Aligning business and IT with the Service-Oriented Architecture (SOA)

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“It bothers me that people talk about ‘the business’ as if it’s some monolithic thing made up of every department that’s not IT.”

CIO Magazine, Editor in Chief Abbie Lundberg
Today

• SOA implementations
  – Every market segment
  – Supporting key business initiatives
  – Provide more mainstream role for IT

• Results
  – Better value from IT
  – Increased agility
  – Ability to react to change
  – IT aligned with other business units
Typical non-alignment of business and IT

Manufacturing
Product development
Finance
Packaging
Marketing

+ Strategic planning

? IT
The SOA approach

Manufacturing
Product development
Finance
Packaging
Marketing

+ IT +

Strategic planning
Run IT as a business

In companies that have experienced highly successful with SOA transformations—

• Achieving significant ROI
• Improving customer retention
• Improving customer satisfaction
• Increasing revenues
• Cutting costs

You can’t tell an IT manager from a line of business manager
Allaying fears about SOA

• SOA is not a radically new architectural approach.
• SOA is much more than technology.
• SOA represents maturation of:
  – Thinking
  – Technology
  – IT Architectures
• SOA is designed for flexibility.
• SOA transformation allows the alignment of business and IT.
SOA is driven by business initiatives
SOA adoption

1. SOA education/awareness
2. Web services and business process services executed at the project level
3. Some services and data are shared for departmental applications or solutions
4. A shared enterprise-level SOA strategy
5. A virtual, real-time Adaptive Enterprise
HP approach
HP SOA Strategy

Breadth

HP SOA Competency Centers

Depth

Qualified Personnel

Reach

HP SOA Manager

Choice

HP SOA Partners

HP Professions

HP Global Capabilities

HP Products

HP Services
SOA transformation stages

Visioning
Capitalizing on change
Full visibility
Realization

Governance and enterprise architecture

Assessment

Business IT aligned

IT
Business
The HP SOA domain model outlines the key areas of capability, activity and assets needed to successfully adopt and operate an SOA.
Domain Model—think beyond technology

- Business goals and strategy
- Business metrics
- Stakeholder participation
- Business/IT Synchronization

- Program management
- Project management
- Transformation program
- POC, pilot and roll-out
- Assessment & measurement

- Enterprise Architecture
- Solution/Service Architecture
- Principles, Standards and Models
- Domain Architecture (Security, Management, Network, etc...)

- IT services for business
- Vendors and suppliers for IT
- Sourcing strategies
- Service level contracts, obligations and agreements

- IT Governance
- Organization structure
- Compliance management
- Portfolio management

- Service Infrastructure (ESB, Registry, Service hosts, Development Environment, etc...)
- Legacy migration/integration
- Technical infrastructure (Servers, Storage, Network, etc...)

- Skills and expertise
- Experience
- Culture
- Communication
- Education

- Business
- People
- Program Mgmt.
- Governance
- Architecture
- Enabling Technologies
- Operations & Mgmt.
- Supply & Demand

- Day-to-day service operations
- Management of SOA IT
- Integrated management of business & IT
## SOA Maturity Model

<table>
<thead>
<tr>
<th>SOA Domains</th>
<th>Level 1 Ad-hoc</th>
<th>Level 2 Basic</th>
<th>Level 3 Standardized</th>
<th>Level 4 Managed</th>
<th>Level 5 Adaptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Minimal business interest in SOA</td>
<td>Business is aware of SOA</td>
<td>Business generally complies with SOA</td>
<td>Business proactively supports SOA</td>
<td>SOA is fundamental to business operations</td>
</tr>
<tr>
<td>Program mgmt.</td>
<td>SOA is project focused</td>
<td>SOA efforts are business unit based</td>
<td>SOA is federated, but not integrated</td>
<td>SOA is integrated at corporate level</td>
<td>SLA is enterprise-wide and extends to partners</td>
</tr>
<tr>
<td>Governance</td>
<td>Some acknowledgement of governance issues</td>
<td>Some governance processes, individual responsibility</td>
<td>Governance guidelines defined and integrated into process</td>
<td>The value of governance is fully understood</td>
<td>Advanced understanding of IT governance</td>
</tr>
<tr>
<td>Architecture</td>
<td>Limited or ineffective architecture</td>
<td>Architecture program exists, and architecture is defined</td>
<td>All IT initiatives comply with the architecture</td>
<td>Architecture is business driven and is auditably linked</td>
<td>Architecture and business are executed as integrated</td>
</tr>
<tr>
<td>Operations &amp; mgmt.</td>
<td>No management of services, infrastructure elements only</td>
<td>Management of applications and infrastructure in terms of SLAs</td>
<td>Proactive management of business services linked to component services</td>
<td>Management of business services integrated into business operations</td>
<td></td>
</tr>
<tr>
<td>Supply and demand</td>
<td>Business needs are all meant using technology components</td>
<td>All services are provided internally</td>
<td>Value based sourcing decisions</td>
<td>Services sourced from multiple providers</td>
<td>Dynamic service sourcing from multiple sources</td>
</tr>
<tr>
<td>People</td>
<td>Staff have little or no knowledge of SOA</td>
<td>Understanding of SOA is limited to IT management &amp; architects</td>
<td>SOA education is required for all IT staff</td>
<td>Ongoing SOA education is attended by all staff</td>
<td>SOI is embraced by all staff and actively promoted</td>
</tr>
<tr>
<td>Enabling technologies</td>
<td>There is no service infrastructure in place</td>
<td>SOA infrastructure is limited to exposing functionality as services</td>
<td>Standardised enterprise-wide SOA infrastructure</td>
<td>Large-scale managed SOA infrastructure</td>
<td>Integrated, dynamic SOA infrastructure</td>
</tr>
</tbody>
</table>
HP experience
Hewlett-Packard Company

