


The Benefits and Pitfalls of Service-Oriented Architectures

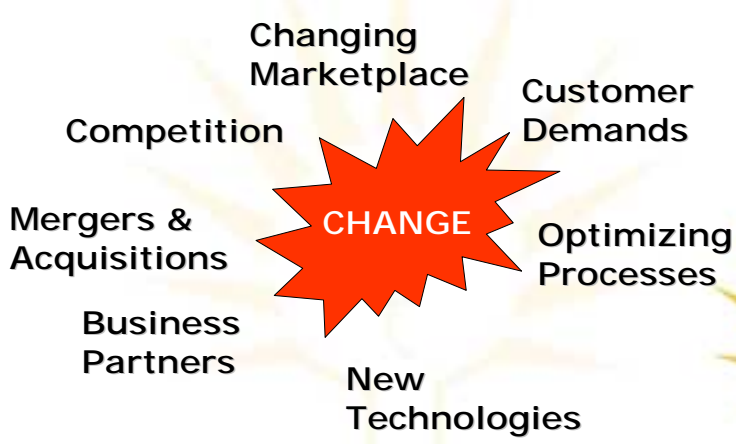
Jason Bloomberg
Senior Analyst
ZapThink, LLC

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Business Constant: Change



Changing Marketplace

Customer Demands

Optimizing Processes

New Technologies

Business Partners

Mergers & Acquisitions

Competition

CHANGE

A Business is Never STATIC

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IT: Fulfilling Business Requirements

Business Requirements

- Service Customers
- Manage Operations
- Increase Worker Productivity
- Communicate with market
- Ensure reliable and secure operations
- Develop new products and services
- Respond to new business drivers

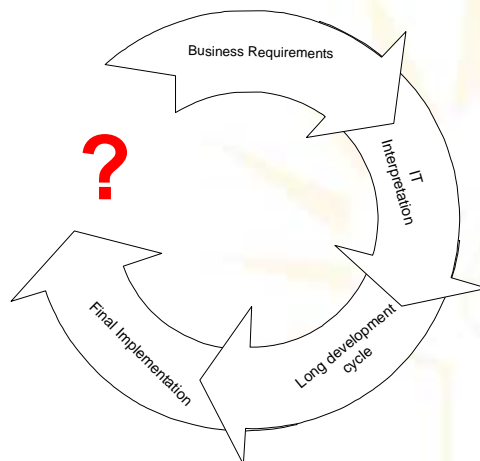
IT Capabilities

- Implement CRM Systems
- Implement ERP Systems
- Manage desktop environments
- Manage server environments
- Manage email systems and web sites
- Manage network and storage operations
- Develop applications

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However, it rarely works that way...



- Requirements change
- Interpretations often inaccurate or limited
- Lengthy development cycles impervious to change
- Implementations "cast in concrete"

Result: IT that places limitations on Business

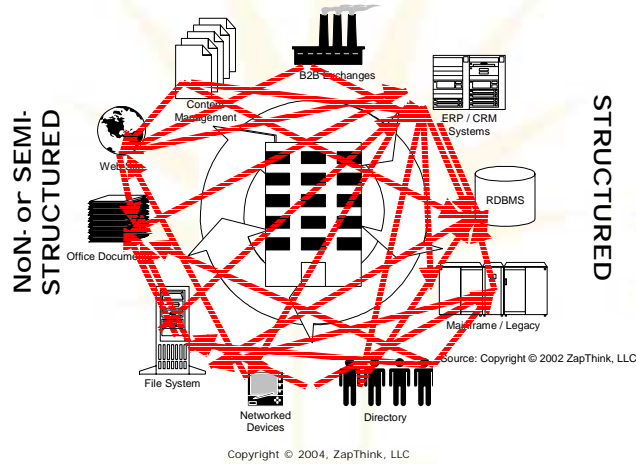
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The Integration Challenge...

