OCP TAIWAN DAY
Road to 5G · AI · Edge Computing

What's OCP Impact in Yahoo! JAPAN's Infrastructure

Kazuhide Fujimi / Server Infrastructure Architect
Agenda

Introduction
- About Yahoo! JAPAN, Speaker
- Overview of OCP at Yahoo! JAPAN

Impact of OCP in Yahoo! JAPAN
- Cost Saving
- Changing Adoption, Procurement

Conclusion
- Step for OCP adoption
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About Company (1/2)

1. Characteristics of Yahoo! JAPAN

Over 100 various services and high quality data

Tokyo - JP

Over 6,000 Employees
Over 20 years Company History
(Founded in January 31, 1996)

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2. Characteristics of Yahoo! JAPAN

one of the largest user volume in Japan

<table>
<thead>
<tr>
<th>PC users</th>
<th>Smartphone users</th>
</tr>
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<tbody>
<tr>
<td><strong>Yahoo! JAPAN, 24731</strong></td>
<td><strong>Google, 66081</strong></td>
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<td>Naver Japan, 4708</td>
<td>Naver Japan, 27074</td>
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</tbody>
</table>

*Source: “Nielson NetView” PC access from home or office (excluding Internet app). “Nielson Mobile NetView” Smartphone access (including apps). Average of April to September 2018. Summarized by brand level. Calculated by Yahoo! JAPAN from “Nielson NetView Custom Data Feed.”*
SiteOps Division manages all of Production Infrastructure of YJ!

150+
Infra. Engineer

Site Operation Division
Vice President

- Infrastructure Tech1
  Dept. Director
- Infrastructure Tech2
  Dept. Director
- Infrastructure Tech3
  Dept. Director
- Infrastructure Tech4
  Dept. Director

- Private Cloud
  (OpenStack)
- Operating System
- Configuration Tools
- Server
- Storage
- DataCenter Operation
- L2/L3 Network
- BackBone
- Network Operation
- Platform / CDN
- Development
- Operation

Kazuhide Fujimi (me) in HW/DCO Team

Speaker: Kazuhide Fujimi

My Profile:
- Joined YJ! since 2010
- Belong to HW/DCO Team
- Involve OCP since 2014
- My history of testing server: Over 6 vendor, 30 Model

My Responsibility of Server:
- Testing
- Considering Configuration
- Procurement
- Vendor/Supplier Communication
- Troubleshooting
- Quality Control
Overview of OCP at Yahoo! JAPAN (1/2)

2016 - Adoption Leopard (OCPv1)
2017 - Adoption Leopard (OCPv2)
2018 - Adoption Leopard/TiogaPass (OCPv2)
2019 - Adoption for TiogaPass (OCPv2) - Planning to ESA

OCP experience: 4 year

Total Server Node: Over 4,000 node

OCP Gear Installed: 3 Data Center
Overview of OCP at Yahoo! JAPAN (2/2)

Server Node Qty

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019Q1&amp;Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Volume</td>
<td>2016 - 2018</td>
<td>&lt;</td>
<td>2019Q1&amp;Q2</td>
<td></td>
</tr>
</tbody>
</table>

* YJ’s fiscal year starts in April. Q1 is April to June. Q2 is May to July.

Impact of OCP
- Cost Saving
- Changing Adoption & Procurement
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Impact – Cost Saving

Price Scale (Based on EIA19 as 1.00)

Server Unit Cost

- Decreasing Server Unit Price
- 0.29 pt

Rack Cost

- Rack Cost including...
- 0.18 pt

Price Tips
- Mature OCP market
- Optimization of cost structure
- Improvement of negotiation

#SOURCE: Yahoo! JAPAN
Impact – Changing Adoption & Procurement

Delivery

Rack Front

Rack Rear

Operation
Impact – Changing Adoption & Procurement

- Traditional Support Scheme
  - Traditional, Unflexible
  - Too much and/or Too less

- Flexible Support Scheme
  - Flexible
  - Just as well

- Non-transparency to Component
  - Relationship less
  - Slow communication (via OEM)

- End-to-End Support Scheme
  - Make relationship
  - Fast communication (Directly)
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Conclusion – Step for OCP Adoption (1/3)

19 Server over 90 %

OCP Server under 10 %
Next Step for OCP adoption

**Lead Time of OCP Gears (Server, Rack...)**

*YJ*’s fiscal year starts in April. Q1 is April to June.

### PO Date

- **1.0 - 2.0 Month**
  - LT is advantageous. Because 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.

### Delivery Date

- **2.0 - 3.0 Month**
  - LT is disadvantageous. Because the OCP is not very commodity in JP market.
  - Inventory is zero with each L6/Key Components. Manufacturing is required.
  - OCP is delivered as L10 or L11. Both are delivered at the same time.
    - For L10, To assemble on Data Center.
    - About LT of L10 is 8 week. (like “Drop shipping”)
Conclusion – Step for OCP Adoption (3/3)

Next Step for OCP adoption

OCP Rack Space Restriction

#SOURCE: Yahoo! JAPAN deal

Cost Scale

- OCP Server + ORv2
- OCP Server + ESA(on Regular Rack)
- EIA19 Vendor AAA
- EIA19 Vendor BBB

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

- Yahoo! JAPAN OCP
  - Over 4,000 node, 3 Data Center, 4 year experience

- Impact of OCP
  - Much Cost Saving: Server Unit is 29%, Rack cost is 18%
  - Procurement Approach: OEM Vendor -> ODM & Commodity Supplier

- Step for OCP Adoption
  - Expanding OCP adoption => “Lead Time” and “Rack Space”