It's a Multicloud World: Essential Tenets for a Successful Education Cloud Environment

The simplest path to your cloud
It’s time to stop considering whether to “be the change you want to see in the world”, because the change is here. It is time to be – and, better yet, to lead – the change you already see.

Members of the campus communities are driving these issues:

- They want to use technology to transform teaching and learning in order to attract and retain more students and better faculty
- They want to develop a competitive advantage through the insights that analytics can provide
- They want institutional information technology to function as effectively as the consumer solutions they experience
- They want to co-create solutions, and they are willing to bypass campus IT organizations to do so
- They want the IT organization to accomplish their strategic vision without additional funding

Source: Susan Grajek and the EDUCAUSE IT Issues Panel
The rate of growth in new technology adoption is moving faster than the rate of decrease in costs – meaning that institutions spend the same or more overall.

The lack of reliable funding for large-scale infrastructure improvements often means that when funding is secured to replace equipment, institutions overprovision – thereby spending more – because of uncertainty about how long the equipment will need to operate before being replaced.

Because of the resistance to change in higher education, vendor consolidation in software and cloud services is driving up costs.

With increased consumerization, most members of the campus community have their own, personal technology; however, institutions continue to provision and even require redundant technologies that don’t maximize their productivity.

Source: Susan Grajek and the EDUCAUSE IT Issues Panel
The difficult balancing act

How does IT retain visibility, control and security...

...while reducing the cost, time and complexity of delivering IT services?
IT is at an inflection point

IT is under pressure from both internal and external factors

70% of CXOs expect their IT department to go through a significant or complete overhaul in the next three years*

* Research conducted by Dell through the Economist Intelligence Unit, surveying 536 CEOs, CIOs and other CXOs WW
Enable service-centric IT

**Infrastructure Centric Data Center**
- **Business View**
  - Maintainer
  - Infrastructure provider
  - Cost center
- **Characteristics**
  - Fixed
  - Slow
  - Custom
  - Fragmented
  - Silo’ed
  - Unpredictable
  - Manual

**IT Service Centric Data Center**
- **Business View**
  - Innovator
  - Service provider
  - Growth enabler
- **Characteristics**
  - Elastic
  - Nimble
  - Modular
  - Integrated
  - Streamlined
  - High quality
  - Automated
  - Software-defined
# Private Cloud Options

## Performance and Choice, at any Scale

<table>
<thead>
<tr>
<th>Virtualization</th>
<th>Advanced Private Cloud</th>
<th>Public Cloud</th>
</tr>
</thead>
</table>

### Mainstream Enterprise Cloud Buyer
- Proven technologies user
- Invested in commercial tools and virtualization
- Turn key Solution
- Needs support and certification

### Sophisticated Cloud Buyer
- Advanced technology user
- Open source centric
- Sophisticated developers in house
- Not dependent on vendor support

### Private Cloud market opportunity

<table>
<thead>
<tr>
<th>Existing corp. workloads, critical business apps</th>
<th>New, massive scale cloud apps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VMWare Private Cloud</strong></td>
<td></td>
</tr>
<tr>
<td>• Heavily invested in VMWare Platform</td>
<td></td>
</tr>
<tr>
<td>• Mixed Microsoft &amp; Linux Environment</td>
<td></td>
</tr>
<tr>
<td><strong>MSFT Private Cloud</strong></td>
<td></td>
</tr>
<tr>
<td>• Heavily invested into MSFT platform</td>
<td></td>
</tr>
<tr>
<td>• Predominantly Microsoft environment</td>
<td></td>
</tr>
<tr>
<td><strong>Dell Red Hat OpenStack Cloud</strong></td>
<td></td>
</tr>
<tr>
<td>• Reduce dependence on commercial offers</td>
<td></td>
</tr>
<tr>
<td>• On-ramp to OpenStack</td>
<td></td>
</tr>
<tr>
<td>• Enterprise Use Cases</td>
<td></td>
</tr>
<tr>
<td>• Enterprise support &amp; certification</td>
<td></td>
</tr>
<tr>
<td><strong>OpenStack Cloud Solutions</strong></td>
<td></td>
</tr>
<tr>
<td>• Flexible, modular, open, hyper-scale</td>
<td></td>
</tr>
<tr>
<td>• Minimize dependence on commercial offers</td>
<td></td>
</tr>
<tr>
<td>• “Software defined everything” early adopter</td>
<td></td>
</tr>
<tr>
<td>• Dell Reference Architectures</td>
<td></td>
</tr>
<tr>
<td>• Dell Crowbar operations platform</td>
<td></td>
</tr>
</tbody>
</table>
Cloud adoption today

85 out of 100 customers are looking to leverage cloud tools over the next 5 years

By 2020, the projected market spend on cloud will be $241B

The proportion of business data sitting outside of traditional IT now amounts to 46%... that is roughly 3x more than what IT knows about.
What’s next in your institution’s path to the cloud?

I want to...

...move disaster recovery to the cloud

...ensure security as I migrate to cloud

...accelerate the delivery of IT services

...improve IT cost effectiveness

...enable simpler management of IT

...migrate workloads to public cloud

...modernize my aging IT
Dell Cloud Strategy

**Build** cloud environments

- Converged solutions
- Open source solutions
- Advanced virtualization
- Cloud infrastructure
- Cloud clients

**Manage** single and multi-cloud environments

- Governance, access, and security controls
- Performance monitoring
- Application services
- Provisioning & management

**Deliver** cloud services

- Public cloud ecosystem
- Software as a service
- Vertical cloud
- Managed private cloud

Dell cloud consulting and application services
Public Cloud: Providing the broadest cloud ecosystem

Global coverage

Multiple cloud platforms
Proprietary | MSFT | VMware | OpenStack | CloudStack

Most popular use cases
Vertical Apps | Disaster Recovery | ERP & CRM
Scale Out Web Infrastructure | Test & Dev
Productivity Apps | Computational Analysis
Dell cloud services portfolio

Cloud Management & Integration
- Private Clouds
- Public Clouds
- Industry Clouds

BPO & Application Services

Consulting Services