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OCP
REGIONAL
SUMMIT

Case Studies

Approach of OCP Adoption and How to Operate our OCP Infrastructure in Yahoo! JAPAN

Kazuhide Fujimi, Server Infrastructure Architect,
Yahoo Japan Corporation

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Agenda

1

Introduction

- About Speaker
- About Company

2

OCP Effort

- Operation
- Cost Performance

3

Conclusion

- Growth
- Barriers

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About Speaker

Kazuhide Fujimi

YAHOO! JAPAN

since **2010**

SiteOPS
Yahoo! JAPAN Site Operations

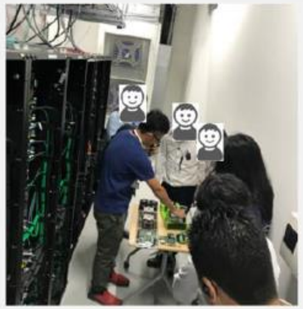
since **2010**

since **2016**

About Speaker

Infra. Work

OCP Presence Activity



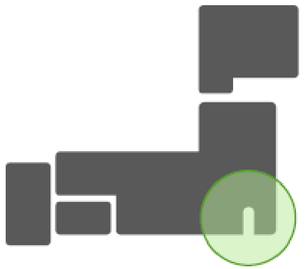
OCP Tour

https://cloud.watch.impress.co.jp/docs/cdc/extra/1129886.html

Media

Presentation

About Company



Tokyo - JP

Over 6,000 Employees

Over 20 years Company History

(Founded in January 31, 1996)

1. Characteristics of Yahoo! JAPAN

Over100 various services and high quality data

*As of December 2018

About Company

2. Characteristics of Yahoo! JAPAN

one of the largest user volume in Japan

PC users

Yahoo! JAPAN, 24731	
Google, 17564	
YouTube, 13353	
Amazon, 11823	
Rakuten, 11385	
Twitter, 6630	
livedoor, 6344	
Ameba, 5996	
Facebook, 5956	
Naver Japan, 4708	(in thousands)

Smartphone users

Google, 66081	
Yahoo! JAPAN, 60499	
LINE, 58601	
YouTube, 53684	
Facebook, 47166	
Rakuten, 45171	
Amazon, 39386	
Twitter, 39182	
Instagram, 32207	
Hatena, 27074	(in thousands)

*Source: "Nielsen NetView" PC access from home or office (excluding internet apps), "Nielsen Mobile NetView" Smartphone access (including apps). Average of April to September 2018 summarized by brand level. Calculated by Yahoo! JAPAN from "Nielsen NetView Custom Data feed".

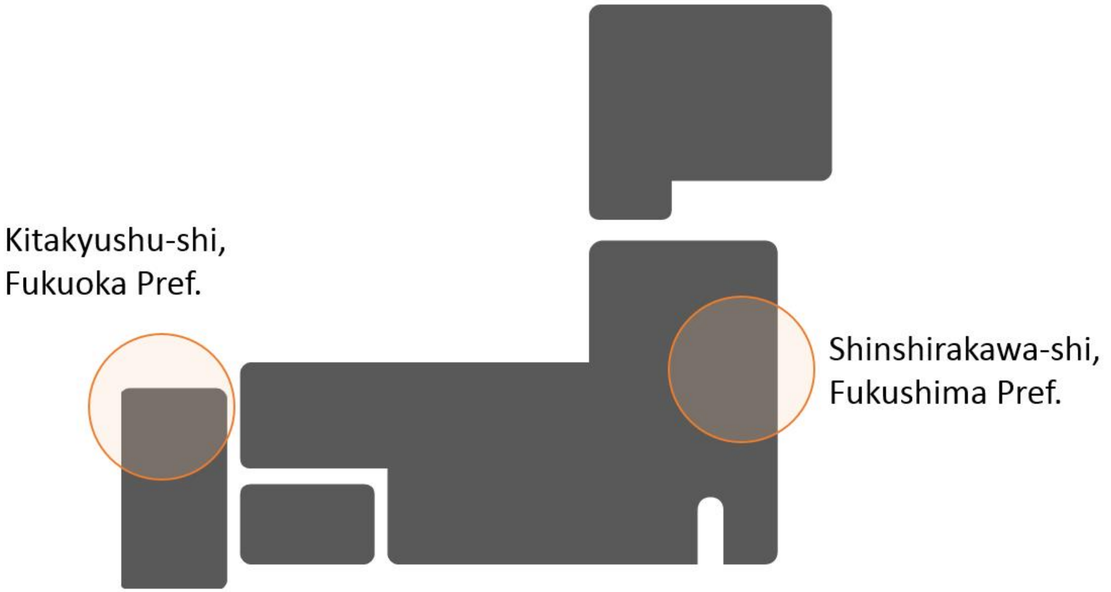
About Infrastructure

Server and Rack Infra. Overview

- Physical Server almost 80,000
- EIA19 : >90% / OCP(v1,v2) : <10%

- Rack > 5,000
- EIA19 : >95% / OCP(v1,v2) : <5%

Yahoo Japan DataCenter Location



Two main data center in japan

About Organization of Infra.

