

SOA Service Lifecycle Management and SMART SOA

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Business flexibility depends on IT flexibility

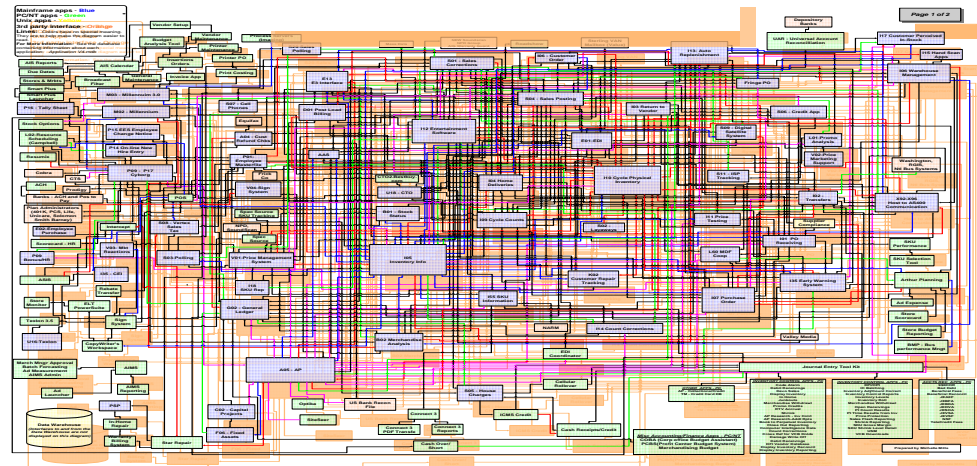
- ***“Whether designing an airplane, assembling a motorcycle [or delivering software]... the ability to integrate the talents of dispersed individuals and organizations is becoming the defining competency for managers and firms.”***

-- Tapscott & Williams, Wikinomics, Copyright 2006



Why are today's architectures roadblocks?

- Lack of business process standards
- Architectural policy limited
- Point application buys to support redundant line of business needs
- Infrastructure built with no roadmap



Actual application architecture for a consumer electronics company



Different Views of SOA

SOA is different things to different people:

- ▶ a **set of services** that a business wants to expose to their customers and partners, or other portions of the organization
- ▶ an **architectural style** which requires a service provider, requestor and a service interface description
- ▶ a **set of architectural principles, patterns and criteria** which address characteristics such as *modularity, encapsulation, loose coupling, separation of concerns, reuse, composability*
- ▶ a **programming model** complete with standards, tools and technologies such as Web Services
- ▶ A **middleware solution** optimized for service assembly, orchestration, monitoring, an management

