



# Achieving Efficiency and Agility through a Process-centric SOA

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# Agenda

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- Shameless Plug**
- SOA in Context
- Process-centric SOA
- SOA Value Proposition
- SOA Maturity
- Review

# Shameless Plug

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## □ Who is Kyle Gabhart?

- ❖ Technology strategist and enterprise architect with a broad range of relevant experience
- ❖ Currently working with several Fortune 500's on their SOA strategies, including EDS and Procter and Gamble as well as a handful of state and federal agencies
- ❖ Author of nearly 100 articles, white papers, books, and training programs



- ❖ Open source contributor, consultant, architect and strategist on SOA and Web services since 2001
- ❖ Lead author of *soamatters.com*
- ❖ SOA Practice Lead for Web Age Solutions, a leading education and mentoring firm



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# Service Oriented Architecture

- Service Oriented Architecture (SOA) is an approach to align business and technology along shared enterprise goals
  - ❖ Technology assets are designed as configurable and reusable components, or *services* (i.e. legos)
  - ❖ Organizational processes are designed to be lean, flexible, and disciplined to allow rapid, low-risk adaptation to changing demands (provided through SOA governance)
- Technology components are designed and assembled in a very modular and organic fashion
  - ❖ Fine-grained services can be combined to form compound, coarse-grained services
  - ❖ Services (both coarse and fine) can be assembled in a coordinated sequence called a *business process*





# Business Process Management

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- A business process is a sequential execution of activities
  - ❖ Example: *You file an expense claim – your manager approves it – accounting pays it.*
  - ❖ Some of these activities (services) are automated through software, others are performed manually.
- To support agility, many businesses employ Business Process Management (BPM) to manage orchestration
  - ❖ Abstracts low-level details, allowing business solutions to be configured and orchestrated rather than coded
  - ❖ BPM tools provided by Sun, IBM, BEA, Microsoft, and others
  - ❖ Standards defined by vendor-neutral industry groups
    - BPEL – Business Process Execution Language
    - BPMN – Business Process Modeling Language
    - XPDL – XML Process Definition Language



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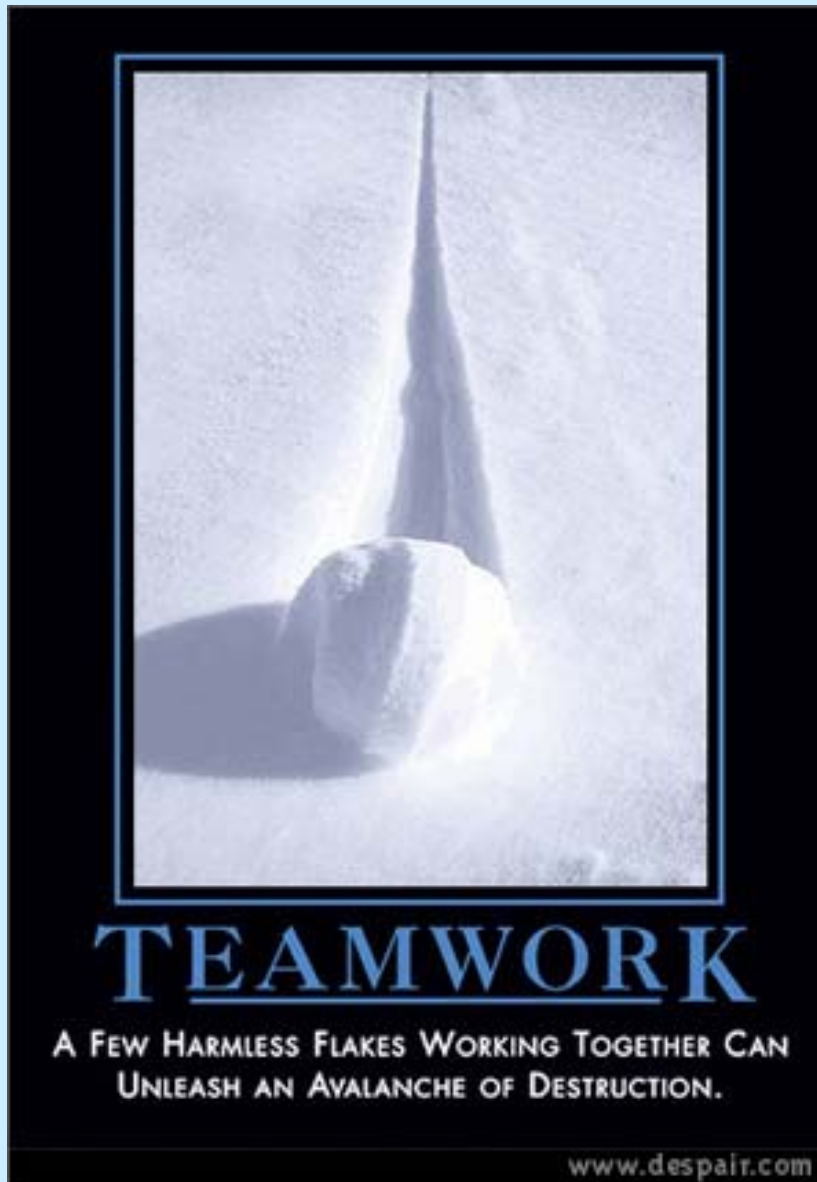
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# Process Orchestration is Powerful