SiteOPS
Yahoo! JAPAN Site Operations

Site Operation Division
Vice President

100+

Infra. Engineer

Infrastructure Tech1 Dept. Director	Infrastructure Tech2 Dept. Director	Infrastructure Tech3 Dept. Director	Infrastructure Tech4 Dept. Director
Operating System	Server	L2/L3 Network	Platform / CDN
Configuration Tools	Storage	BackBone	Development
	DataCenter Operation	Network Operation	Operation

About Approach to OCP Procurement

YAHOO! JAPAN

Technical Side

Financial Side

Approach for adoption

OCP Key Vendor

OCP Vendor

MiTAC MCT

wiwynn

Key Component Supplier

SAMSUNG

Mellanox TECHNOLOGIES

SEAGATE

Overview of OCP at Yahoo! JAPAN

2016 Adoption Leopard (OCPv1)

2017 Adoption Leopard (OCPv2)

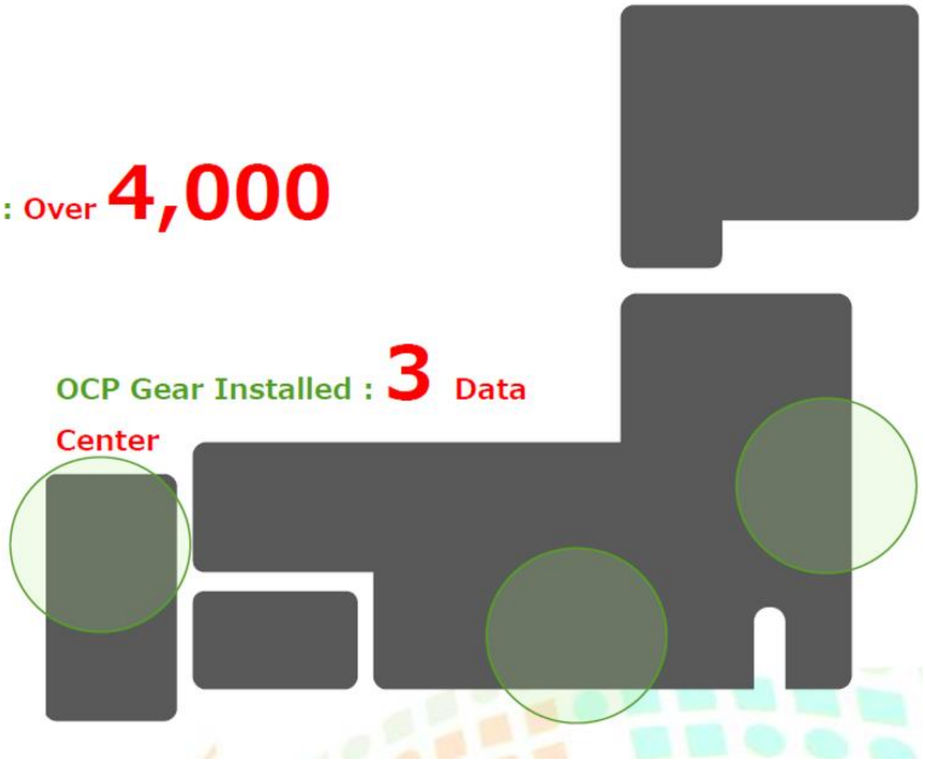
2018 Adoption Leopard/TiogaPass (OCPv2)

2019 Adoption for TiogaPass (OCPv2)

With ESA # Some Deal

OCP experience: **4** year

Total Server Node : Over **4,000** node



OCP Gear Installed : **3** Data Center

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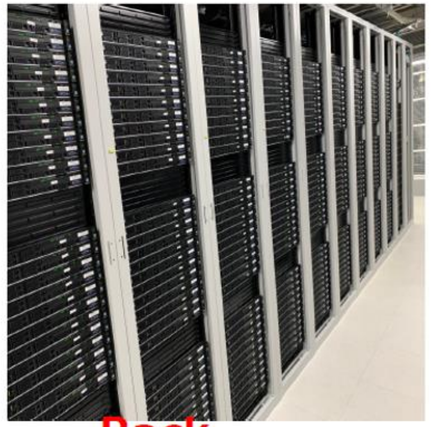
Can support Operation for OCP