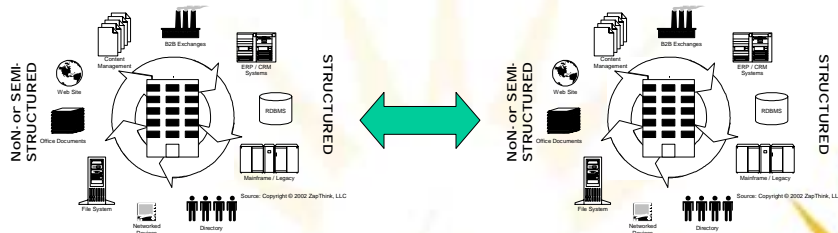
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The N-squared Integration Problem:



...Made Worse by External Integration

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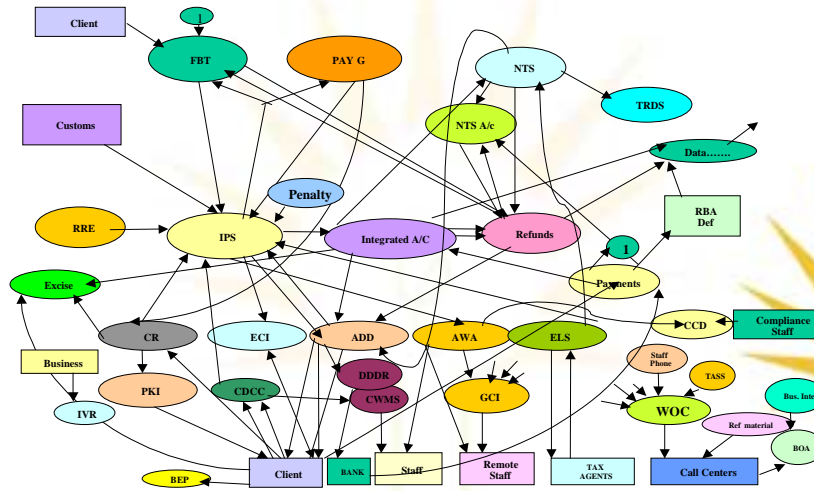


- *70% of IT development budgets are spent on integrating different systems – ZapThink*

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The "Rat's Nest" Architecture



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What is a Service-Oriented Architecture?

- Access software via *Services* that are easy to find and connect to
- Web Services provide a *standard* way of building and accessing Services
- Developers & integrators can build applications out of Services



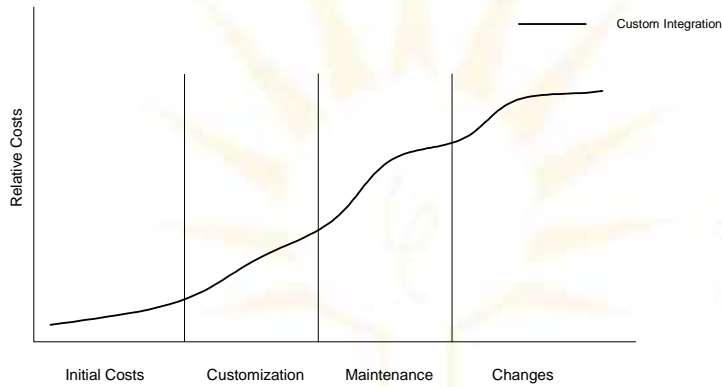
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The Economics of Integration

The Relative Costs of Different Integration Approaches



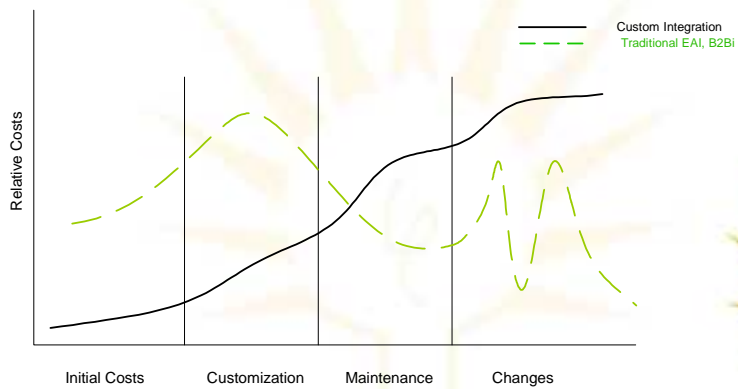
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The Economics of Integration