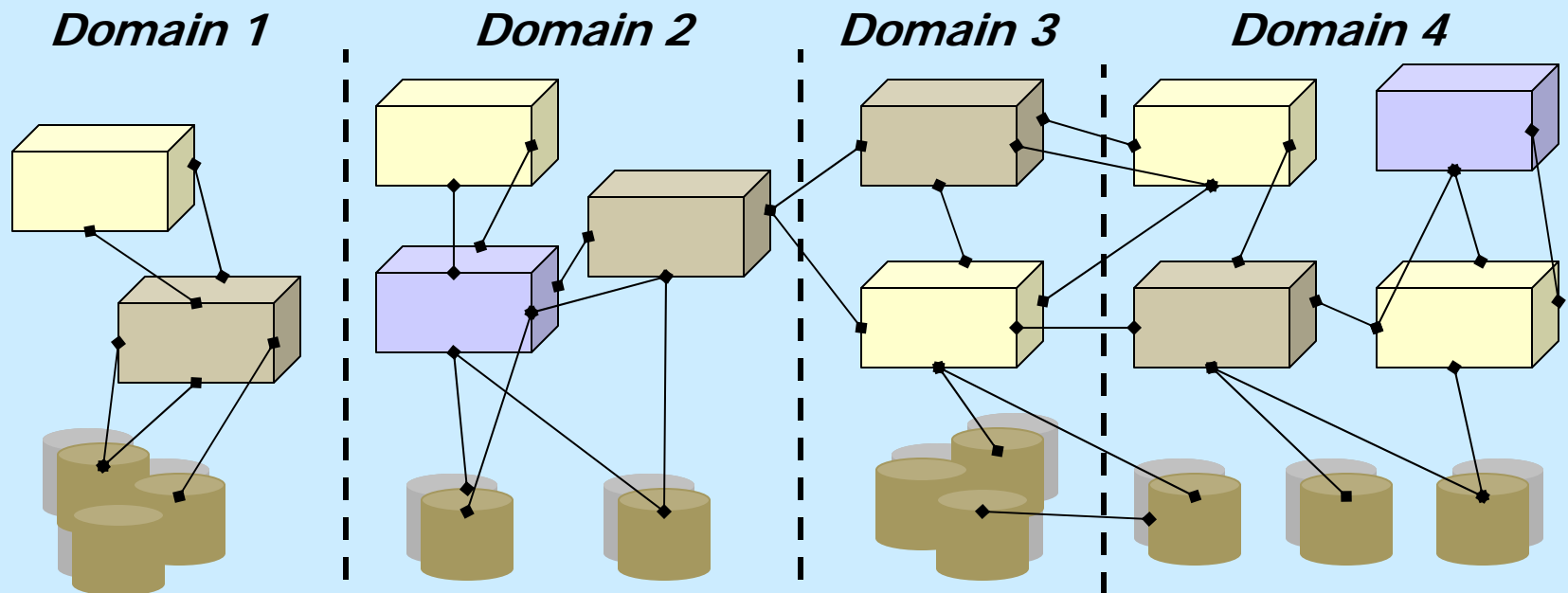
- ❑ "SOA is greater than the sum of its services"
  - ❖ Individual services can **incrementally** save time and money for an organization
  - ❖ Orchestration of services into business processes can **transform** an organization's product/service lifecycles and supply chains





