IT AS A SERVICE BROKER

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Thomas P. Roloff
Senior Vice President
EMC Global Services

twitter: @TRoloff
Why Transformation?

Business is Changing Faster Than IT

Business Has New IT Alternatives

Technology Convergence is Accelerating
As ALL Businesses Become More IT Intensive, There Are Real Business Reasons To Transform

**COST**

- IT Budgets are not expanding
- The desired Balance for Capex/Opex is shifting
- IT labor must be optimized

**AGILITY**

- New Application Time To Market must be accelerated
- The Business needs IT to start with the business problem in mind, not with a technology solution
IT As A Service Can Deliver Dramatic Cost Savings

**IT Cost Comparison**
(\% of Total IT OpEx Budget)

- **Legacy** - 100\%
  - Cloud Services: 33\%
  - External Services: 20\%
  - Internal Services: 14\%
  - Software: 6\%
  - Hardware: 27\%

- **ITaaS** - 76\%
  - Cloud Services: 4\%
  - External Services: 22\%
  - Internal Services: 14\%
  - Software: 9\%
  - Hardware: 23\%

Source: McKinsey, Gartner, EMC analysis

**Innovation Spending**
(\% of IT Budget)

- Legacy - 28\%
  - Innovation
  - ITaaS - 40%+
  - Maintenance

Source: Forrester, EMC analysis
Enterprise IT’s Monopoly on IT Services is Eroding

How frequently are lines of business at your organization turning to outside service providers when they need IT services?

LOB USE OF OUTSIDE SERVICE PROVIDERS

- Frequently - More than 50% of the time
  - IT: 13%
  - Business: 12%

- Occasionally - Between 25% and 50% of the time
  - IT: 46%
  - Business: 41%

- Rarely - Less than 25% of the time
  - IT: 32%
  - Business: 41%

- Never
  - IT: 9%
  - Business: 5%

>50% of all respondents report using outside service providers, citing faster service delivery and the ability to leverage technical expertise.

TOP ATTRACTIONS FOR LOB TO LEVERAGE OUTSIDE SERVICE PROVIDER

- Faster service delivery/time to market: 41%
- Ability to leverage technical expertise not available in-house: 41%
- Lower costs: 40%
- Better application performance: 32%

Source: IDG Research Services/CIO Custom Solutions Group, Big Picture Global Survey: Dual Perspective of ITaaS, A survey of IT and business executives, June 10, 2013
Transforming Into a Service Broker

NEW IT BUSINESS MODEL
Service Oriented
Market Driven
“P & L” Focused
Broker & Builder

NEW TECHNOLOGY ARCHITECTURE
Private, Hybrid, Public Clouds
End-To-End Automation
Financial Transparency
Self-Service Capabilities

DNA, SKILLS, ROLES & ORGANIZATIONAL ALIGNMENT
“Front Office” Capabilities
Service Accountabilities
Technology Breadth
## ITaaS Main Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Self-Service</td>
<td>Self-service catalog through user portal. Automated, traceable service requests &amp; fulfillment</td>
</tr>
<tr>
<td>Service Oriented</td>
<td>Standardized planning, design, delivery and operation of services. IT partners with LOBs.</td>
</tr>
<tr>
<td>Highly Automated</td>
<td>Standardized technology architectures allow for deep automation and workflow orchestration.</td>
</tr>
<tr>
<td>Financially Transparent</td>
<td>Services consumption is measured and reported back to user (LOB). Tiered services with different SLAs and costs.</td>
</tr>
<tr>
<td>Consumerized</td>
<td>Access to services through device of choice.</td>
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Enabling A New Consumption Model

- Many companies are changing the customer experience through IT-enabled services
- We can now deliver on the Service Management promises of the past 20 years
It Begins With The User Portal

Presentation layer that encapsulates the service catalog for consumption by clients

- New, beautiful interface to the service catalog
- Built with the (business) user’s needs in mind
- Easy to use
- Unified, self-service interface for request, provisioning, management and reporting
- Available, scalable, secure
NEW PROCESSORS AND GRAPHICS. PULL OUT ALL THE STOPS.

The MacBook Pro features the new 2.3GHz and 2.6GHz quad-core Intel Core i7 processors with 8MB of shared L3 cache and Turbo Boost speeds up to 3.6GHz. And you can configure it to be even faster. Choose the 2.3GHz quad-core Intel Core i7 with 8MB of cache and Turbo Boost speeds up to 3.6GHz.

Features:

Amazing Graphics
The new integrated Intel HD Graphics 4000 processor boosts performance by up to 60 percent. That extra power gives you a smoother, more fluid experience than before. It’s still highly efficient, too, so you get long battery life when you’re out and about.
The Service Catalog
Provides a unified view of the full range of services

- Services are bundles that matter to the user – not expressions of an IT inventory
  - IT has the ability to create / enforce technology standards behind the service bundles
- Services describe service cost, policies, SLAs, fulfilment process, provisioning interface, ownership
- IT can manage demand through role-based access control
Service Catalog Is the Foundation

Start with a few infrastructure services, then iterate up the stack

Business Process as a Service
- Business Intelligence
- Employee Onboarding
- ERP

Software as a Service
- Payroll
- Sales Force Automation
- Office Productivity

Platform as a Service
- Apache Web Server
- Tomcat App Server

IaaS
- Windows VM
- Storage as a Service
Orchestration

Automate business workflows

- Orchestration automates disparate workflows into a seamless process
  - Enables deep user transparency
  - Can enable Push / Pull of workflow updates

