




# What's the Big Deal about Web Services and Service-Oriented Architectures?

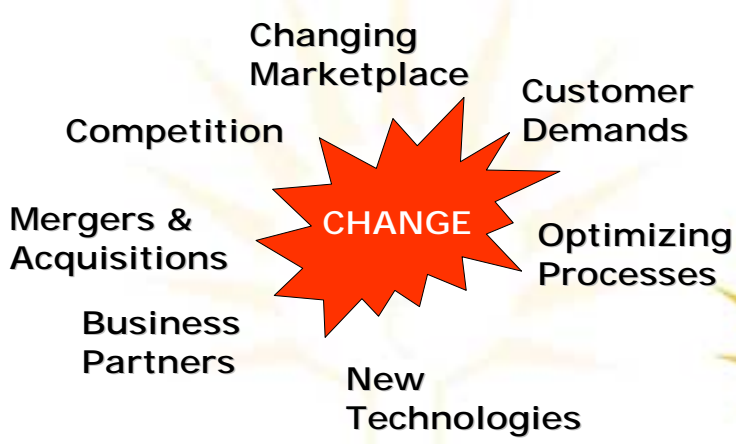
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## Business Constant: Change



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

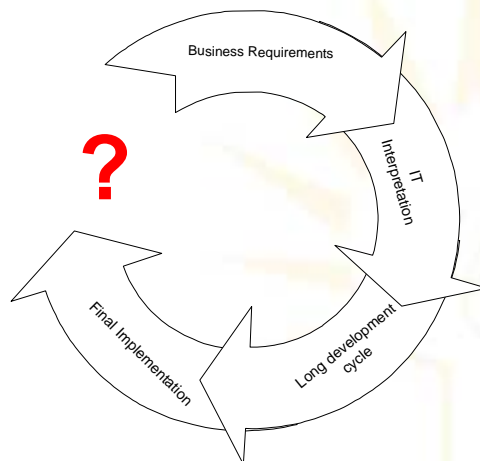
## IT Capabilities

- 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**

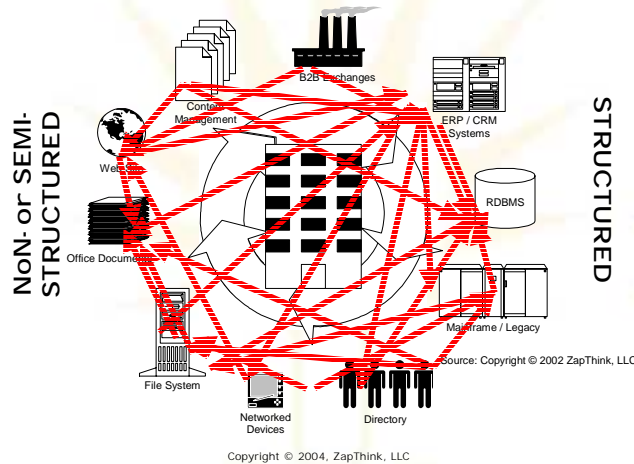
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## The Integration Challenge...

The N-squared Integration Problem:



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## Integration Approaches of Yesterday

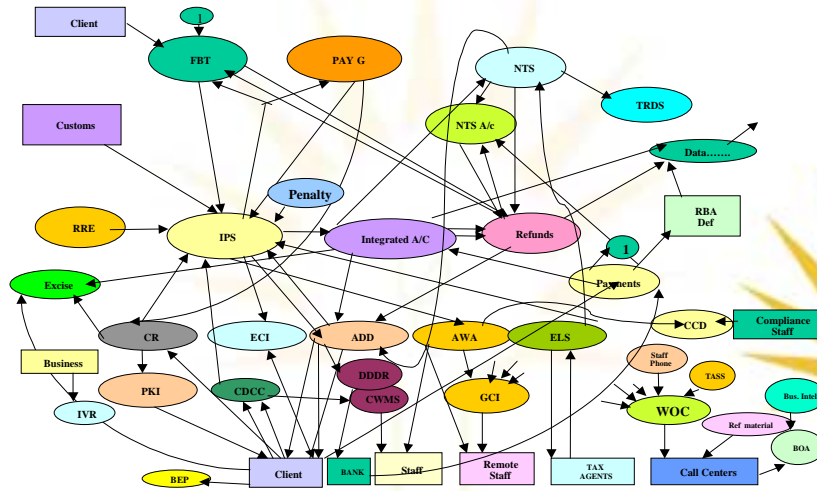
- Custom Integration: Coding to Interfaces
  - APIs: COM, Java, COBOL, Assembly?
  - Distributed Computing?: DCOM, CORBA
  - Screen-Scraping and Emulation (3270 and HTML)
  - Message-Queues
- EAI and B2Bi Middleware
  - Automating interface-level integration
  - Bus or hub-and-spoke architecture

**Fundamentally *brittle* approaches to integration**

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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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## Have We Been Here Before?

- Service-Oriented Architectures have been around a while
- CORBA (Common Object Request Broker Architecture) and DCOM (Microsoft Distributed Component Object Model) two familiar examples
- What's new this time?



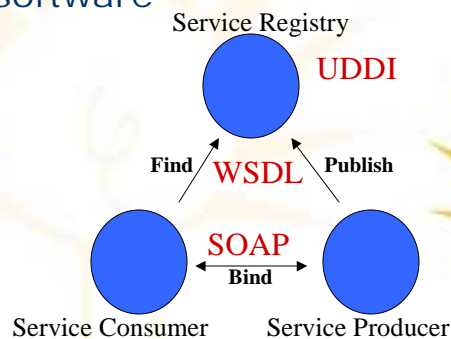
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## The Difference is Web Services

- *Standards-based* interfaces to software functionality



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## Web Services in the Present...