Support both operation EIA19 and OCP

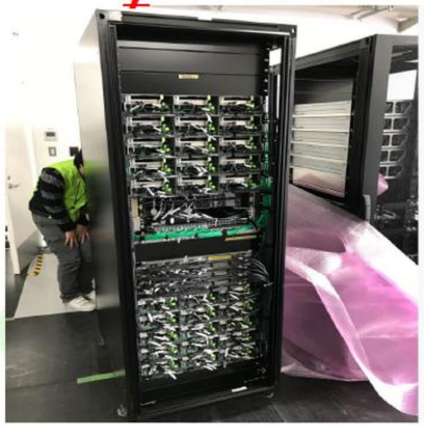
Deliver
y



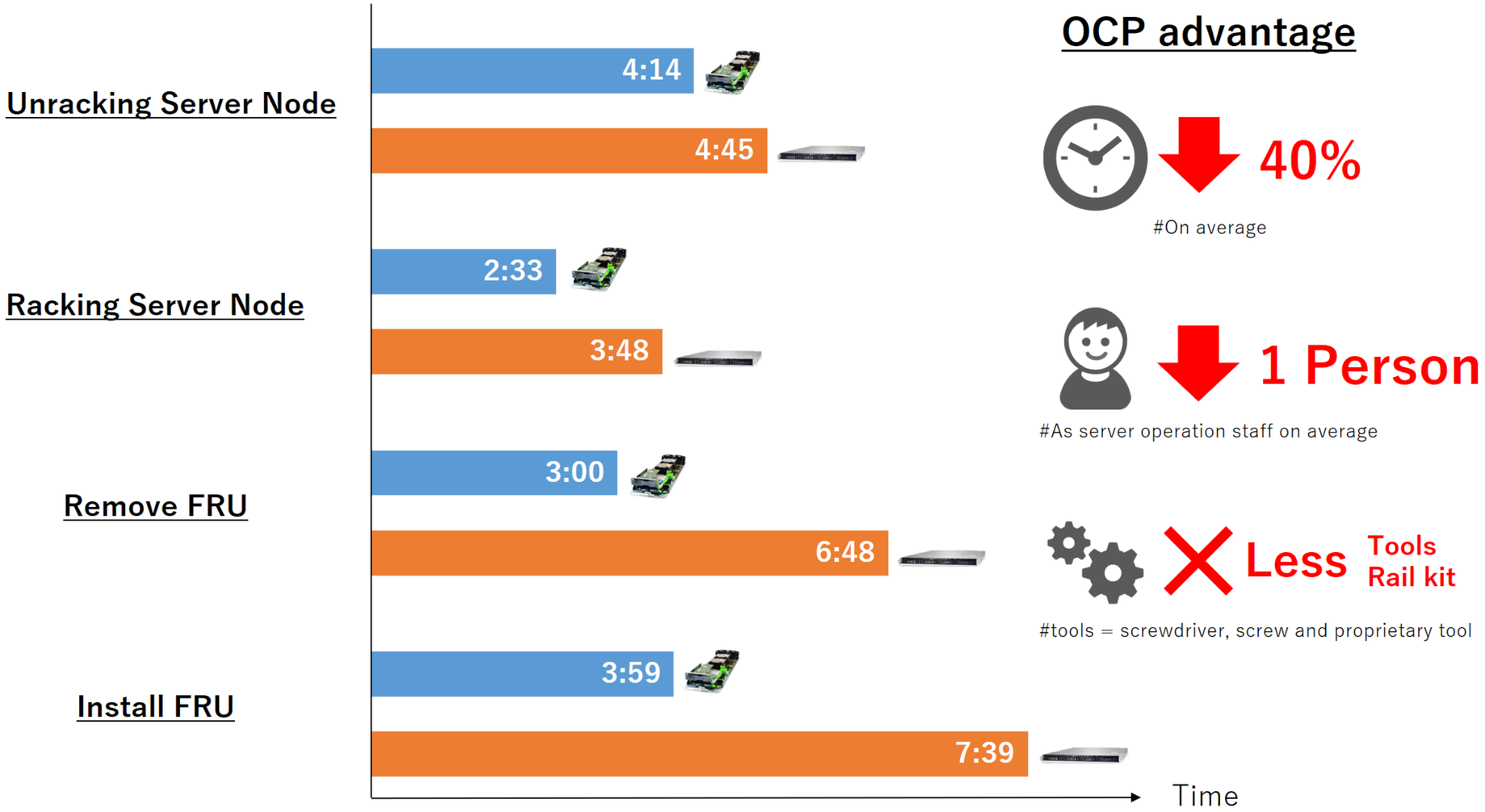
Rack
Front

Rack Rear

Operation



Comparison OCP and EIA19 for physical work



Delivery for OCP(Level 11)

Level 10 (L10) is component level delivery style with the work of assembly in DC.





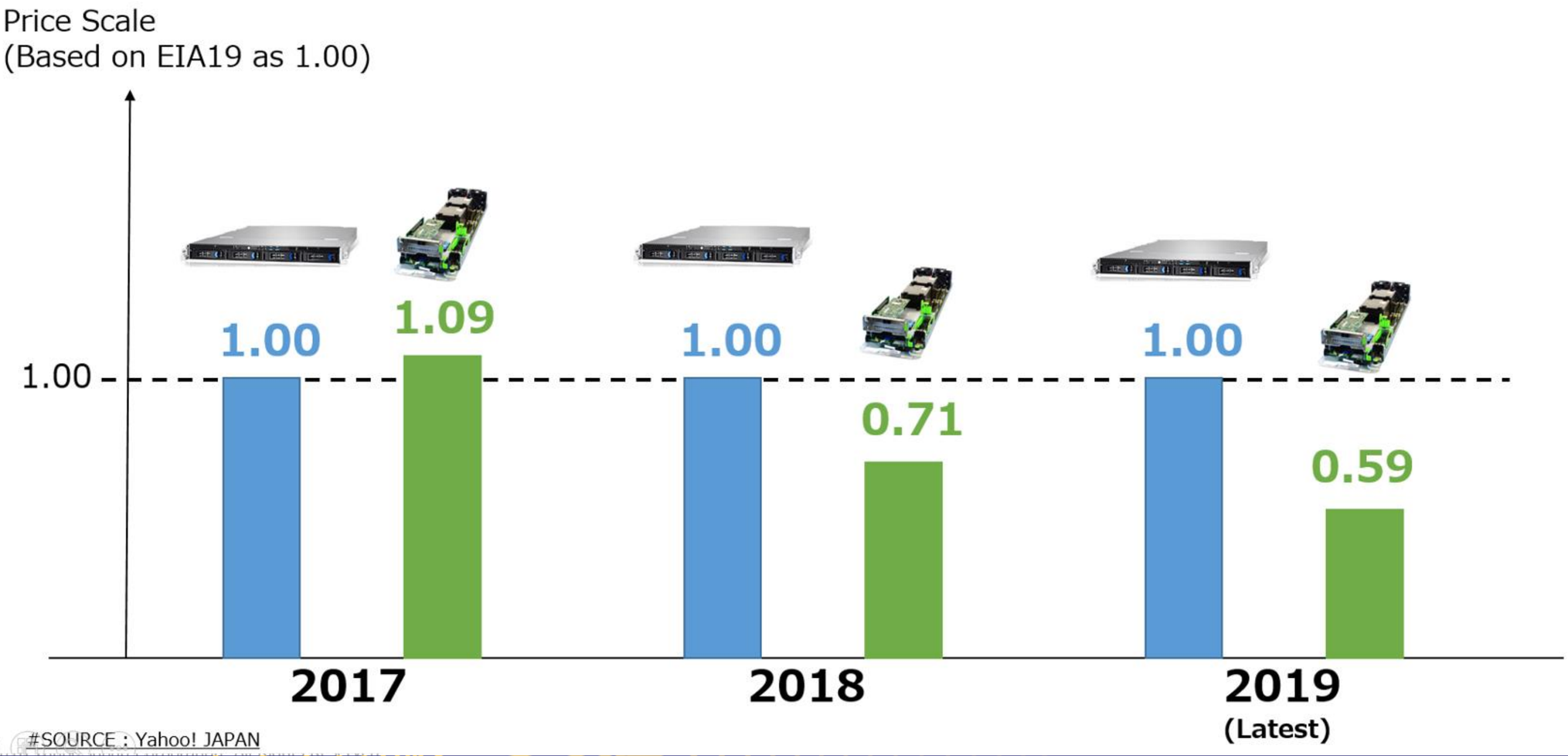

Level 11 (L11) is rack level delivery style without the work of assembly in DC.