# Tightly Coupled Enterprise

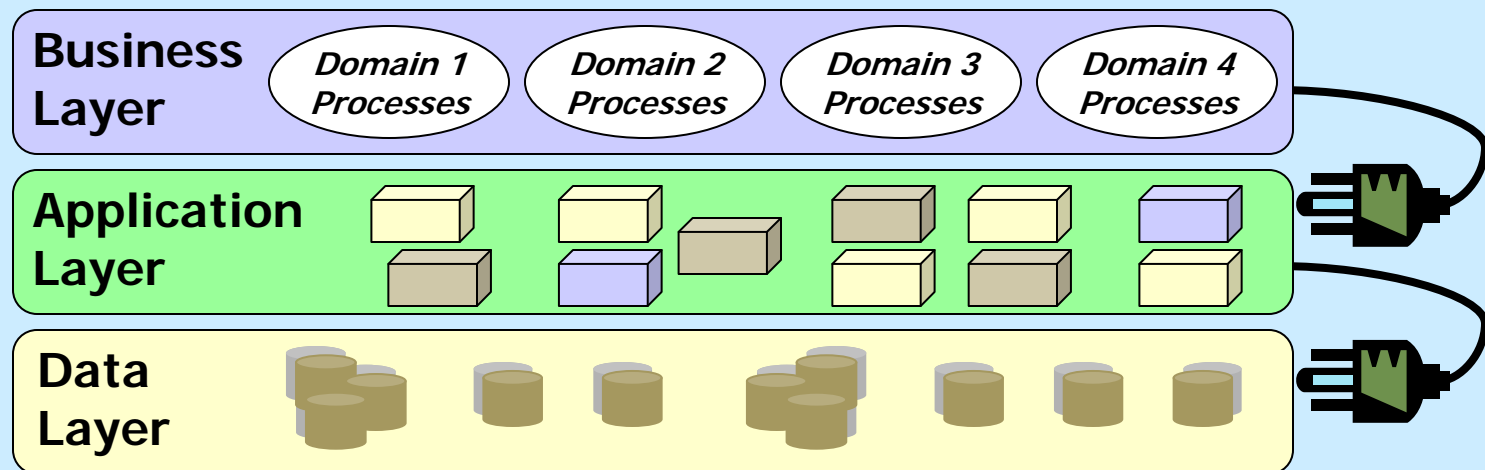
- ❑ Over time, information systems become cluttered and myopic
  - ❖ Packaged applications are shoe-horned into current infrastructure
  - ❖ Home-grown applications are built
  - ❖ Incompatible systems are sewn together using the IT equivalent of MacGyver-like tools (chewing gum and baling wire)
  - ❖ Silos emerge along lines of business, application and database boundaries, geography, etc.





# Breaking the Silos

- SOA breaks up the silos and encourages a process-centric, enterprise perspective
  - ❖ Enterprise capabilities are separated into layers
  - ❖ Layers are connected through standardized plug-and-play interfaces
  - ❖ Processes can be created, changed, and removed as needed to meet customer and market demands





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# SOA Value Proposition

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- ❑ **Efficiency** – Lower Total Cost of Ownership (TCO)
  - ❖ Standards-based interfaces
  - ❖ Enterprise asset reuse
  
- ❑ **Agility** – Adaptation to changing business drivers
  - ❖ Respond more quickly to opportunities
  - ❖ Avoid risks more easily and successfully