- Facilitates provisioning, management and retirement of services. Example services:
  - Virtual desktop refresh
  - Collaboration environments
  - Development sandbox environment
  - Promotion of a new app / release from Dev to Test to Production
  - New employee hire setup

- Security built into workflows

- Puts the consumer in charge by communicating workflow status
EMC IT E-PaaS Workflow Automation

Previous Timeline: ~4 Months

New Timeline: < 1 Day

Configurable
Manual
Complex

Standard
Automated
Simple

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Cloud Service Broker

Unified interface to service providers with consistent consumption and management

- Keep internal what needs to be internal
  - But insure it plays well with emerging / existing standards
- Leverage 3rd parties for all that is best done externally
  - What business do you want to be in?
- Seamless – and dynamic - movement of Workload to ‘best’ infrastructure and middleware environment
  - Right-sourcing by policy
  - Portability among service providers
  - Enables SP contestability
  - Web services API
How EMC Brings ITaaS Together

Governance, Risk and Compliance (GRC)

Security

Cloud Services

Cloud Service Broker (CSB)

BPaaS
SaaS
PaaS
IaaS

Cloud Service Building Blocks

Service Management

Request Management
Incident Management
Problem Management
Event Management
Knowledge Management
Change Management

Traditional (Non-Cloud) Services

Device
Hosting
Software
Professional Services

Orchestration Engine

Policy Engine
Service Catalog
User Portal

Metering Engine

Configuration Management

CMDB
AMDB

Asset Management

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IT-As-A-Service Operating Model

<table>
<thead>
<tr>
<th>SERVICE PORTFOLIO MANAGEMENT</th>
<th>SERVICE DELIVERY AND SUPPORT</th>
<th>FINANCIAL TRANSPARENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Roadmap</td>
<td></td>
<td></td>
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<tr>
<td>Service Design / Launch</td>
<td></td>
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</table>

| BUSINESS USERS |
|-----------------|-----------------|-----------------|
| Voice Of The Customer | Service Request / Delivery | Invoicing |

| GO - TO - MARKET |
|------------------|------------------|------------------|
| Service Strategy | Service Catalog | Pricing, Show / Chargeback |

<table>
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<tr>
<th>SKILLS / ROLES / COMPETENCIES</th>
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<th>CLOUD INFRASTRUCTURE</th>
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## Business Operations as Services

<table>
<thead>
<tr>
<th>OLD WAY</th>
<th>NEW WAY</th>
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</thead>
<tbody>
<tr>
<td><strong>Create a SW Development Environment</strong></td>
<td>Developer logs request. Management approves. Purchasing orders. IT designs, installs and builds</td>
</tr>
<tr>
<td><strong>Onboard New Employee</strong></td>
<td>Order equipment, office, phone, badge, IT accounts from separate systems</td>
</tr>
<tr>
<td><strong>Get a New Laptop</strong></td>
<td>Employee logs request. Management and finance approve, purchasing orders, IT installs</td>
</tr>
</tbody>
</table>
Transforming to ITaaS

Align Workloads With Most Suitable Cloud Model And Empower Them For Mobile And Big Data Solutions

Build a Cost-Efficient, Agile Infrastructure to Enable Private and Hybrid Cloud

APPLICATION TRANSFORMATION

End User Experience

2nd Platform Existing Apps

3rd Platform New Apps

APPLICATION Fabric

Data Fabric

Cloud Fabric

OPERATING MODEL TRANSFORMATION

User Portal

Service Catalog

Policy Engine

Orchestration Engine

Metering Engine

New Roles

Package And Orchestrate Services For Agile IT Operations And Convenient Consumption

INFRASTRUCTURE TRANSFORMATION

PUBLIC

PRIVATE

HYBRID

LEGACY

Align Workloads With Most Suitable Cloud Model And Empower Them For Mobile And Big Data Solutions

Build a Cost-Efficient, Agile Infrastructure to Enable Private and Hybrid Cloud

APPLICATION TRANSFORMATION

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3rd Platform New Apps

APPLICATION Fabric

Data Fabric

Cloud Fabric

OPERATING MODEL TRANSFORMATION

User Portal

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Metering Engine

New Roles

Package And Orchestrate Services For Agile IT Operations And Convenient Consumption

INFRASTRUCTURE TRANSFORMATION

PUBLIC

PRIVATE

HYBRID

LEGACY
Transformation Roadmap
Initiative Interdependencies

Transform Applications
- Application Rationalization
- Cloud Development Platform/Tools
- IaaS
- Service Catalog Design
- Rationalize Standards
- Virtualized, Consolidated Data Center
- Converged Infrastructure, SDDC

Transform Operating Model
- SDLC/DevOps
- PaaS
- Service Orchestration

Transform Infrastructure
- Business AppStore
- Agile Stateless Applications
- Self-Service Consumption
- Software Defined Data Center
EMC IT Transformation Results

IT PRODUCTION  BUSINESS PRODUCTION  IT-AS-A-SERVICE

$8.2B  $66M  $21.7B

OPEX Savings
More User Productivity**
More Agile***
Pounds of CO₂ Reduced
CAPEX Avoidance

Source: ESG IT Audit Report: EMC IT - Leading The Transformation, March 2013
Thomas P. Roloff
Senior Vice President
EMC Global Services

twitter: @TRoloff