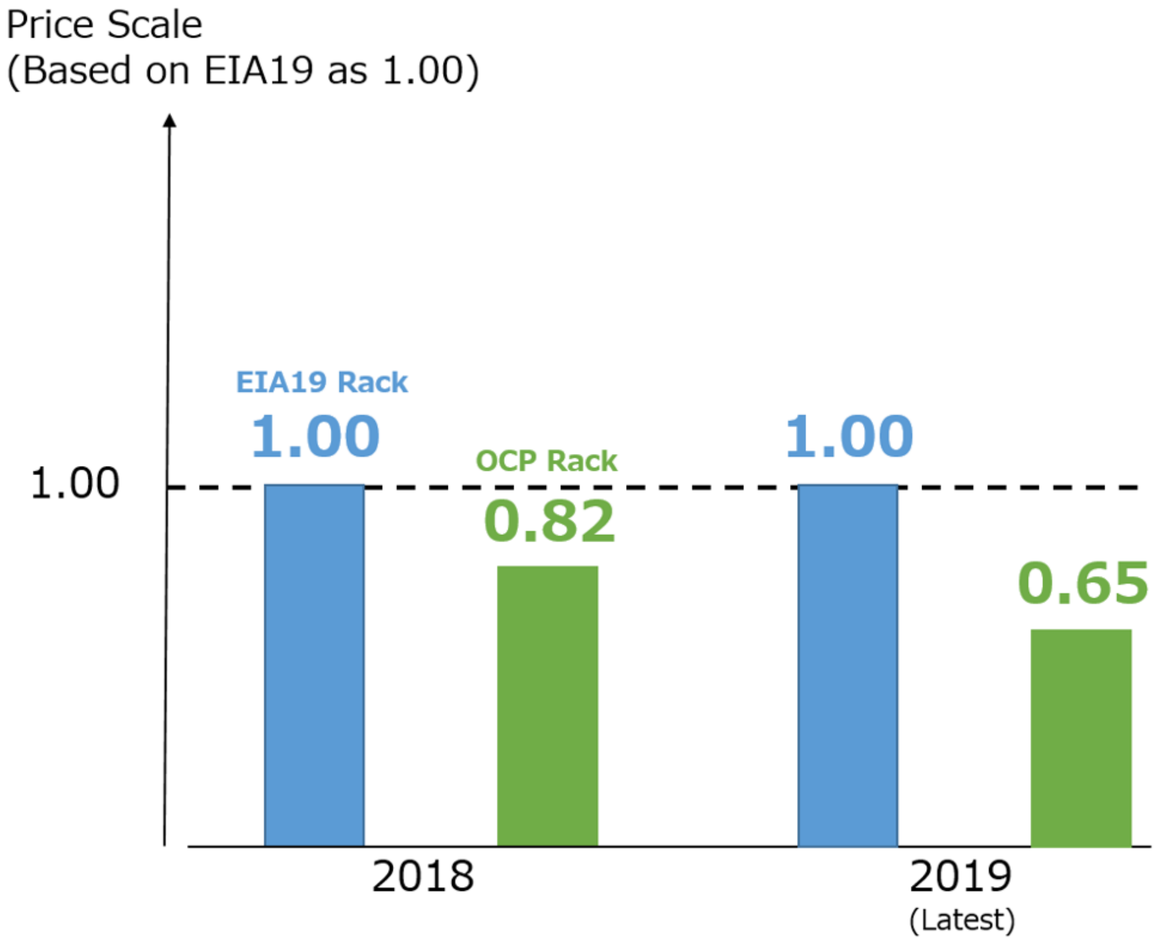

Video of L11 Highlight

Cost Performance (Server Unit)



#SOURCE : Yahoo! JAPAN

Cost Performance (Rack Level = L11 Cost)



Rack(L11 Cost) is including below

(+ Server Unit Cost)

