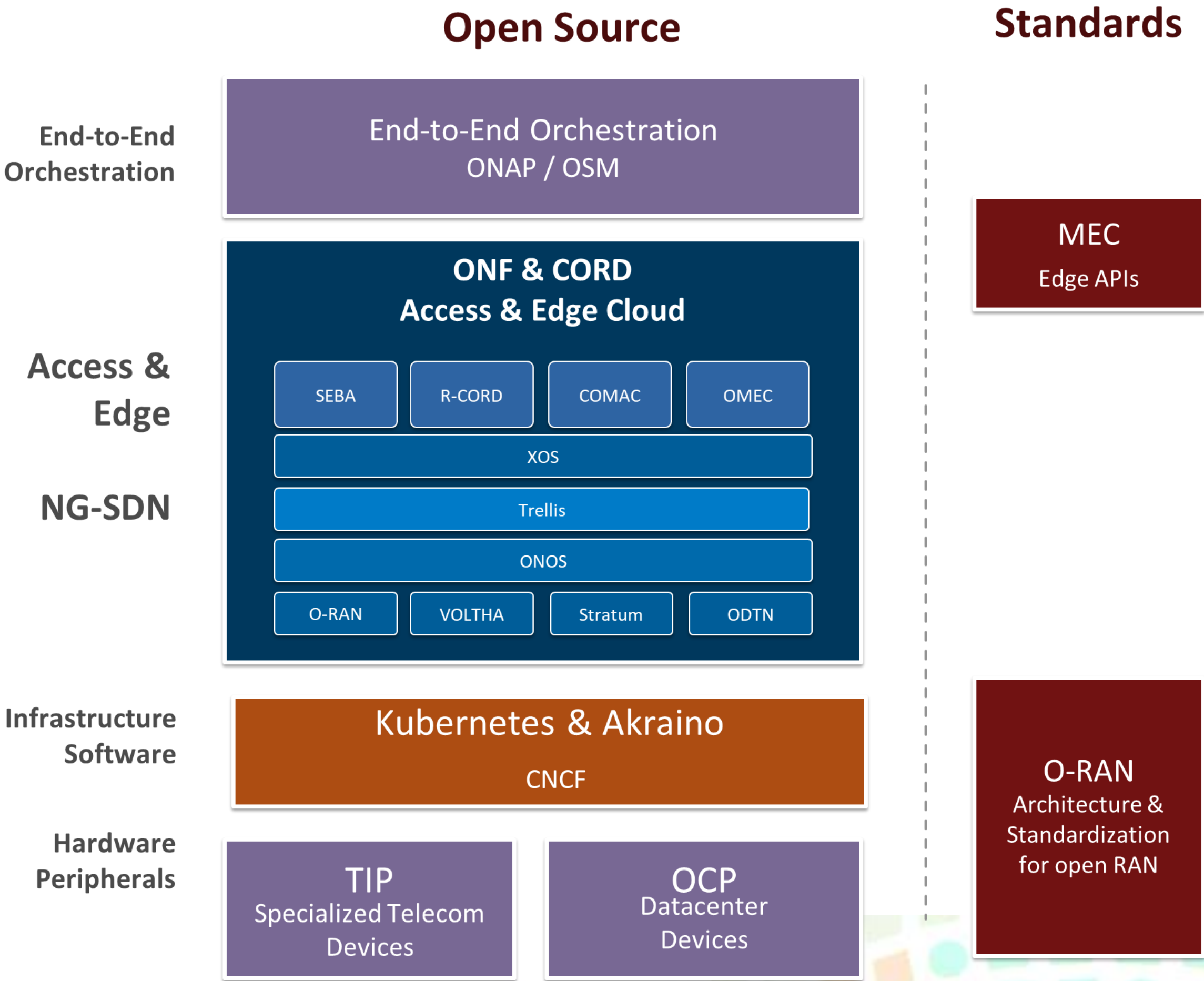




# Collaboration Between OCP and ONF

## ONF & CORD in Context of Open Source Ecosystem

Open Source ecosystem  
is creating a  
comprehensive stack  
that is poised to deliver  
robust solutions, from  
white box peripherals to  
end-to-end solutions