Business
Executive,
Analyst

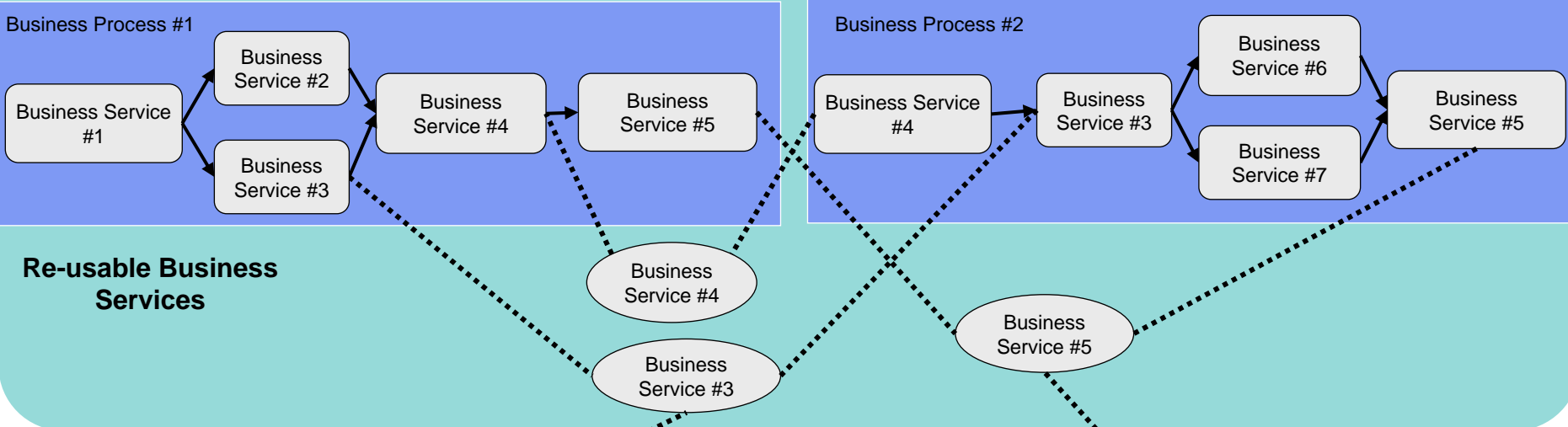
IT
Architect

Software and
System
Developer

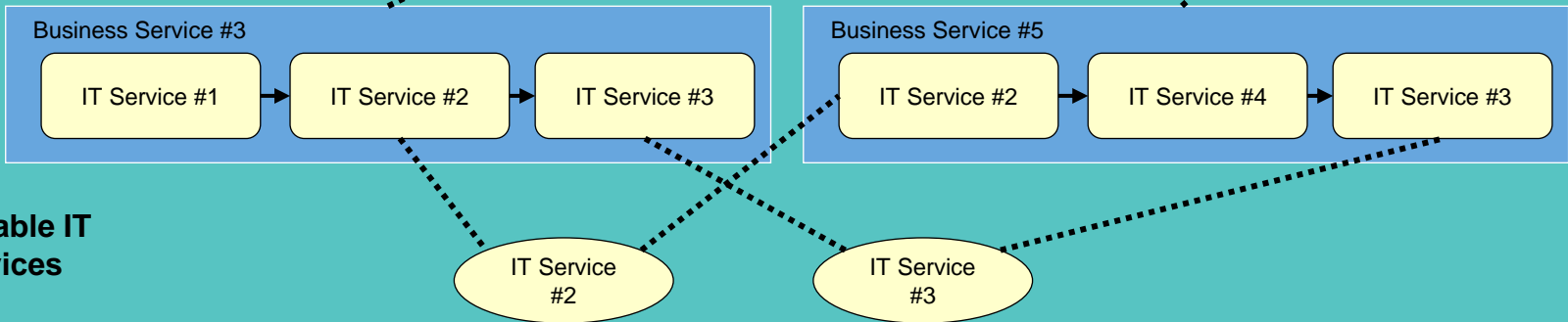


Service-oriented enterprise

BUSINESS DOMAIN



IT DOMAIN



SOA potential, SOA pitfalls

- Implementing traditional architectures using web service technologies does not create business value
- Successful SOA means achieving a new organization for software that enables change and reuse
 - ▶ Modular
 - ▶ Decoupled
 - ▶ Aligned with business goals
 - ▶ Technology-independent interfaces
 - ▶ Evolvable

How will you ensure that you really change your architecture to support your business goals, not simply roll out yet another complex technology stack to add to your legacy?



You need to govern SOA

- Business Vision
 - ▶ Understand the business processes and services and goals (how will they evolve)
- Software Vision
 - ▶ Build the right services
 - Aligned with business, “right” granularity, “right” location, exploit existing assets, ...
 - ▶ REST and data
 - ▶ Avoid duplication (maintain architectural integrity)
 - ▶ Mashups and situational apps
- Implementation vision
 - ▶ technology-neutral interfaces and technologies
- Test services across multiple client use-cases
- Deploy
- Manage and Monitor



Governance

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Governance is defined as two things:

- Establishing chains of responsibility, authority and communication to empower people (static or structural component of governance)
- Establishing measurement, policy, and control mechanisms to enable people to carry out their roles and responsibilities (dynamic or measurement component of governance)