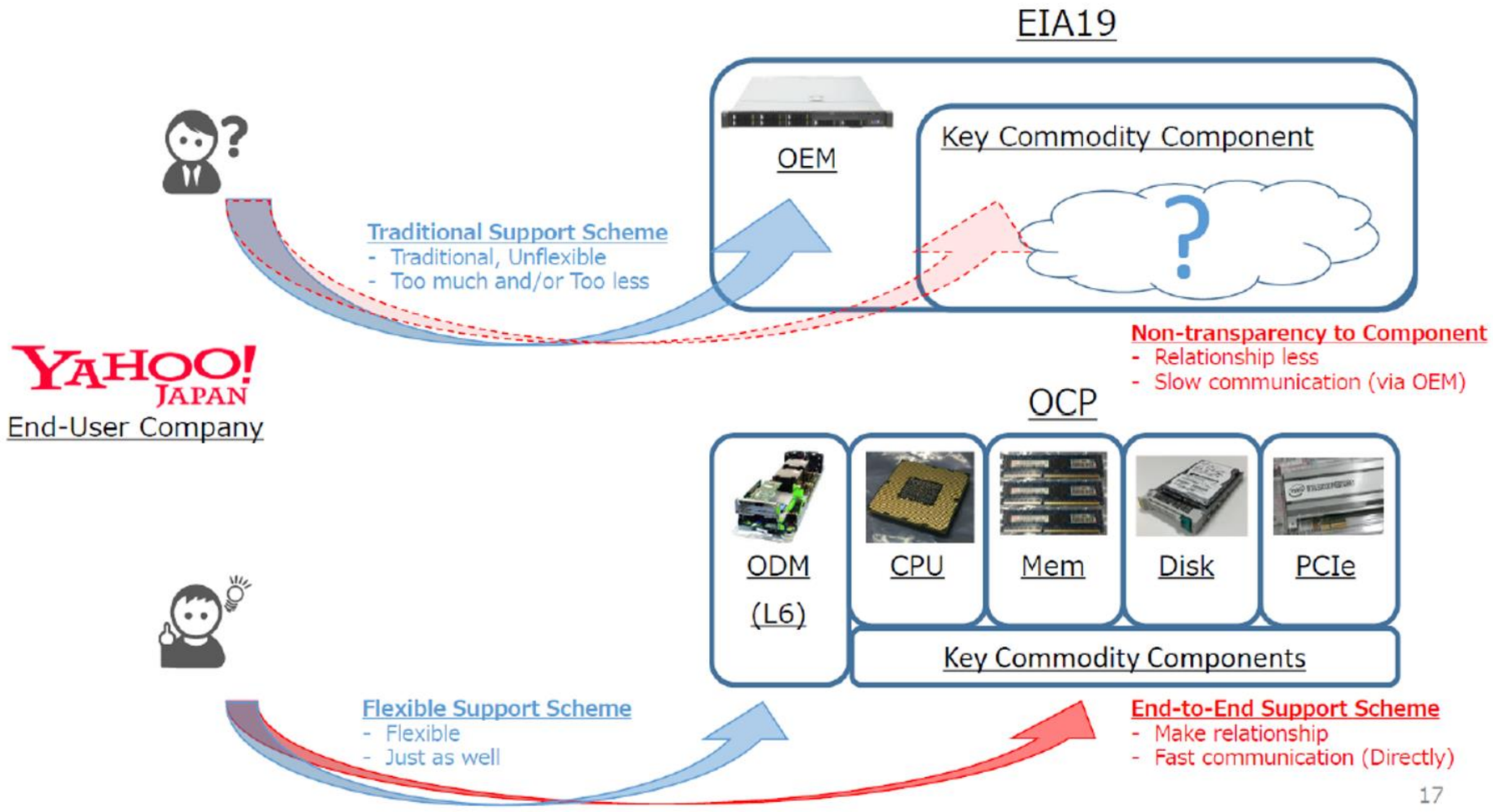
(POC)

vs

No Including Network

* All necessary components are installed by rack level without network equipment

Why(How) is Cost Performance?



How about OPEX?

OPEX

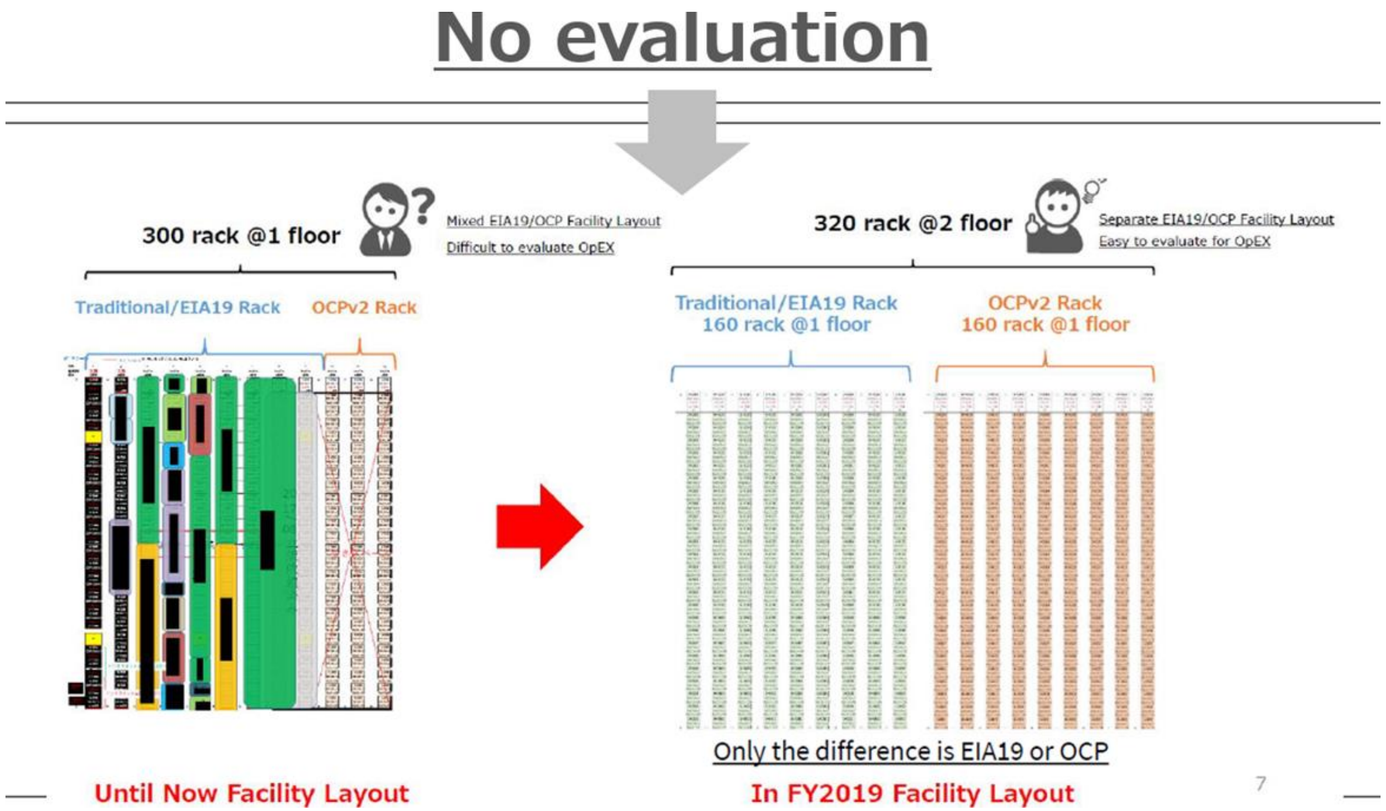
- **Power Consumption**
- **Air Conditioning**

How?