Source: ONF



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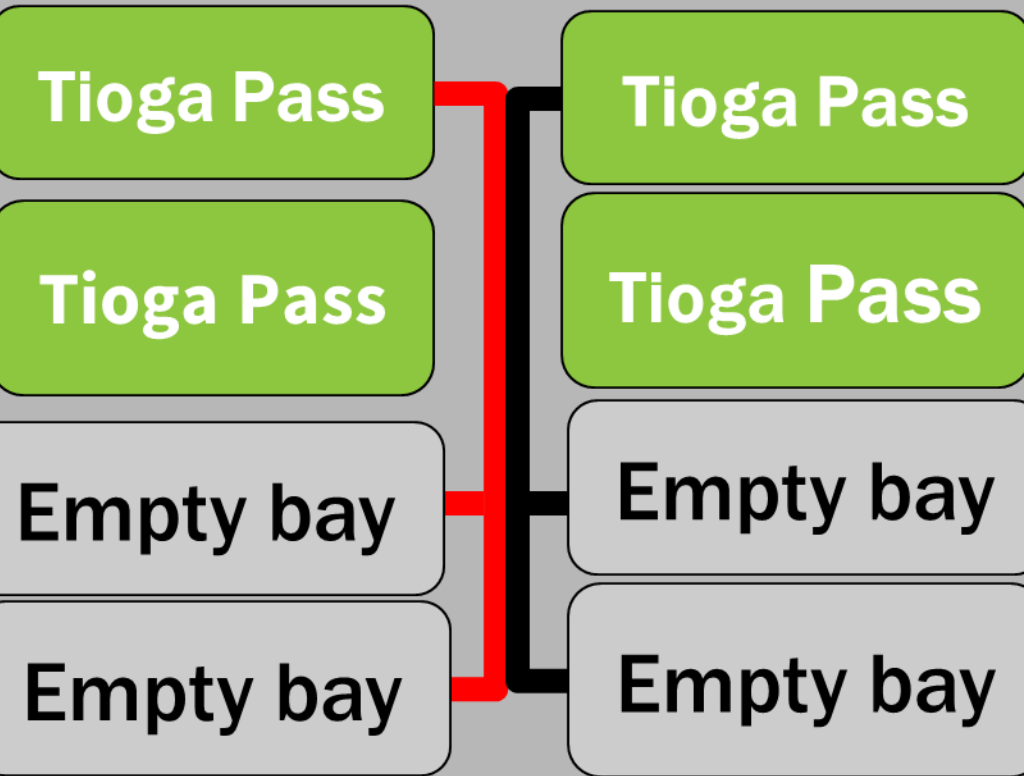
# VCO – Virtual Central Office (by OPNFV)