# Increased Efficiency through SOA

- ❑ Use of loosely-coupled, standards-based interfaces keeps integration costs low
  - ❖ Lower component maintenance costs
  - ❖ Potential reduction in middleware maintenance licensing fees by moving to standard interfaces
- ❑ Moving beyond systems integration, SOA delivers increasing value through reuse of enterprise assets
  - ❖ No need to 're-invent' the proverbial wheel
  - ❖ Solutions are configured rather than coded
  - ❖ BPM takes reuse one step further by allowing processes to be reused within the context of other processes





# Agility Reduces Business Risk

□ The agility afforded by a process-centric approach to SOA reduces operational risks

❖ New capabilities as well as changes to existing ones require touching components, lowering risk

❖ Layering allows testing to be isolated and focused on only changed artifacts

□ Agility also reduces compliance risks

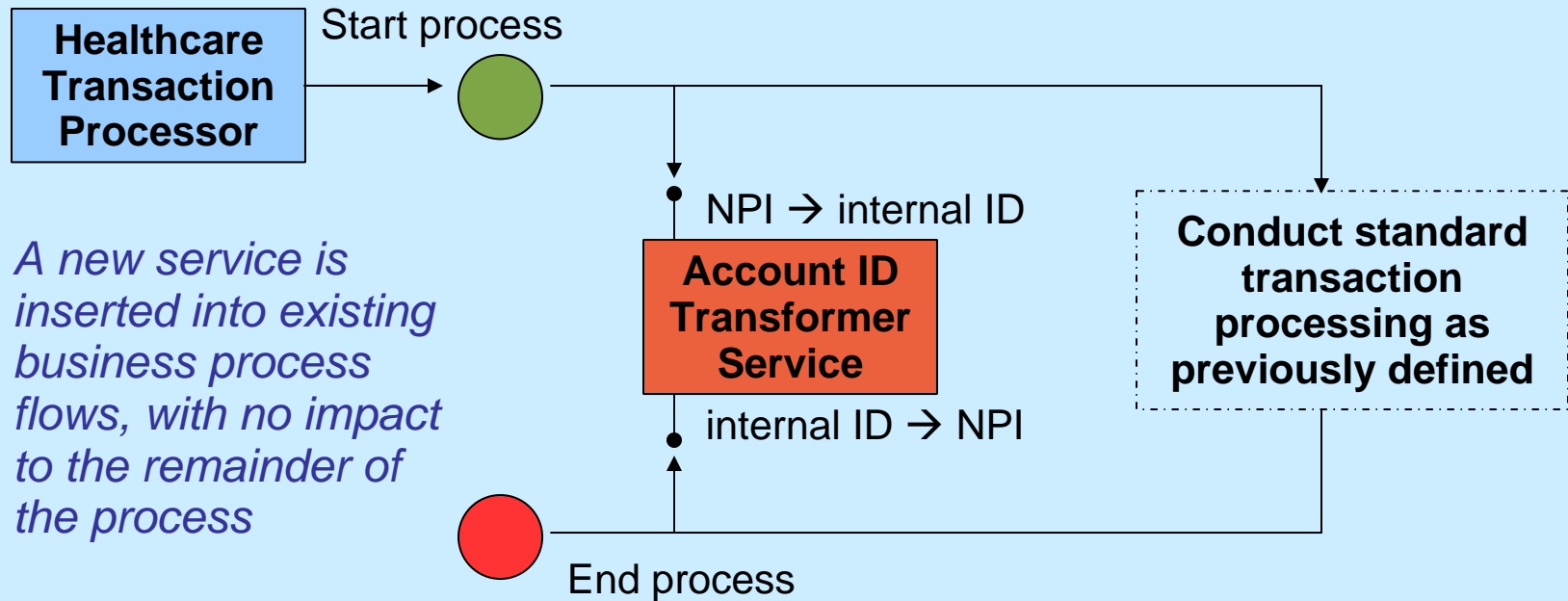
❖ Regulations are inherently arbitrary and subject to change

- Sarbanes-Oxley Act (SOX)