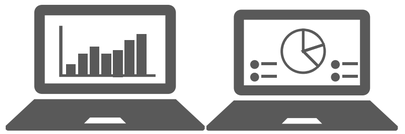
- **Efficiency**

- **Cost Impact**

Can not evaluate OPEX at Facility



To start evaluating OPEX from Facility layer



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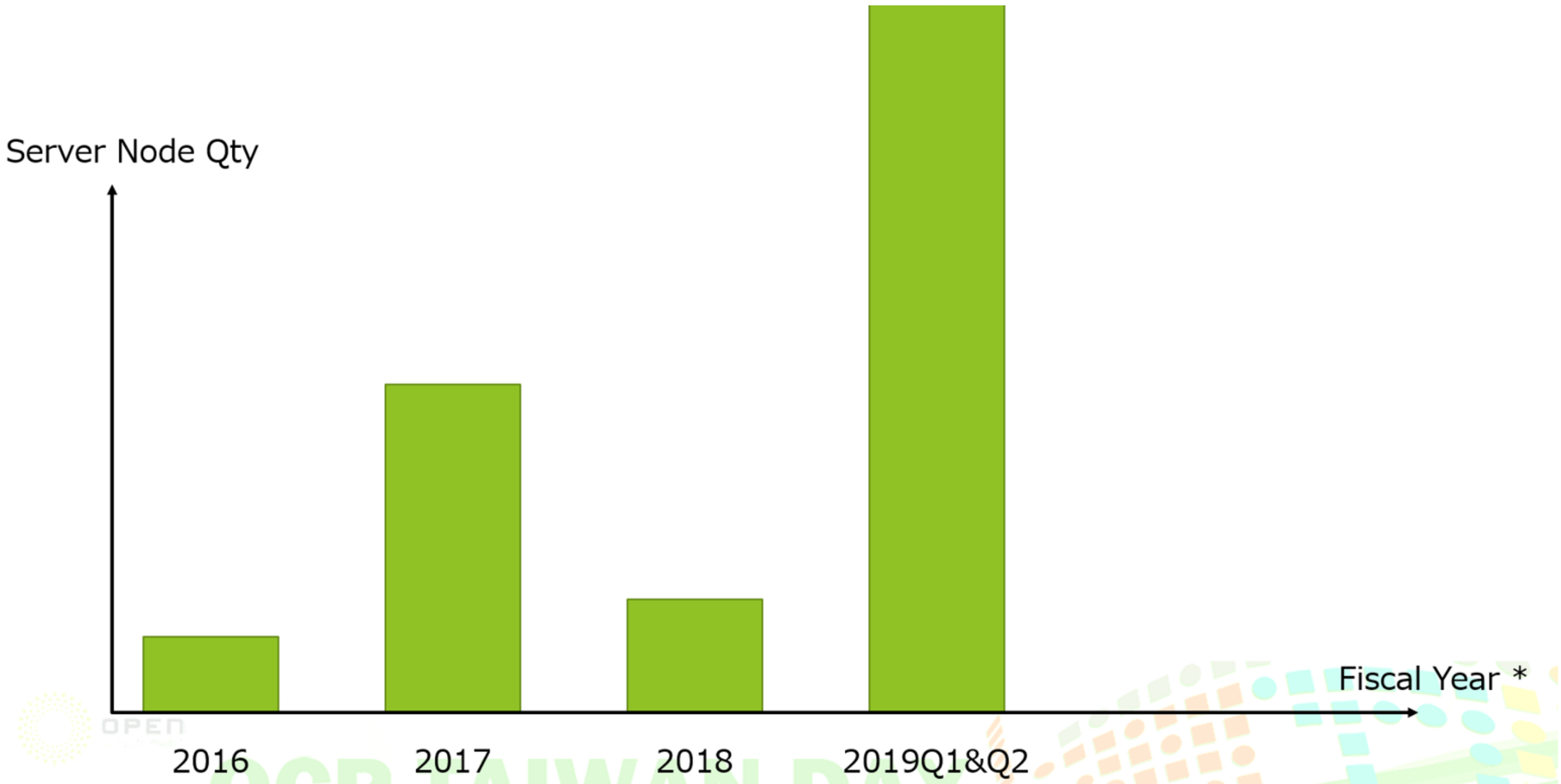
Next step for OCP adoption

OCP adoption more expanding

Because..

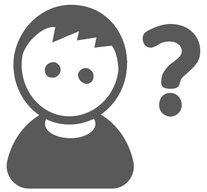
- **Cost Performance**
- **Can Operate/Install**

Growth of OCP adoption



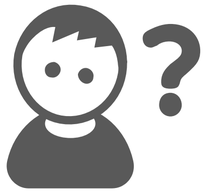
* YJ's fisical year starts in April. Q1 is April to June.

Question to Growth of OCP adoption



YJ! all adoption is OCP?

No, under 50% of server procurement



Why ?

Some barriers for adoption

Lead Time

Can not meet business schedule due to LT

#SOURCE: Yahoo! JAPAN

PO Date → **Delivery Date**

1.0 - 2.0 Month

- LT is advantageous. Because of the OEM is very commodity in JP market.
- Distribution volume is large, Inventory is large with each L6/Key Components.
- OEM is delivered as L10. Rack, Networks and Others is separate delivery.

