Integrated Systems: 
the key arena for data center success

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Agenda

- What are Integrated Systems?
- Data center systems trends
- 2012 market trends
- Product portfolio dynamics
- Vendor Scorecard
- Position in the value chain
- Forecast assumptions and scenarios
- Recommendations
- Recommended reading, Q&A
Definition and segmentation

“Integrated Systems are a class of data center systems that deliver a combination of server, shared-storage and network devices in a pre-integrated stack.”

These systems are segmented into three types;

• **Integrated Workload Systems**: Server, storage and network integrated with database and/or application software to provide appliance or appliance-like functionality.

• **Integrated Infrastructure Systems**: Server, storage and network integrated to provide shared compute infrastructure.

• **Integrated Reference Architectures**: Products in which predefined, pre-sized components are designated as options for an integrated system, whereby the user and/or channel can make configuration choices between the predefined options.

<table>
<thead>
<tr>
<th>System Type</th>
<th>Vendor</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Workload</td>
<td>Oracle</td>
<td>Exadata</td>
</tr>
<tr>
<td></td>
<td>HP</td>
<td>App System</td>
</tr>
<tr>
<td></td>
<td>IBM</td>
<td>PureApplication</td>
</tr>
<tr>
<td>Integrated Infrastructure</td>
<td>VCE</td>
<td>Vblock</td>
</tr>
<tr>
<td></td>
<td>HP</td>
<td>CloudSystem</td>
</tr>
<tr>
<td></td>
<td>IBM</td>
<td>PureFlex</td>
</tr>
<tr>
<td>Integrated Reference Architecture</td>
<td>NetApp/Cisco</td>
<td>FlexPod</td>
</tr>
<tr>
<td></td>
<td>EMC et al</td>
<td>VSPEX</td>
</tr>
<tr>
<td></td>
<td>HDS et al</td>
<td>UCP Select</td>
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</tbody>
</table>
Data Center Systems Trends

Cloud changes who the customers are: from enterprises to hyperscale and xSP data centers.

As the data center is increasingly software-defined, hardware vendors risk losing influence of key control points.

The growing influence of hyperscale sees opportunities for self-build, ODMs and Open Compute.

Hardware vendors have to evolve portfolios, redraw alliances and reconsider routes to market.
Opportunity Varies by Customer Segment

- **Large Enterprise**
  - Hyperscale
    - (Google, Amazon, Facebook, Twitter etc)
- **Small and Midsize Business**
- **xSP**
  - (Web Hosters, Data Center Outsourcers, Communications Service Providers etc)

- **Internal**
- **External**

One size does not fill all

Is the purchaser of the system an end-user or a channel?

How does your strategy vary by customer segment?
Integrated Systems: User Benefits Should Influence Positioning

Q: What are the top three benefits your organization associates with each of the following technologies?

N = 487, 489, 466

- Better overall system manageability
- Reduced IT operational costs
- Improved quality of service
- Better overall system performance
- Reduced TCO (Total Cost of Ownership)
- Reduced staffing needs
- Improved agility
- Improved vendor support offerings
- Simplified vendor sourcing
- Other

Adopt a segmented positioning and messaging strategy for different customer segments.
Small share of data center hardware whole, but growing rapidly (5% of total revenue in 2012)

Large enterprises and xSPs are currently the key target markets, with SMB relatively underserved.

Storage architectures; a key driver for many current sales

Significant opportunity for overall segment growth as well as competitive share gain

All vendors face a challenge in best articulating their "better together" message

Note - all figures are preliminary, work in progress
Portfolio Complexity – finding the sweet spot

There is a spectrum of integration levels and offerings.
Appliance configurations can limit flexibility.
All offerings are complex, whether in terms of technology integration or managing the partner ecosystem.
Polling Question #1

What are the most important factors driving users’ choices of integrated systems vendors?

A) Ease of integration with installed base of applications
B) Performance levels of new applications to be deployed
C) Their existing server supplier
D) Their existing storage supplier
E) Their existing network supplier
Q: What were / are the three most important factors, in ranking order, driving your organisation’s choice of its integrated systems vendor(s)?