Effective governance

- Top-down imposed governance fails unless developers benefit too
- Process, governance, and auditing need to be part of the day-to-day activity, not “extra work”
- The keys:
 - ▶ Process
 - ▶ Collaboration
 - ▶ Automation
 - ▶ Information that supports decision making
 - ▶ Appropriate mechanisms for real-time guidance



Transitioning from the old way to the new

Conventional Governance

Activity-based management

Mature processes, PMI/PMBOK
Plan in detail, then track variances

Adversarial relationships

Paper exchange, speculation

Requirements first

Assumes certainty in desired product
Avoid change

Early false precision

“More detail = higher quality”

Apply too much or too little process

Process is primary, blind adherence

Modern Governance

Results-based management

More art than engineering
Plan/steer/plan/steer....

Honest communication

Progressions/digressions, facts

Architecture (risk mitigation) first

Admits uncertainties
Manage change

Evolving artifacts

Scope (Problem specs)

Design (Solution specs)
Constraints (Planning specs)

Right-size the process

Desired results drive process



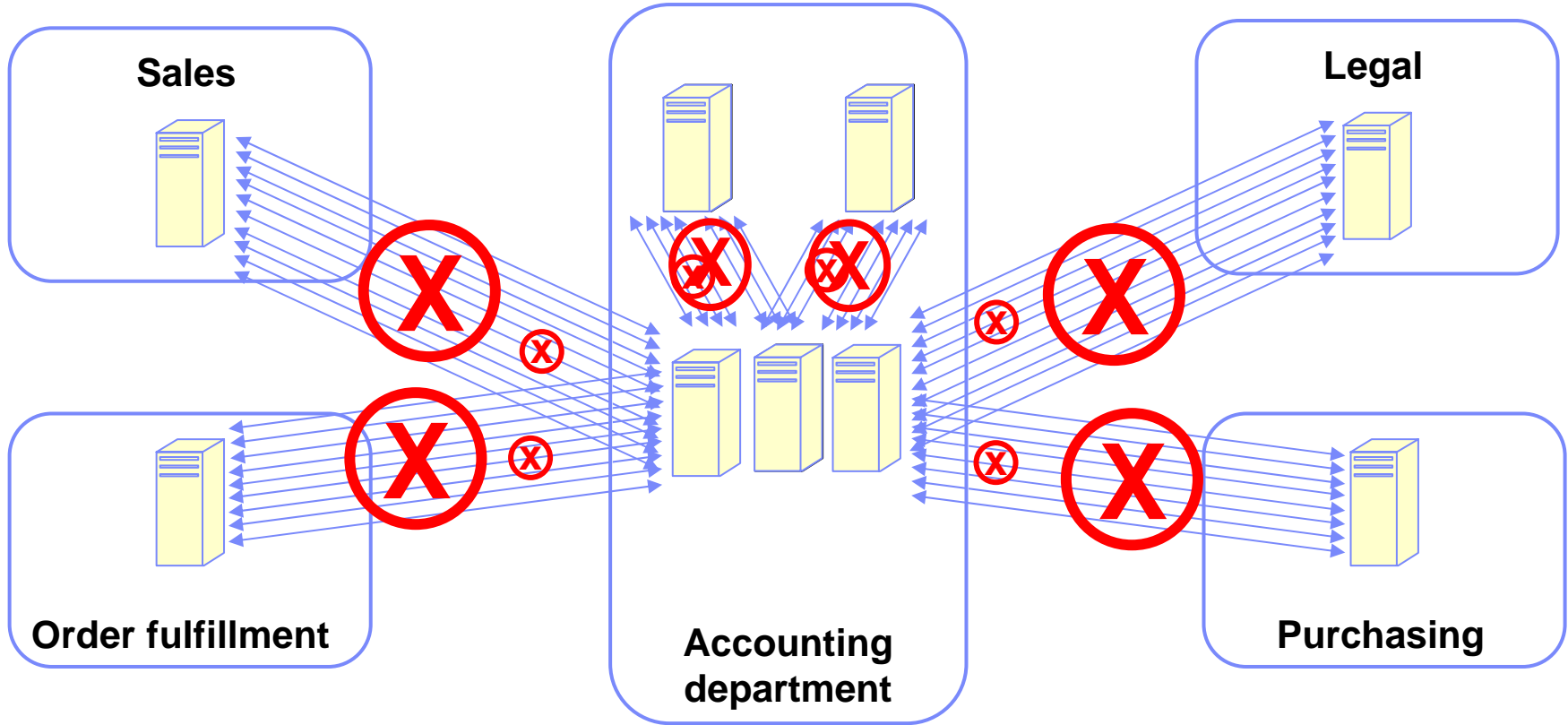
SOA governance

Applying governance in an SOA environment

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A scenario on the importance of SOA governance



1. Provide a currency service that fills a specific LoB need
2. Other LoB's start using the service
3. LoB's increase use of service / quality suffers
4. Service is fixed at provider's expense
5. Fix works temporarily but problem reappears
6. Maintenance costs soar / provider ends service

* Scenario from "Introduction to SOA Governance" by Bobby Woolf



We've done this before

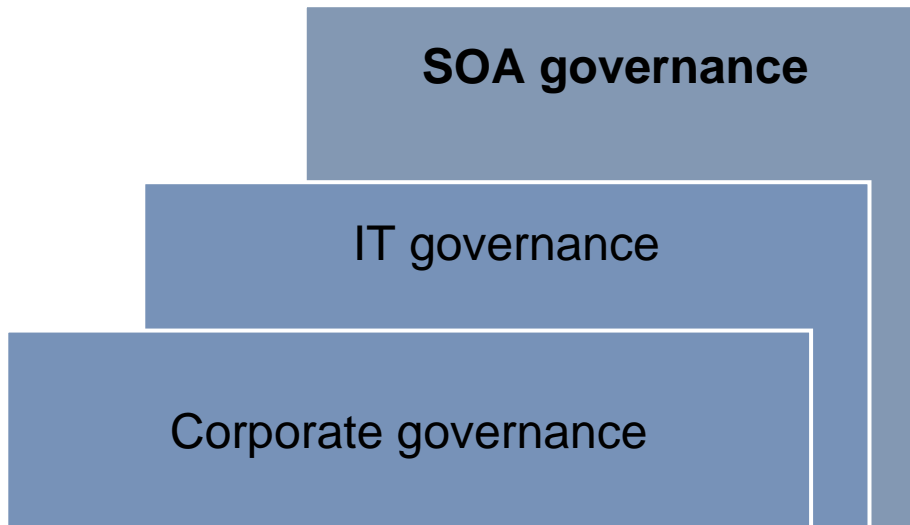
- Databases
- DBAs



Different aspects of governance