The Relative Costs of Different Integration Approaches

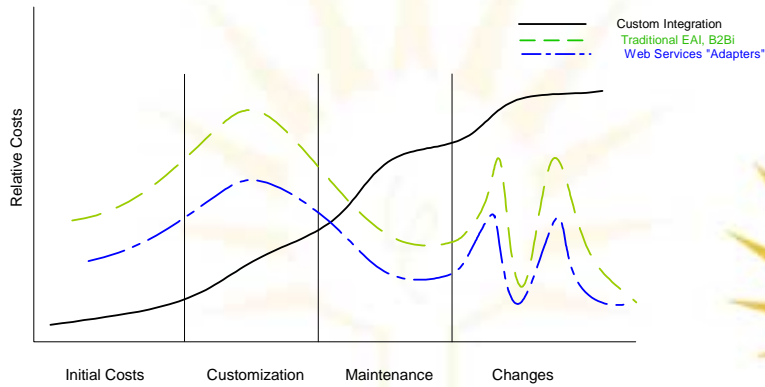


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The Economics of Integration

The Relative Costs of Different Integration Approaches



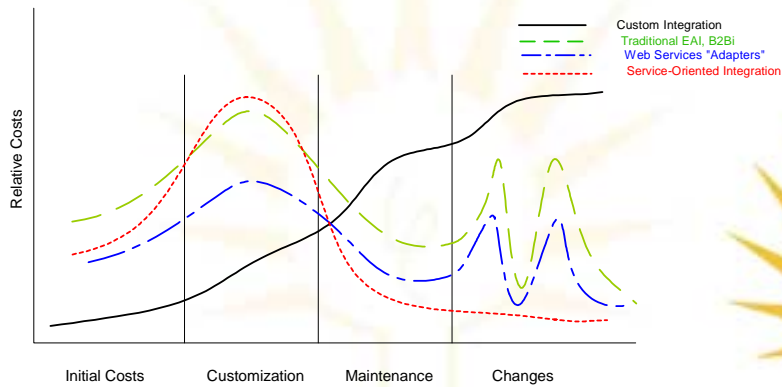
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The Economics of Integration

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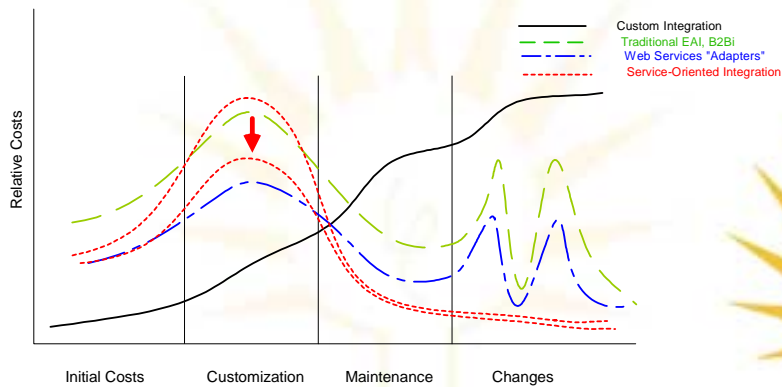
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The Economics of Integration

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Thrift: The New Normal

- Web Services have taken hold during an IT downturn
- Reduce the cost of integration
- Squeeze more value out of legacy apps
- Embrace heterogeneity
- Increase business agility



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Business Agility



- Responding efficiently to changes in the business environment

and

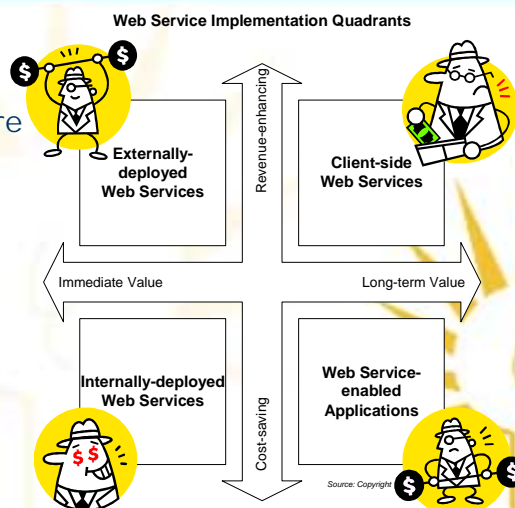
- Introducing change for competitive advantage