N = 499

Ease of integration with installed base of applications: 17% (Most important), 18% (2nd most important), 16% (3rd most important)

Performance levels for new applications to be deployed: 15% (Most important), 16% (2nd most important), 13% (3rd most important)

Functionality of management tools: 11% (Most important), 15% (2nd most important), 14% (3rd most important)

Lowest TCO (Total Cost of Ownership): 10% (Most important), 10% (2nd most important), 14% (3rd most important)

Reputation for support: 8% (Most important), 10% (2nd most important), 15% (3rd most important)

They are our organization’s existing server supplier: 12% (Most important), 9% (2nd most important), 6% (3rd most important)

Purchase cost: 8% (Most important), 8% (2nd most important), 10% (3rd most important)

They are our organization’s existing storage supplier: 8% (Most important), 6% (2nd most important), 3% (3rd most important)

They are our organization’s existing network supplier: 6% (Most important), 5% (2nd most important), 5% (3rd most important)

Recommendation from reseller and/or systems integrator: 5% (Most important), 2% (2nd most important), 3% (3rd most important)

Other: 1% (Most important), 3% (2nd most important), 1% (3rd most important)

Tailor Messaging to Specific Customer Requirements
Integrated Systems: Vendor Confidence Outlines Opportunities and Challenges

Q: What is your organization's level of confidence for each of the following technology vendors with respect to their capabilities (product and support) around integrated systems, in general?

N = 499

Invest in brand and product awareness activities in order to continue to maximize competitive share opportunity.
## Vendor Scorecard

<table>
<thead>
<tr>
<th></th>
<th>Cisco (incl. VCE &amp; Flexpod)</th>
<th>Dell</th>
<th>EMC</th>
<th>HDS</th>
<th>HP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doing Well</strong></td>
<td>• Strong partnerships</td>
<td>• Increased focus on Active Infrastructure</td>
<td>• Technology and partnership strengths</td>
<td>• Solid momentum for UCP</td>
<td>• Broad portfolio with flexible deployment options</td>
</tr>
<tr>
<td></td>
<td>• Driving mindshare around convergence</td>
<td>• Focus on under-served mid-market</td>
<td>• Reference architecture market entrance</td>
<td>• Flexible integrated and reference architecture options</td>
<td>• Strong partner framework</td>
</tr>
<tr>
<td><strong>Must do better</strong></td>
<td>• Geographic mix can still improve</td>
<td>• Expand into higher-end offerings</td>
<td>• Continued reference architecture ramp</td>
<td>• Awareness outside of storage environments</td>
<td>• Improve positioning against high-end storage competition</td>
</tr>
<tr>
<td></td>
<td>• Need to broaden ISV partnerships</td>
<td>• Ongoing customer perceptions efforts</td>
<td>• Clarifying portfolio positioning</td>
<td>• Further workload integration</td>
<td>• Simplify options for partners and users</td>
</tr>
</tbody>
</table>
## Vendor Scorecard

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<tr>
<th></th>
<th>IBM</th>
<th>NetApp</th>
<th>Oracle</th>
<th>VCE</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doing Well</strong></td>
<td>• Good awareness around PureSystems</td>
<td>• Early positioning of reference architecture</td>
<td>• Strong positioning in integrated workload systems</td>
<td>• Driven momentum for integrated infrastructure</td>
<td>• Strong offerings in integrated workload areas</td>
</tr>
<tr>
<td></td>
<td>• Breadth of portfolio capabilities</td>
<td>• Strong market momentum</td>
<td>• Very high-end capabilities</td>
<td></td>
<td>• Opportunity in emerging markets</td>
</tr>
<tr>
<td><strong>Must do better</strong></td>
<td>• Articulate overall positioning</td>
<td>• Extend range both up and downstream</td>
<td>• Extend range downstream</td>
<td>• Extend range downstream</td>
<td>• Greater customer awareness</td>
</tr>
<tr>
<td></td>
<td>• Transparency of user benefits</td>
<td>• Further integration of workloads</td>
<td>• Ongoing communication around perceived alliance challenges</td>
<td></td>
<td>• Positioning versus large multinationals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Drive more competitive wins to offset heritage Sun hardware erosion</td>
<td></td>
<td></td>
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</tbody>
</table>
Polling Question #2

Considering the total profit pool across the data center hardware market, will the impact of integrated systems on this overall profit pool be:

A) Positive?
B) Neutral?
C) Negative?
If users are to achieve cost-savings, where does it come from?