Web Services are in the *horseless carriage* phase

- Where new technology is applied in the patterns of the earlier technology
- Web Services are used to simplify integration



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## Web Services in the Future...

New approaches to software development, engineering, architecture, and management



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## Web Services are the Trees....



### Service Orientation is the Forest

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## Web Services *Idées Fortes*: Loose Coupling

- Consumer and Producer controlled by different people
- Changing one doesn't break the other
- Build one without being aware of the other

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## Web Services *Idées Fortes*: Asynchrony

- The Web is synchronous: click a button and wait for a response
- Web Services can also be asynchronous: allow for long-running processes

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## Web Services *Idées Fortes*: Coarse Granularity

- Business-oriented requests and responses
- Blocks of information exchanged
- Encapsulate APIs into fine-grained, atomic Services and compose them into coarse-grained, business Services

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# Service orientation...the next big thing?

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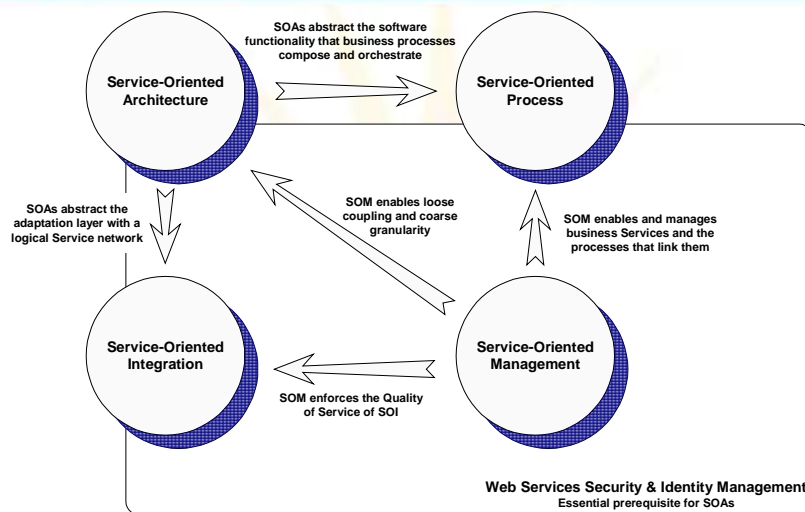
Approach	Timeframe	Programming Model	Business Motivations
Mainframe timesharing	1960s -1980s	Procedural (COBOL)	Automated business
Client/server	1980s-1990s	Database (SQL) and fat client (PowerBuilder, Visual Basic)	Computing power on the desktop
n-Tier/Web	1990s-2000s	Object-oriented (Java, COM)	Internet/eBusiness
Service orientation	2000s	Service-oriented (SOAP, WSDL, UDDI)	Business agility

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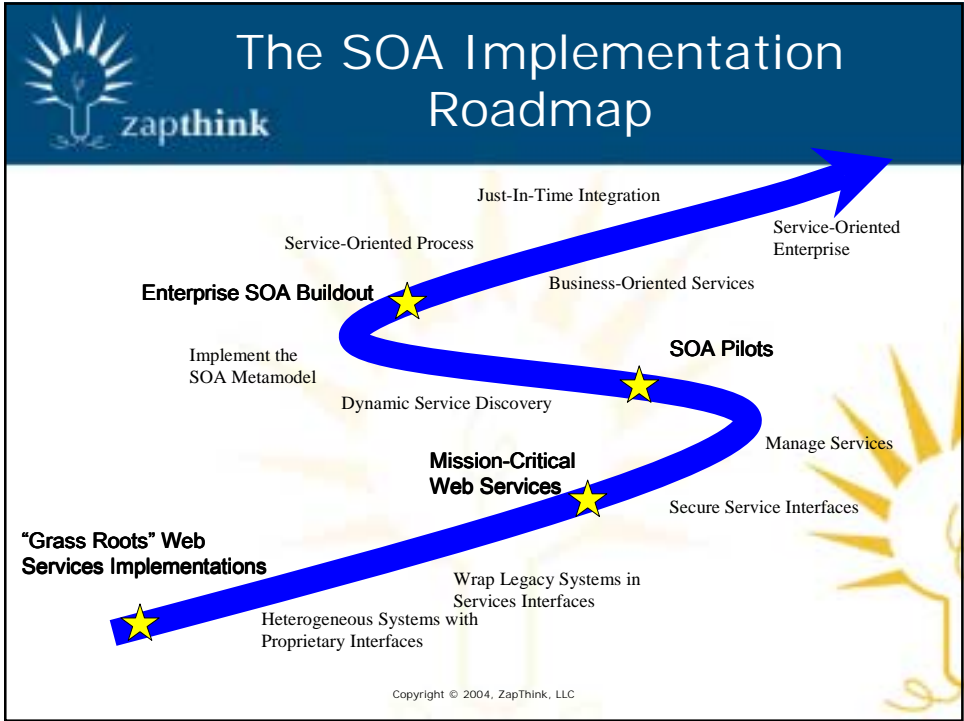


# Achieving Business Agility Through SOAs

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## Case Study: Providence Health System



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!



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