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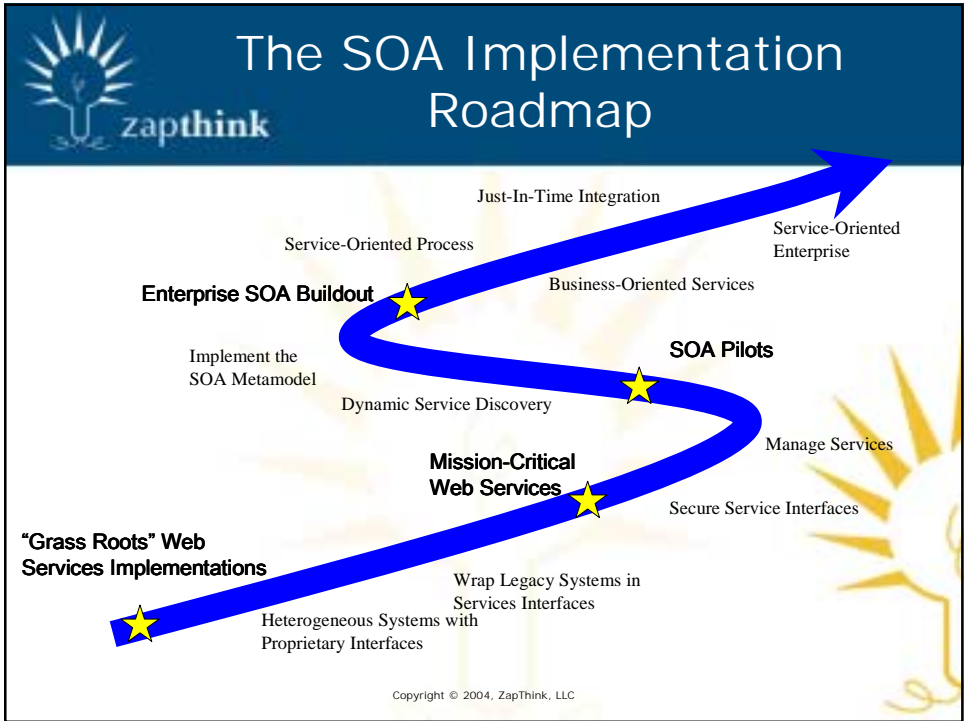
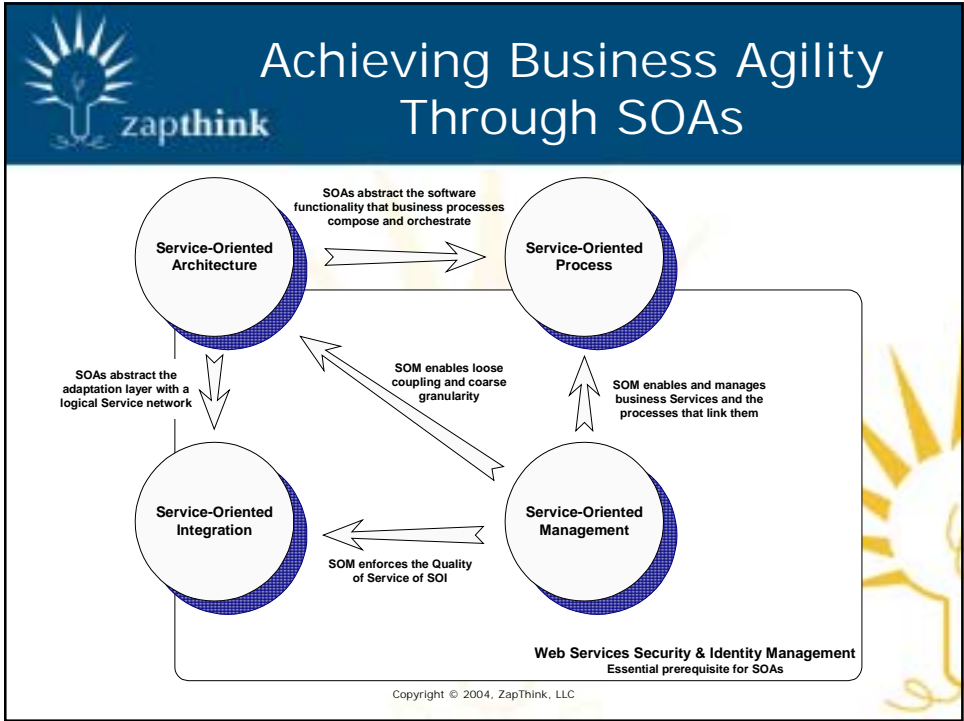


So, Where's the ROI?