There are different aspects of governance, based on the process governed

- **SOA governance** is an extension of IT governance



Examples of governed processes

SOA governance:

- Service funding
- Service ownership
- Service creation
- Service reuse
- Composite application design

IT Governance:

- Requirements management
- Portfolio management
- Change management
- Data design
- Architectural design
- Release management



Why SOA governance matters

Realize business benefits of SOA

- Business process flexibility
- Improved time to market

"Firms with above average IT governance... had more than 20 percent higher profits than firms with poor governance following the same strategy."

Source: Peter Weill and Jeanne W. Ross, Harvard Business School Press 2004

Mitigate business risk and regain control

- Maintaining quality of service
- Ensuring consistency of service

"Effective IT Governance is the single most important predictor of value an organization generates from IT."

Source: Peter Weill, MIT Sloan School of Management's Center for Information Systems Research

Improved team effectiveness

- Measuring the right things
- Communicating clearly between business and IT

Professional investors are willing to pay premiums of 18-26% for stock in firms with high corporate governance.

Source: McKinsey Quarterly



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Smart
SOA

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- through **Service Lifecycle Management** and **SOA Governance**



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- RDz, HATS, RSA, RAD, RUP, ReqPro

Global Development and Delivery

- Rational ClearCase, Rational BuildForge, Rational Asset Manager

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- Updated: Rational Asset Manager, Rational Tester for SOA Quality





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