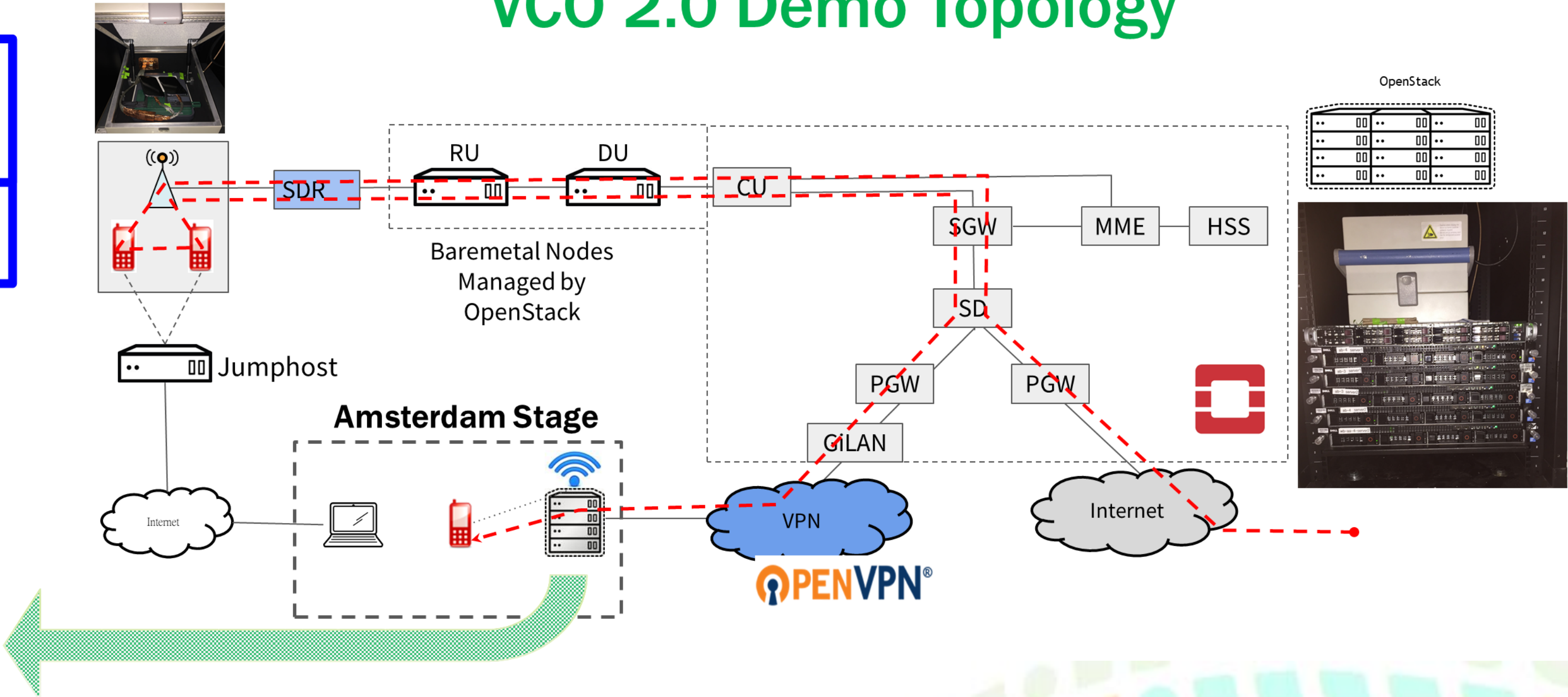
OCP solution including Tioga Pass and ESA Kit from MiTAC