- I = Investment
 - Hardware and Software
 - Time and Effort
- R = Return
 - Cost Savings
 - Revenue Enhancing
- Time to Return



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Important Points

- Typically promote SOA in conjunction with integration/EAI project, security project, or as an enterprise architecture project
- Start small, with tactical, pilot/proof-of-concept projects
- Service orientation is not always just Web Services

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Implementing the SOA Roadmap

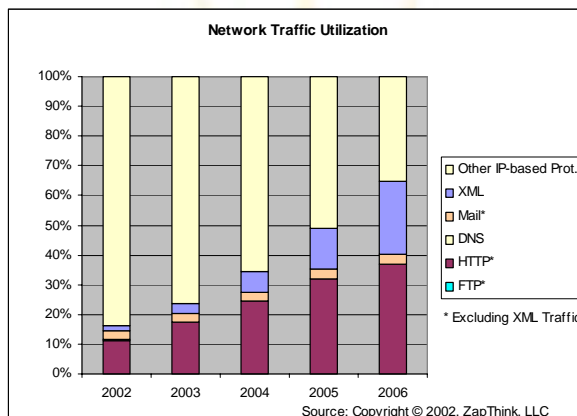
- Critical elements: overall vision and current project plan
- Additional roadmap should be high-level: security, management, B2B, additional lines of business, etc.

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XML traffic on the Network



Time to plan for XML traffic is NOW!

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Avoiding the Pitfalls of Web Services & SOAs

- Standards are still in flux, which means products are immature
- Large vendors have less flexibility, while small vendors have less stability
- "Web Services" does not equal "SOA"
- Only architects should do architecture (developers aren't qualified)
- SOAs are NOT easy!

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Case Study: Merrill Lynch

- Very large existing IBM mainframe infrastructure
- Have over 23,000 live CICS (Customer Information Control System) applications
- Have thousands of systems, other applications, and person-years of custom development in place
- Wanted to leverage legacy investments across enterprise



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Solution Attempts

- Realized that 90% of the cost of IT was infrastructure and integration
- 10% of the cost of IT was business logic
- Other attempts to provide better access to legacy data were too slow and brittle

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Solution Framework

- Established “XML for Merrill Lynch” initiative they call X4ML
 - Program analyzer
 - Directory
 - Monitoring & logging
 - Testing
- Expose CICS transactions as Web Services
- Build UDDI-based registry first
 - Key to centralizing Services
 - Wanted “single root”
- Dealt with semantic issues resulting from centralized Services – hundreds of “getCustomerInformation” Services example

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Results

- Increased response times by 10 to 20 times
- Increased throughput by 10 times
- Reduced the percentage of cost for infrastructure and integration from 90% to 65%
- Reduced the time to get data off of mainframe from 3-4 months to a matter of minutes

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Case Study: The Hartford

- SO Business Application for insurance agents
- Services handle multiple versions of insurance forms
- SOA handles multiple versions of Services



Case Study: Providence Health System



- SOA with 30 composite Services (each with ~10 atomic Services)
- Variety of uses, including patient portal, lab results, aggregation of medical records
- Supports HL7, X12 (payor interactions)
- Less duplication of effort, better patient care, faster & more complete patient information

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The Service-Oriented Enterprise

- IT resources are available on demand to businesses as Services
- The SOA provides an *abstraction layer* that enables companies to conduct business with each other in a dynamic and automated fashion
- Business drives IT, and agile IT enables agile businesses



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Thank You!



ZapThink is an industry analysis firm focused exclusively on XML, Web Services, and Service-Oriented Architectures.



Jason Bloomberg
jbloomberg@zapthink.com

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