Bring Back the Flexibility of the Cloud with SDS and Open Source

Michael Letschin
@mletschin
Nexenta Systems
To even the playing field

A FEW DEFINITIONS
“open source refers to a computer program in which the source code is available to the general public for use and/or modification from its original design. Open-source code is typically created as a collaborative effort in which programmers improve upon the code and share the changes within the community. Open source sprouted in the technological community as a response to proprietary software owned by corporations.”

Software defined ....

Industry Trends

Cloud

Big Data

Social

Enterprise

Internet of Things

DataCenter

End Users

Software Defined Storage

Management

Protocols

Security
Whats in a cloud?
WHICH KIND OF CLOUD?
Cloud Comparison

![Cloud Comparison Chart]

Source: [http://goo.gl/gwGxYf](http://goo.gl/gwGxYf)
Does Simplicity Matter?
### Cloud automation

<table>
<thead>
<tr>
<th></th>
<th>Chef</th>
<th>Puppet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approach</strong></td>
<td>You write an install script in Ruby using all of the extra helper functions from Chef.</td>
<td>Apache; earlier versions are GPL</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>A subset of Ruby</td>
<td>Mainly Puppet's custom JSON-like language, although a Ruby option is available beginning in version 2.6</td>
</tr>
<tr>
<td><strong>License</strong></td>
<td>Apache</td>
<td>Apache; earlier versions are GPL</td>
</tr>
<tr>
<td><strong>Premium version</strong></td>
<td>$600 per month for 100 nodes</td>
<td>The Premium version of Puppet Enterprise is priced by the sales team.</td>
</tr>
<tr>
<td><strong>Basic version</strong></td>
<td>$120 per month for 20 nodes or $300 per month for 50 nodes</td>
<td>$99 per node per year (annual term license) with the first 10 nodes free; discounts kick in for larger installations</td>
</tr>
<tr>
<td><strong>Deployment</strong></td>
<td>Private Chef runs on your machine; Hosted Chef (same price) runs in Opscode's cloud</td>
<td>Puppet Enterprise runs on your machine.</td>
</tr>
</tbody>
</table>

Source: http://goo.gl/A8JoWs
What does it cost?

- **Hardware**
  - Compute – 30%
  - Switching – 10%
  - Storage – 60%
- **Software**
  - Open Source, COTS, Hosted
- **On-Going OpEX**
  - Administration
  - Power/Cooling
  - Ingress/Egress
Storage Options

- Software Defined Storage
- Software Based Storage
  - Traditional Arrays
  - All Flash Systems
Software Based or Software Defined?

- **Software Based**
  - EMC
  - NetApp
  - IBM
  - ORACLE
  - PURE STORAGE
  - nimble storage
  - HP
  - DELL
  - TEGILE
  - NUTANIX

- **Software Defined**
  - nexenta
  - VMware
  - Microsoft

- Software based is about technology
- All storage hardware vendors are software based
  - No hardware differentiation to speak of
  - EMC and NetApp are all x86 based
  - Nutanix is all SMC based
  - Pure Storage is Dell controller & Xyratex JBODs
  - Selling hardware, using software to extract high margins
- Software defined is about business model
  - Deliver software benefits without artificial margins
  - Leverage efficient economics of commercial off the shelf HW
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