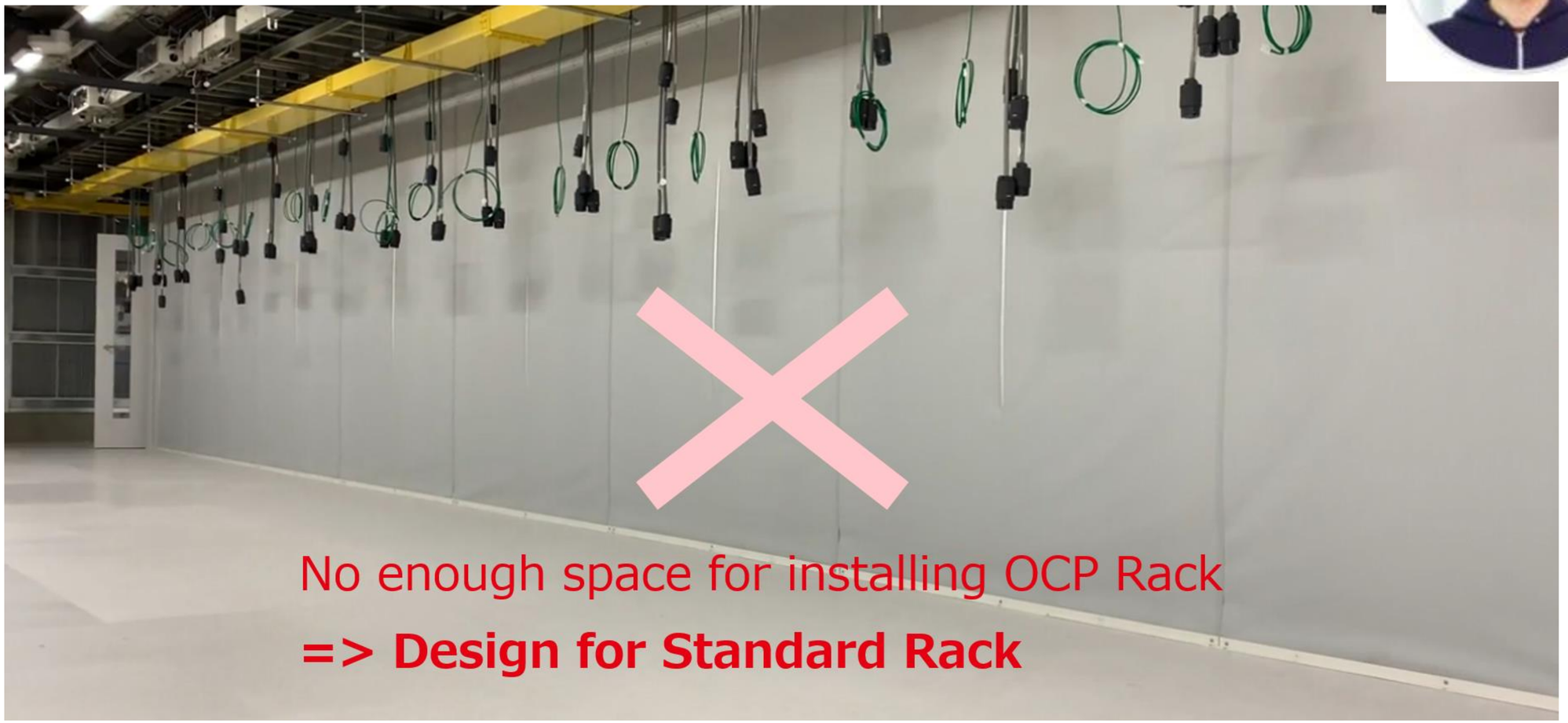
2.0 - 3.0 Month

(+PowerShelf also)

Delivery at YJ! DC

Space(Facility)

It is too hard to make space for OCP install(adoption)



