Open Networking Driving Cloud Innovation

Los Angeles, CA  |  Thursday, March 29th  |  12:20pm - 1:10pm

Cliff Grossner, Ph.D.
Sr. Research Director & Advisor
Cloud & Data Center Research Practice

IHS Markit
Off-premises cloud services market roadmap

2014–2015
Agile Computing

2016–2017
Meta-Cloud

2018–2020
Multi-Cloud

2021 & Beyond
The Cloud Exchange

© 2018 IHS Markit. All Rights Reserved
Off-premises cloud service forecast

Revenue (US$ Billions)

- Infrastructure as a service (IaaS)
- Cloud as a service (CaaS)
- Platform as a service (PaaS)
- Software as a service (SaaS)

Source: IHS Markit

© 2018 IHS Markit. All Rights Reserved
Non-board OCP revenue over $1B in 2017

2017 Total Market Value = $137B
- Other 99.13%
- OCP Non-board 0.87%

2021 Total Market Value = $156B
- Other 96.15%
- OCP Non-board 3.85%

- 2017 OCP non-board YoY growth 103%
- 2017 OCP non-board revenue = $1.2B
- 5 year CAGR = 59%
- 2021 OCP non-board revenue = $6B

*Total market includes: Server, storage, switches, rack, power, peripheral, and other revenue

Source: IHS Markit
Bare metal switching continues long-term growth

- Bare metal switches to reach 24% of ports shipped in 2021
- Purpose-built switches to represent 57%
- Blade switches to represent 13%
- General purpose switches to represent 5%
SDN and NFV: 3 distinct markets

- NFV
- Carrier SDN
- DC and enterprise SDN

Revenue (US$ Billions)

Source: IHS Markit SDN & NFV Intelligence Service; 2H 2017
© 2018 IHS Markit. All Rights Reserved
Majority of revenue is from existing segments

<table>
<thead>
<tr>
<th>Source</th>
<th>$B</th>
<th>% of 2021 Market</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>$15.1</td>
<td>37.9%</td>
<td><strong>SDN:</strong> Orchestration and Controller, SDN Network Apps, Outsourced Services</td>
</tr>
<tr>
<td>Displaced</td>
<td>$2.1</td>
<td>5.2%</td>
<td><strong>SDN:</strong> Orchestration and Controller</td>
</tr>
<tr>
<td>Existing</td>
<td>$22.6</td>
<td>56.9%</td>
<td><strong>SDN:</strong> SDN Hardware</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$39.8</td>
<td>100%</td>
<td><strong>Total Carrier, DC and Enterprise LAN SDN</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>$B</th>
<th>% of 2021 Market</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>$17.9</td>
<td>48.4%</td>
<td><strong>NFV:</strong> NFV MANO, Outsourced Services</td>
</tr>
<tr>
<td>Displaced</td>
<td>$3.1</td>
<td>8.0%</td>
<td><strong>NFV:</strong> NFVI Hardware</td>
</tr>
<tr>
<td>Existing</td>
<td>$16.0</td>
<td>43.2%</td>
<td><strong>NFV:</strong> VNFs</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$37.0</td>
<td>100%</td>
<td><strong>Total Carrier NFV</strong></td>
</tr>
</tbody>
</table>
Takeaways

Cloud requires innovation for deployments at scale

OCP’s community driven innovation spreads

SDN & NFV still driving opportunity