Global provider of technology solutions to consumers, businesses and institutions

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Solution</th>
<th>Results/Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• HP Partner Direct: customer-facing, event-driven integrated enterprise</td>
<td>• New solution – SOA and web services</td>
<td>• Lowered total cost of ownership (reduced staff and license costs)</td>
</tr>
<tr>
<td>• Web-based and wireless customer interaction</td>
<td>• Service consumer SDKs</td>
<td>• Recovered $1M in license fees</td>
</tr>
<tr>
<td>• Real-time applied data mining</td>
<td>• Web services consumed by all resellers (no 1-1 modifications required)</td>
<td>• Responded to change 2 to 5x faster</td>
</tr>
<tr>
<td>• Develop direct sell supply chain</td>
<td>• Live verification of order coherence, order confirmation, price and delivery guarantees synchronized with supply chain (SAP to web services)</td>
<td>• Multiplied business unit’s revenues 3x in 6 months</td>
</tr>
<tr>
<td>• Reduce time needed to connect retail partners</td>
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Top six HP post-merger challenges

• Budget cuts were ‘de rigueur’.
  – Employees had to re-think the way they work.
• HP/Compaq merger was a key impetus of change.
  – Rationalization, consolidation and integration were needed immediately!
• More than one hundred storefronts existed.
  – Consolidation was mandatory.
• Consolidation required simultaneous revision of front and back-end systems.
  – Tight coupling would cause repetitive reworking.
• An eclectic collection of technologies existed.
  – Rationalization and integration were required.
• Continue to meet business objectives
  – Systems had to remain operational during the change period.
eBusiness SOA approach: SOA rationale

• HP Global Operations + IT (GO+IT)
  – GO+IT was mandated to provide shared business capabilities across HP organizations worldwide
  – Needed to have regional responsibility and customization

• Strong SOA appeal since it supported:
  – Simultaneous rationalization and consolidation of customer-facing solutions and back-end systems
  – An ideal approach to the many-to-many integration problem
  – Avoidance of “re-integration” problem when something changes
  – Need to insulate front- and back-end functionality from technology
    • Consequently support heterogeneous technologies
  – Fit with company’s business operating model
    • HP/Compaq merger revised the business operating model
Quantitative results realized using SOA

• Released more than 30 services — accessible via hp.com, marketing sites, e-commerce customer storefronts, Partner Portals, and Direct B2B connections

• Supported higher volume online interactions
  – 1.2M+ logins per day
  – 5M+ visitors per week
  – $10B revenue handled per year

• Received SOA support from business, operations and IT sponsors
  – SOA investments over past three years: 65% service production; 35% service consumption (portal and storefront user interfaces)

• Lowered cost to serve
  – $16M annual asset retirement savings

• Reduced time to deliver
  – Cut implementation time and cost by as much as 50% for consumers of shared services
The bottom line—freeing IT investment for innovation

<table>
<thead>
<tr>
<th>Year</th>
<th>Application innovation</th>
<th>Infrastructure innovation</th>
<th>Application maintenance</th>
<th>Infrastructure maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>23%</td>
<td>5%</td>
<td>30%</td>
<td>72%</td>
</tr>
<tr>
<td>2005</td>
<td>45%</td>
<td>10%</td>
<td>15%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Source: HP-IT