Do current channel programs incentivize the right behaviour?

Market education activities need to address go-to-market partners as well as end-users
Common Data Center Assumptions

- **Large Enterprise**
  - **Large**
  - **Internal**
  - **External**

- **Hyperscale**

- **Small and Midsize Business**
  - **Small**
  - **Internal**
  - **External**

- **xSP**

**Revenue and Growth**
- 2012 Data Center Revenue = $85.4bn
- 2016 Data Center Revenue = $102.5bn (CAGR 4.7%)
- Server CAGR = 3%
- Storage CAGR = 9%
- Networking CAGR = 4%

**Other Assumptions**
- System Lifecycles remain extended
- Internal spend falls from 80% to 65%
- DC infrastructure scales exponentially with country size
- Economic growth remains constrained
Setting the Integrated Systems TAM

Integrated Systems TAM is less than the data center whole

TAM factors & adoption rates are both key variables

TAM Factors
- Demographic, technology, cultural
- Storage – Server attach rates
- Un-addressable ECB storage segments
- Software category constraints (ie database vs email)
- User requirements (performance, simplicity, maturity etc)

Adoption Factors
- User readiness / Market adoption
- User organisational structures
- User focus on operational savings
- Vendor positioning
- Closed versus open vendor approaches
- Degree of Innovation coming from small / start-up vendors versus established vendors
Scenario 1 – Appliance Abundance

Integrated Infrastructure and Integrated Workload systems drive a high share of enterprise spending

Why would this happen?
- Enterprise and enterprise-oriented xSPs dominate spending
- Integrated systems confer demonstrable ROI savings
- Interoperability challenges do not materialize
- Alternate architectures have modest adoption
- Ongoing budget constraints drive focus on operational improvements

What are the signposts?
- Hyperscale remains a relatively small proportion of total
- Users demand more transparency in RFPs
- Vendor focus on 3rd party interoperability
- Limited investment in ELE, external cloud providers etc
- Increased user focus on management tool functionality

Note - all figures are preliminary, work in progress
Scenario 2 – A Flexible Future

Reference Architecture systems drive most momentum and raise the TAM

Why would this happen?

- Users demand more flexibility than integrated systems provide
- Integrated systems vendors focus more on wallet share than user benefits
- Vendors deliver savings across the IT organization
- High rate of technology innovation at 3rd party component level
- Vendors establish business models that leverage strong, open, ecosystem

What are the signposts?

- High level of integrated systems RFPs have non-standard configuration requests
- Systems vendors margins increase
- More senior levels of customer engagement
- Increased rate of technology innovation from small / start-up vendors
- Vendors with a strong partnering focus achieve the best share gains

Note - all figures are preliminary, work in progress
Scenario 3 – Traditional Values

Traditional (discrete) systems vastly predominate over integrated systems

Why would this happen?

- Enterprise spending shrinks at higher rate
- Expectations for ROI improvements are not met
- Interoperability challenges are frequent
- Alternate architectures have high adoption
- Vendors fail to properly position offerings and articulate the benefits

What are the signposts?

- Weakening economic environment, hyperscale growth
- Update / replacement demand is very weak
- Limited vendor co-operation / collaboration
- Hyperscale, Webscale IT, ELE, ODM growth
- Ongoing confusion amongst users between vendor offerings

Note - all figures are preliminary, work in progress
Recommendations

✓ Recognize that the market is still nascent. Current deployment practices will evolve.

✓ Improve transparency of comparisons. Users need to be able to quantify the potential benefits.

✓ Focus on how integrate-able, as well as integrated, the offerings are. Users need flexibility.

✓ View integrated systems holistically in the context of broader data center market trends. Effective routes to market need to account for how ISV, xSP and reseller roles are evolving.
Recommended reading

- Market Share Analysis: Data Center Hardware Integrated Systems, 1Q11-2Q12
- Marketing Essentials: How Shifts in Buying Centers for Data Center Hardware Infrastructure Will Impact Your Business
- How IT Departments Must Change to Exploit Different Types of Appliances

Upcoming Research

- Integrated Systems Market Sizing, 2012 (and quarterly updates)
- Integrated Systems Market Forecast, 2012-2017
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