Wifi Access Point

10Gb Switch



## VCO 2.0 Demo Topology



Source: VCO Demo 2.0 OCP Summit Keynote Slides



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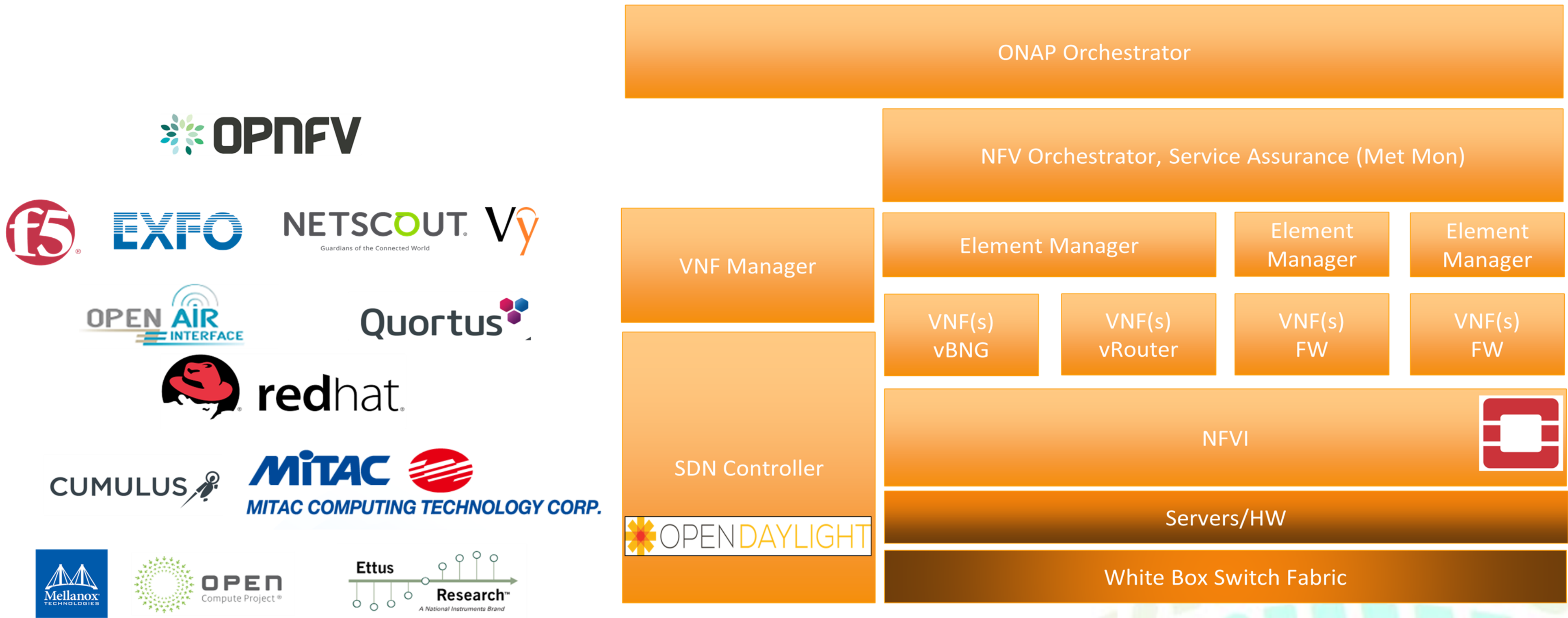


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# VCO 2.0 with OCP platform

- MiTAC contributed OCP solution including ESA Kit and Tioga Pass for VCO 2.0
- MiTAC commit to contribute OCP solution for VCO 3.0

