Blue Mountain Labs

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Moving to Cloud Computing Step-by-Step
New Book

Cloud Computing and SOA Convergence in Your Enterprise

A Step-by-Step Guide

David S. Linthicum
The Basic Idea

SOA

Finance/Operations

Sales

Sales Order Update

Commission Calculation

Data Cleaning

New Accounts

Cloud Resources

xignite
Financial Web Services

Google App Engine

Amazon Web Services

salesforce.com
Success Not Software
SOA and Cloud Computing

• One can consider cloud computing the extension of SOA out to cloud-delivered resources, such as storage-as-a-service, data-as-a-service, platform-as-a-service -- you get the idea.

• The trick is to determine which services, information, and processes are good candidates to reside in the clouds, as well as which cloud services should be abstracted within the existing or emerging SOA.
Organizing the Clouds

- Infrastructure-as-a-Service
- Storage-as-a-Service
- Database-as-a-Service
- Information-as-a-Service
- Process-as-a-Service
- Application-as-a-Service
- Management/Governance-as-a-Service
- Security-as-a-Service
- Integration-as-a-Service
- Testing-as-a-Service

Platform-as-a-Service
Management/Governance-as-a-Service
Application-as-a-Service
Process-as-a-Service
Information-as-a-Service
Database-as-a-Service
Storage-as-a-Service
Infrastructure-as-a-Service
Security-as-a-Service
Integration-as-a-Service
Testing-as-a-Service
IT is Skeptical

• Enterprise IT is understandably skittish about cloud computing.
• However, many of the cloud computing resources out there will actually provide better service than on-premise.
• Security and performance are still issues.
Making the Business Case

- Year 1: On-Premise (500,000) vs. Cloud Computing (200,000)
- Year 2: On-Premise (250,000) vs. Cloud Computing (200,000)
- Year 3: On-Premise (250,000) vs. Cloud Computing (200,000)
- Year 4: On-Premise (250,000) vs. Cloud Computing (200,000)
- Year 5: On-Premise (250,000) vs. Cloud Computing (200,000)
On-Premise

- Year 1: $500,000
- Year 2: $500,000
- Year 3: $500,000
- Year 4: $1,000,000
- Year 5: $500,000

- Hardware/Software
- Transactions/Day
Cloud Delivered

Year 1 | Year 2 | Year 3 | Year 4 | Year 5

Cost of Cloud Computing Provider
Transactions / Day
However, Not So Fast

- Not all computing resources should exist in the clouds.
- Cloud computing is not always cost effective.
- Do your homework before making the move.
When Cloud Computing may be a Fit

• When the processes, applications, and data are largely independent.
• When the points of integration are well defined.
• When a lower level of security will work just fine.
• When the core internal enterprise architecture is healthy.
• When the Web is the desired platform.
• When cost is an issue.
• When the applications are new.
When Cloud Computing may not a Fit

- When the processes, applications, and data are largely coupled.
- When the points of integration are not well defined.
- When a high level of security is required.
- When the core internal enterprise architecture needs work.
- When the application requires a native interface.
- When cost is an issue.
- When the application is legacy.
Start with the Architecture

Understand:

• Business drivers
• Information under management
• Existing services under management
• Core business processes
Stepping to the Clouds

1. Access the business.
2. Access the culture.
3. Access the value.
4. Understand your data.
5. Understand your services.
6. Understand your processes.
7. Understand the cloud resources.
8. Identify candidate data.
9. Identify candidate services.

10. Identify candidate processes.
11. Create a governance strategy.
12. Create a security strategy.
13. Bind candidate services to data and processes.
15. Implement security.
16. Implement governance.
17. Implement operations.
Create a Service Model

Understand Services

Information to Services

Build Service Model

Data Catalog

Candidate Services

Information Model

Services And Information

Service Model
Cloud-Based Application

On Premise Application

Internet

Services
On Premise

Cloud Provider
Cloud Provider

On Premise
Create a Process Model

Understand Processes

Services to Processes

Build Process Model

Data Catalog

Candidate Processes

Information Model

Services to Processes

Service Model

Process Model
Test SOA using Cloud Architecture

Create Test Plan

Test Plan

Black Box Testing Results

White Box Testing Results

Process Model

Information Model

Service Model

Governance Model
Assigning Candidate Data, Services, and Processes for the Clouds

- Candidate Processes
- Candidate Services
- Data Dictionary and Metadata
- Governance Model

Process Assignments
Service Assignments
Data Assignments

Analyze Candidate Processes
Analyze Candidate Services
Analyze Candidate Data
Select Platforms and Deploy Processes, Services, and Data to Platforms.

- List Candidate Platforms
  - Process Assignments
  - Service Assignments
  - Data Assignments

- Analyze and Test Candidate Platforms
  - Test Results

- Select Target Platforms
  - Target Platforms

- Deploy to Target Platforms
Other Thoughts

• External cloud services should function like any other enterprise application or infrastructure resource.
• You should evaluate cloud providers using similar validation patterns as you do with new and existing data center resources.
• Cloud resources should appear native.
• Consider Private Clouds.
• Watch the hype, the resources are new, but the patterns of architecture are familiar.
Thanks!

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• Blogs:
  – InfoWorld “Real World SOA”
  – Intelligent Enterprise
  – eBizq.net

• Weekly Podcasts
  – InfoWorld SOA Report
  – Cloud Computing Podcast

• Columns
  – SOA Journal
  – Cloud Computing Journal
  – eBizq.net
  – Align Journal
  – Government Computer News

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