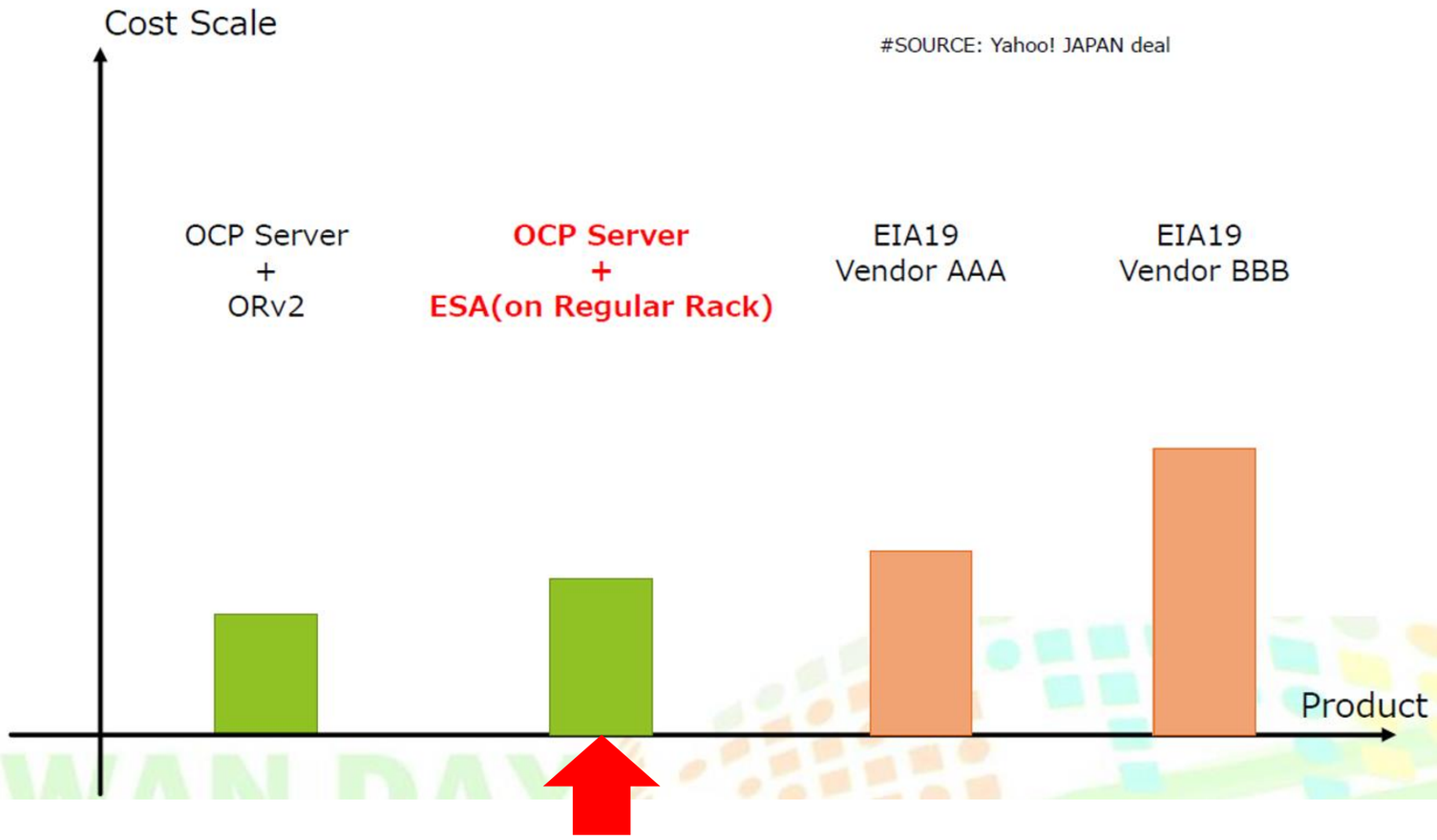
No enough space for installing OCP Rack

=> Design for Standard Rack

Solution for Space(Facility)

https://www.opencompute.org/products/267/mitac-esa-v1-rail-kit

How cost performance is OCP server + ESA

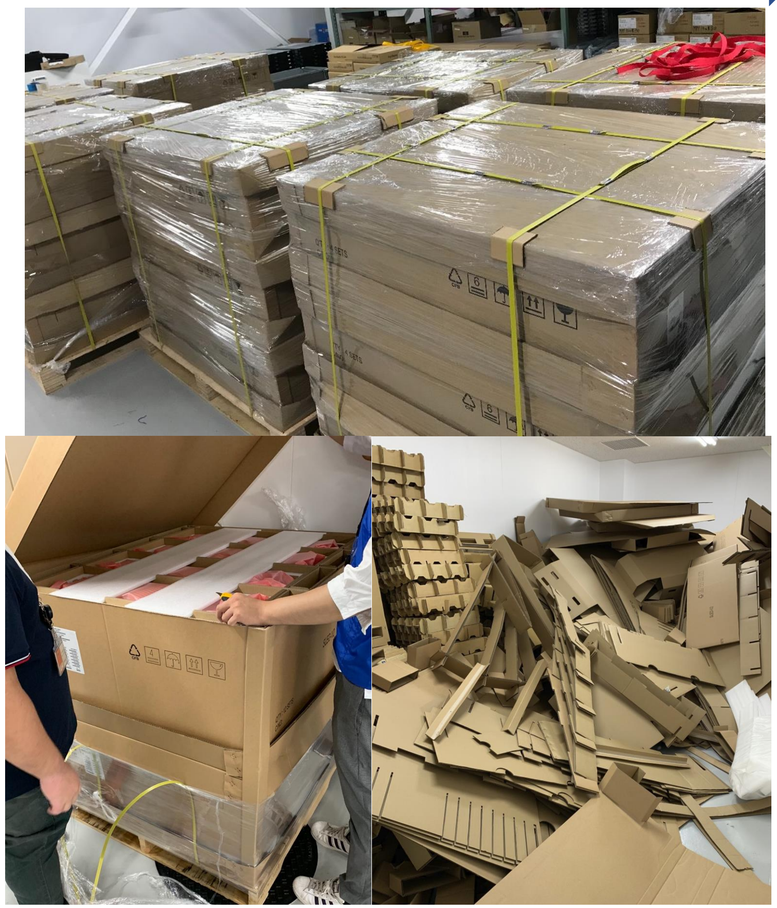


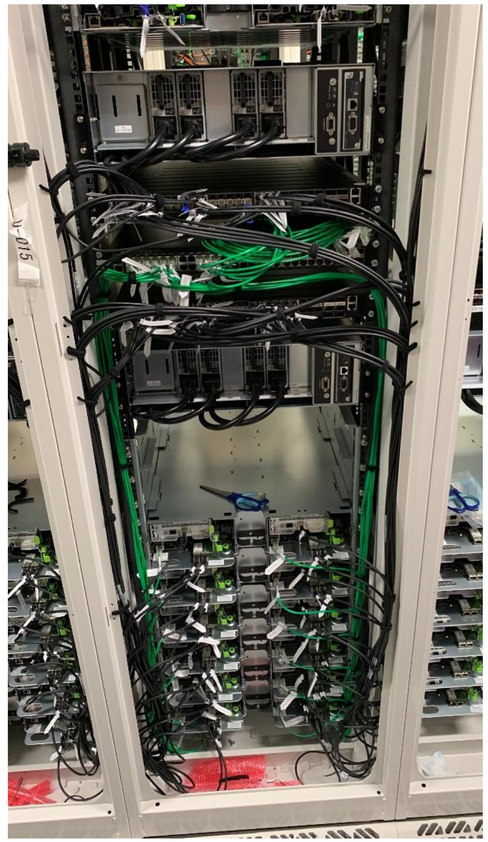
Work scene for ESA

Unload / Unpacking / Pick-up waste

Set up / Cabling

Complete as Rack Level





Conclusion

- **OCP Adoption**
  - Large-Scale
    - Node: over 4,000 / Experience: 4 Year
      - High Cost Performance
- **In the future …**
  - To expand OCP adoption
    - But some barriers … Lead Time and Space
      - To solve to use ESA to Space issue

OCP REGIONAL SUMMIT

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OCP Regional Summit

26–27, September, 2019