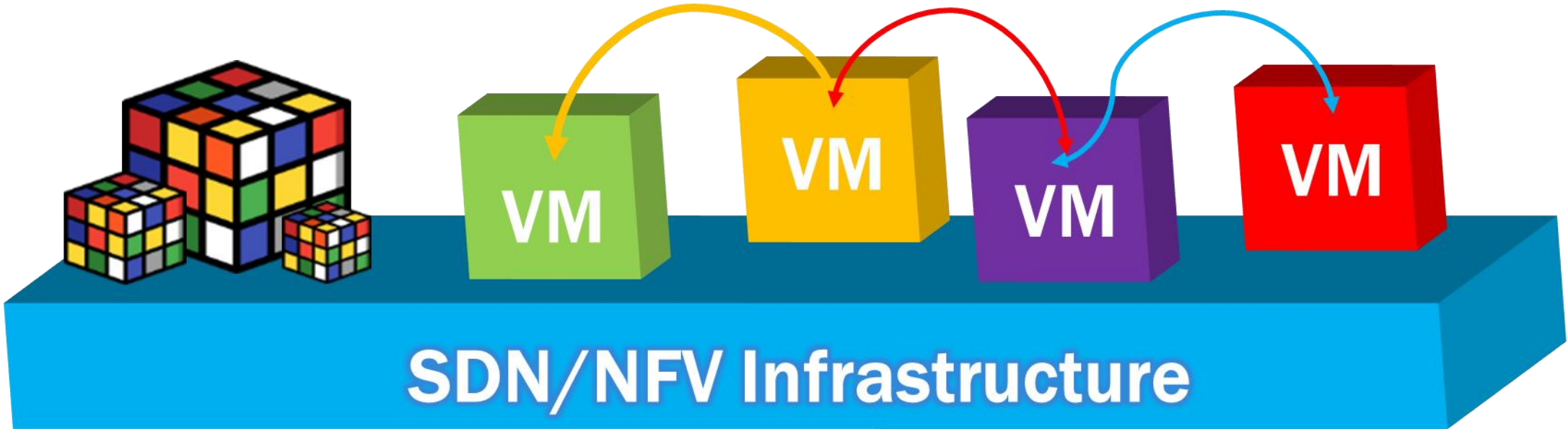


Source: VCO Demo 2.0 OCP Summit Keynote Slides

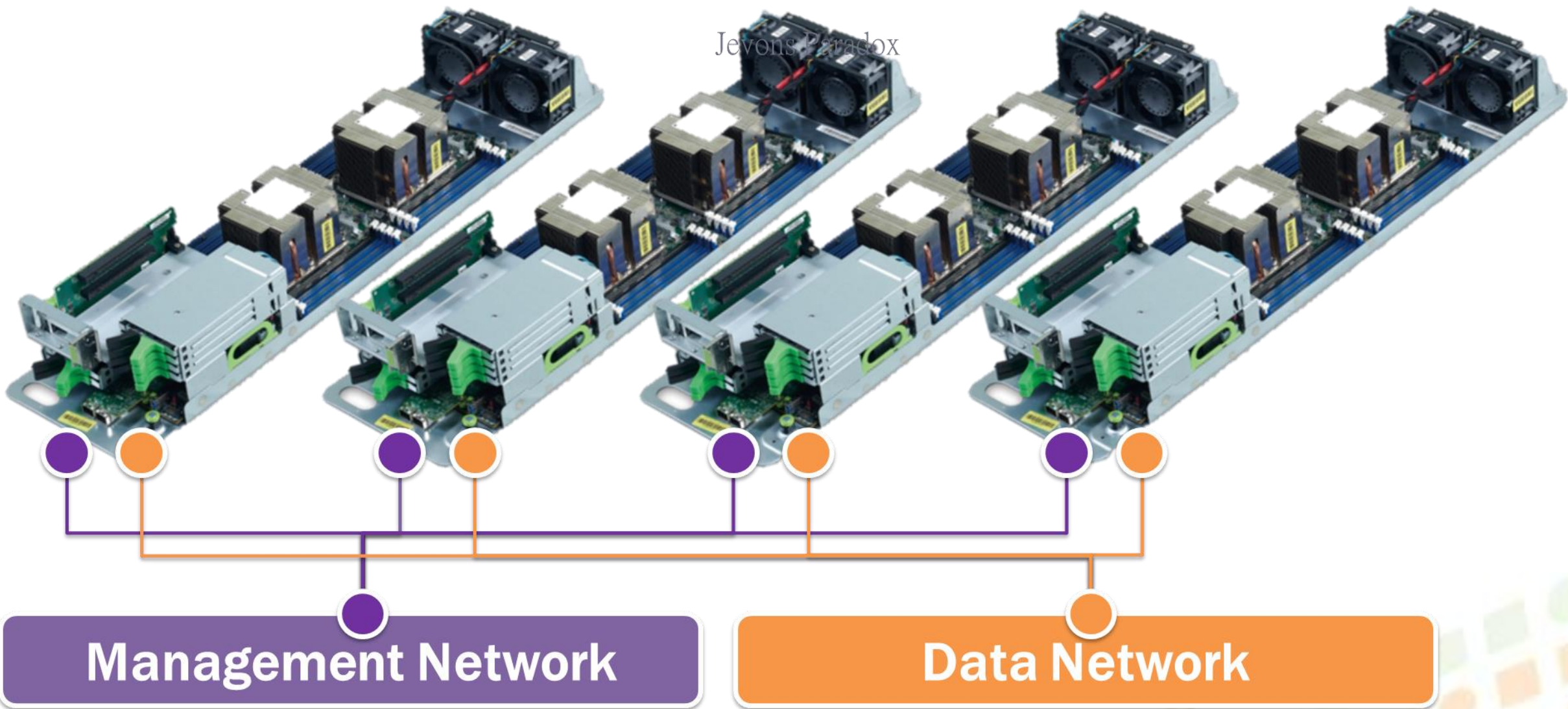
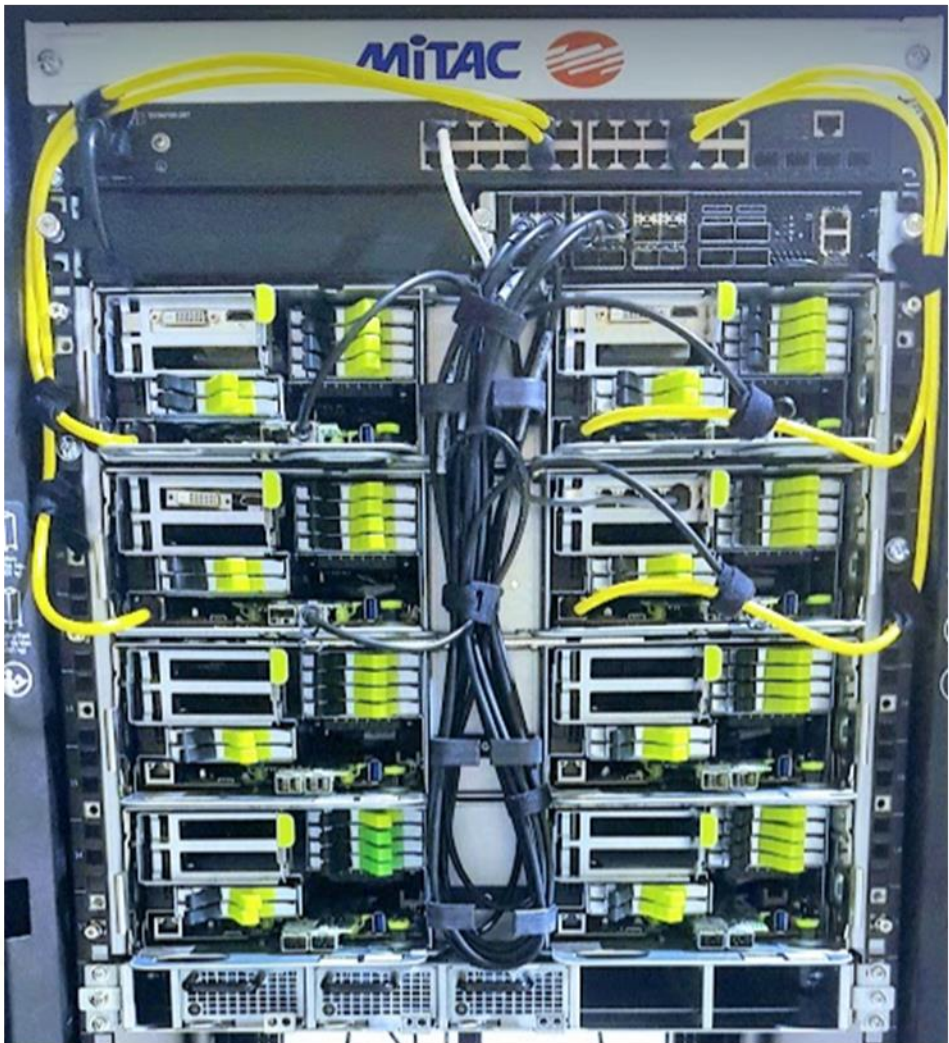
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# Virtual Branch Demo Set for Telco on OCP



- Mice Workload
- Elephant Workload
- Real-time Workload



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**OCP Product Portfolio**

- Tioga Pass OCP Server **MP**
- ESA Kit for EIA 19" Rack **MP**
- Crystal Lake OCP Storage **19"Q3**

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# Call to Action

- ▶ **Visit OCP Marketplace**

[https://www.opencompute.org/products?refinementList%5Bsolution\\_provider%5D%5B0%5D=MiTAC&page=1](https://www.opencompute.org/products?refinementList%5Bsolution_provider%5D%5B0%5D=MiTAC&page=1)

- ▶ **Visit MiTAC web**

<http://www.mitacmct.com/>

- ▶ **Come see us @ Booth L0631, TWTC NangGang Exhibition Center, Hall 1 (4F)**



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## Thank you