Software Defined Data Center

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Drivers of Change

<2008

- **Customer Experience**
  - Paper & Web pages
  - Specific Information flows
  - Narrow content

- **Employee Experience**
  - Desktop Centric
  - Document & Email Centric

2013

- **Customer Experience**
  - Real-Time
  - Broad Information Flows intelligently organized
  - Mobile

- **Employee Experience**
  - Stream-Centric
  - Fluid and Flexible
Top Trends Driving 2013 IT Spending

Source: Barclays CIO Survey, October 2012
<table>
<thead>
<tr>
<th>Business</th>
<th>Organization</th>
<th>Methods</th>
<th>Applications</th>
<th>Architecture</th>
<th>Information</th>
<th>Infrastructure</th>
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<tbody>
<tr>
<td>Silo</td>
<td>Ad hoc LOB IT Strategy &amp; Governance</td>
<td>Structured Analysis &amp; Design</td>
<td>Modules</td>
<td>Monolithic Architecture</td>
<td>Application Specific</td>
<td>LOB Platform Specific</td>
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<tr>
<td>Integrated</td>
<td>Ad hoc Enterprise IT Strategy &amp; Governance</td>
<td>Object Oriented Modeling</td>
<td>Objects</td>
<td>Layered Architecture</td>
<td>LOB or Enterprise Specific</td>
<td>Enterprise standards</td>
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<tr>
<td>Componentized</td>
<td>Common Governance processes</td>
<td>Component Based Development</td>
<td>Components</td>
<td>Component Architecture</td>
<td>Canonical Models</td>
<td>Common Reusable Infrastructure</td>
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<tr>
<td>Services</td>
<td>Emerging SOA Governance</td>
<td>Componentized Business</td>
<td>Services</td>
<td>Emerging SOA</td>
<td>Information As a Service</td>
<td>Project-based SOA Environment:</td>
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<td>Composite Services</td>
<td>SOA and IT Governance Alignment</td>
<td>Componentized Business offers Services</td>
<td>Services</td>
<td>SOA</td>
<td>Virtualized Services</td>
<td>Common SOA Environment</td>
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<td>Virtualized Services</td>
<td>Governance through Policy</td>
<td>Processes through service composition</td>
<td>Process Integration via Services</td>
<td>Grid Enabled SOA</td>
<td>Dynamic Assembly, context-aware invocation</td>
<td>Virtual SOA Environment; S&amp;R</td>
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<td>Dynamically Re-configurable Services</td>
<td>Business Grammar Oriented Modeling</td>
<td>Mix and match business and context-aware capabilities</td>
<td>Dynamic Assembly, context-aware invocation</td>
<td>Dynamically Re-configurable Architecture</td>
<td>Semantic Data Vocabularies</td>
<td>Dynamic Sense, Decide &amp; Respond</td>
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**Legend:**
- **Silo:** Isolated Business Line Driven
- **Integrated:** Business Process Integration
- **Componentized:** Componentized Business
- **Services:** Componentized Business offers Services
- **Composite Services:** Processes through service composition
- **Virtualized Services:** Geo-graphical Independent Service centers
- **Dynamically Re-configurable Services:** Mix and match business and context-aware capabilities
Time to Provision New Services

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Hours</th>
<th>Minutes/Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>2012</td>
<td>Future</td>
</tr>
</tbody>
</table>
Weeks
2008

Days/
Hours
2012

Minutes/
Seconds
Future
Delivering Apps as a Service to Business

Customer accesses app through link → Application requested → Request approved → Provisioning request sent → change request created and approved → infrastructure service provisioned → Virtual Resources created → Infrastructure ready → request sent → Infrastructure ready → vApp

Customer application ready → deployment complete → deploy VM(s) → deploy application → Infrastructure ready

Coordination with corporate process tools can also be orchestrated:
- CMDB
- Change management
- Incident management
- Configuration management
Simplify and automates IT management; empower IT to govern services across multiple platforms and providers.
The EMC Product Portfolio

Virtual Desktop Infrastructure: End User Choice With IT Control

**ENTERPRISE APPLICATIONS**

- SAP
- ORACLE
- Microsoft
- VMware
- vshield
- vCloud Director

**BIG DATA APPLICATIONS**

- Greenplum
- Data Domain, Avamar, NetWorker
- Isilon
- Atmos

**TRANSACTIONAL STORAGE**

- VMware Integration, Simplicity, Efficiency, Scalability, Availability

**HYBRID TECHNOLOGIES**

- Security And Compliance
- Policy-Driven Management
- Integrated Data Mobility
- Backup And Archiving

**BIG DATA STORAGE**

- Linear Scalability, Operational Simplicity, Geographic Distribution, File And Object
- Speed, Deduplication, VMware Integration

**BI & ANALYTICS**

- Structured & Unstructured
- Massive Scalability

**ENTERPRISE APPLICATIONS**

- VNX
- VNXe
- VMAX 10, 20, 40K

**BIG DATA APPLICATIONS**

- Isilon
- Atmos

**VIRTUAL DESKTOP INFRASTRUCTURE**

- End User Choice With IT Control

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