Predstavljane i demonstracija zajedničke Vmware, Cisco i EMC (VCE) arhitekture

Blaženko Blažević, EMC
Marcel Brunner, EMC
EMC in a Nutshell

EMC is the world leader in systems, software, services and solutions for building and managing secure and flexible information infrastructures. With these infrastructures, customers are able to intelligently and efficiently store, protect, and manage their information so that it can be made accessible, searchable, shareable, and, ultimately, actionable.

Company Information
- Revenue (2008): $14.9 billion
- Net income (2008): $1.4 billion
- Q3 (2009) Consolidated Revenue: $3.5 billion
- Employees (end Q3 2009 worldwide): ≈41,500
- Countries with EMC operations: > 80
- R&D investment (2009 estimate): $1.7 billion
- Total cash and investments (end Q3 2009): $8.4 billion
- Free cash flow (Q3 2009): $745 million
- Market capitalization: (Dec. 1 ’09) ≈$34 billion
- Founded: 1979

Recognized Leadership
- #1 external storage
- #1 external RAID
- #1 networked storage
- #1 open SAN
- #1 NAS
- #1 total storage software
- #1 storage management software
- #1 replication software
- #1 device management software
EMC Growth and Diversification

Since 2003 ≈$9 billion invested in ≈40 strategic acquisitions

- **Services**
  - Dolphin
  - Internosis
  - Interlink
  - Geniant
- **Content Management**
  - Documentum
  - Captiva
  - ProActivity
  - X-Hive
- **Information Security**
  - RSA
  - Authentica
  - Network Intelligence
  - Tablus
  - Verid
- **Virtualization/Data Mobility**
  - VMware
  - Rainfinity
  - Axiom
  - Akimbi
- **Resource Management**
  - Astrum
  - Smarts
  - nlayers
  - Voyence
- **Data Protection/Archiving**
  - Legato
  - Dantz
  - Kashya
  - Avamar
  - Indigo
  - Stone
  - Illuminator
  - Mozy
- **Cloud Infrastructure and Services**
  - Pi
  - Source Labs
  - Data Domain
  - Legato
  - Allocty
  - Avamar
  - Indigo Stone
  - Illuminator
  - Mozy
  - Pi
  - Source Labs
  - Data Domain
## Evolution of IT

<table>
<thead>
<tr>
<th>Evolution</th>
<th>Efficient</th>
<th>Flexible</th>
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<tbody>
<tr>
<td>Mainframes</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Evolution of micro-electronics</td>
<td></td>
<td></td>
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<tr>
<td>PCs, small servers</td>
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<td>✓</td>
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<tr>
<td>Evolution of the Internet</td>
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<tr>
<td>Virtualization – Cloud</td>
<td>✓</td>
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So What is Cloud Computing?

- Cloud computing describes a new [...] model for IT services based on the Internet, and it typically involves the provision of dynamically scalable and often virtualized resources.

- Many cloud-computing offerings employ the utility computing model, which is analogous to how traditional utility services (such as electricity) are consumed.

- Cloud computing users can avoid capital expenditure (CapEx) on HW, SW and services when they pay a provider only for what they use.

Source (all three): http://en.wikipedia.org/wiki/Cloud_computing
What Does It Need?

Virtualization Expertise
Internet Expertise
Consolidation Expertise

Virtual Computing Environment
The VCE Coalition

VMware + Cisco + EMC
Vblock Design & Architectural Principles

A Data Center is a collection of pooled 'Vblocks' aggregated in 'Zones'.

Design  Selection  Assembly  Result
Vblock Infrastructure Packages
A New Way of Delivering IT

- Rapid deployment model of virtualized infrastructure
- Pre-integrated and validated solutions reduce total cost of ownership
- Service-level driven through predictable performance and operational characteristics
- Improved compliance/security and reduced risk

Accelerate time to results, Reduce TCO
Vblock Infrastructure Packages
Scalable IT capability and performance
Brief Introduction to Cisco UCS

- Consolidated Infrastructure
  - Natural aggregation point: Network
  - Less overhead per server
- Wire once: I/O on demand
  - LAN, SAN, IPC
- Centralized management
  - Embedded native management
  - Fewer switches, management modules
- Lower cost
  - Fewer switches, adapters, cables
  - Lower power consumption
Today, server identity or “state” is embedded in the physical hardware
E.g., MAC & WWN addresses burned into adapters, boot settings in BIOS

Server connectivity to LAN & SAN is tied to physical adapters and access ports
E.g., Access port on LAN defines VLAN, SAN zoning and LUN masking done on HBA WWN
Brief Introduction to Cisco UCS

Hardware “State” Abstraction

- Separate firmware, addresses, and parameter settings from server hardware
- Physical servers become interchangeable hardware components
- LAN and SAN connectivity “follow” the server, settings part of Service Profile.
Key Features

- Blade Web Servers
- Oracle RAC
- VMware

**Old Deployment:** 18 Server

- Resources provisioned based on business need
- Still HA, but with fewer spares
- Reduction: - 4 servers
- 22% CapEx Savings

**Cisco Deployment:** 14 Server

- Resources provisioned based on business need
- Still HA, but with fewer spares
- Reduction: - 4 servers
- 22% CapEx Savings
Accelerating Virtualization…
Accelerate IT Standardization and Simplification

Database | Virtual Desktops | Email | Business Apps | Web
Unified Vblock Element Management
Single Point of Management, Extensible Integration Framework

- Unified Vblock Management Interface
  - Consolidated view into all Vblock infrastructure
  - Single integration point
- IT self-service portal
  - Mini service catalog and dashboard for self-provisioning
- Policy-based management
  - Fine-grained tracking, traceability, reproducibility
  - System-wide compliance and remediation
- Automated discovery and deployment

Enterprise Management Platforms

Configuration and Compliance Events
Availability and Performance Events

Unified Vblock Element Management
EMC Ionix Unified Infrastructure Manager

Provides Vblock Self-Service Portal, Service Profile Catalog, Policy Based Management, Unified Provisioning, Config and Change, Configuration Compliance Analysis, Infrastructure Recovery (DR)
Thank You!
Virtual Computing Environment Coalition