# BPM+SOA == Eases Compliance Risk



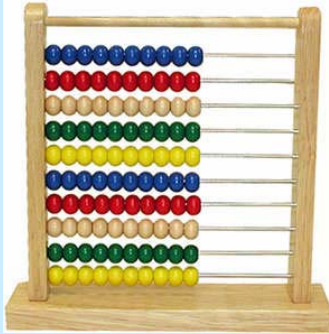
*A new service is inserted into existing business process flows, with no impact to the remainder of the process*

Previously defined business processes are modified to make use of a new service that maps to/from the new National Provider Identifier (NPI) required by HIPAA



# ROI Quantification Hurdles

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*“Not everything that can be counted counts, and not everything that counts can be counted.” – Albert Einstein ( 1879–1955)*

- ❑ Quantifying ROI is a notoriously difficult proposition in technology, this holds particularly true with SOA
- ❑ SOA is more than just a set of XML standards for EAI, it is an **agile architecture** and a **process-centric alignment** between business and IT





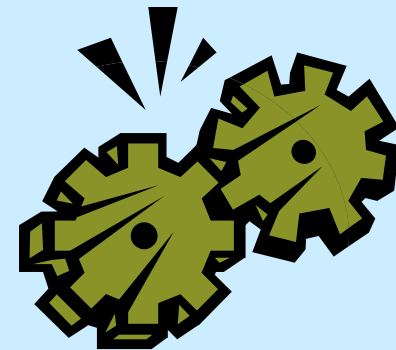
# Real World SOA Example 1

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## □ Siemens AG (Munich, Germany)

- ❖ “[We] focused on those processes and activities, which appear hundreds and thousands of times per day” – *Thomas Buse, Section Manager*
- ❖ According to Buse, by taking advantage of the SOA to reuse common corporate services, Siemens has cut the **time required to implement new processes by 83%**
- ❖ Now the company releases four to eight new business processes to run on its SOA every six to 12 weeks

*Source: Microsoft SOA & Business Process Conference, October 2006*



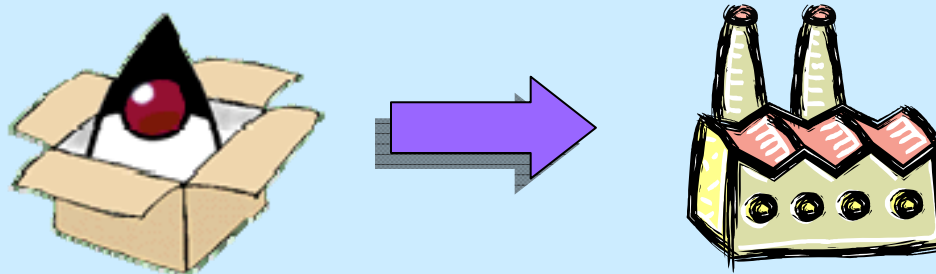


# Real World SOA Example 2

## □ IBM (Global)



- ❖ Big Blue leveraged SOA to create a semiconductor “factory in a box” solution
  - More quickly invest, acquire, divest, or even outsource a manufacturing plant
  - The **process has been accelerated** from several weeks to only two hours



*Source: ZDNet, “IBM walks the SOA walk” , May 2006*



## Real World SOA Example 3

### □ Harley-Davidson (North America)

- ❖ Focused their SOA initiative on building services around **key business processes** and providing the **flexibility** to change one part of a process without touching any of the other aspects.
- ❖ For example, to catch the spring marketing season, the processes of checking a potential buyer's credit and approving a loan to purchase a motorcycle are being merged into a **fluid, accelerated business process**.
- ❖ Such **loose coupling** and the **ability to change processes** seasonally means an SOA approach allows IT "to be a lot more responsive to the business in where it wants to go" – *Jim Haney, Harley-Davidson CIO*



*Source: "IBM Rides Harley-Davidson...", InformationWeek, April 2006*



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# SOA Industry

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## □ SOA Momentum

- ❖ 87% of CIOs cite SOA as “the next big thing”
- ❖ 44% of organizations currently use SOA and another 15% are in the process of rolling out an initial SOA deployment
- ❖ Studies peg SOA adoption (planning, design, and/or implementation experience) among large private enterprises as high as 90%

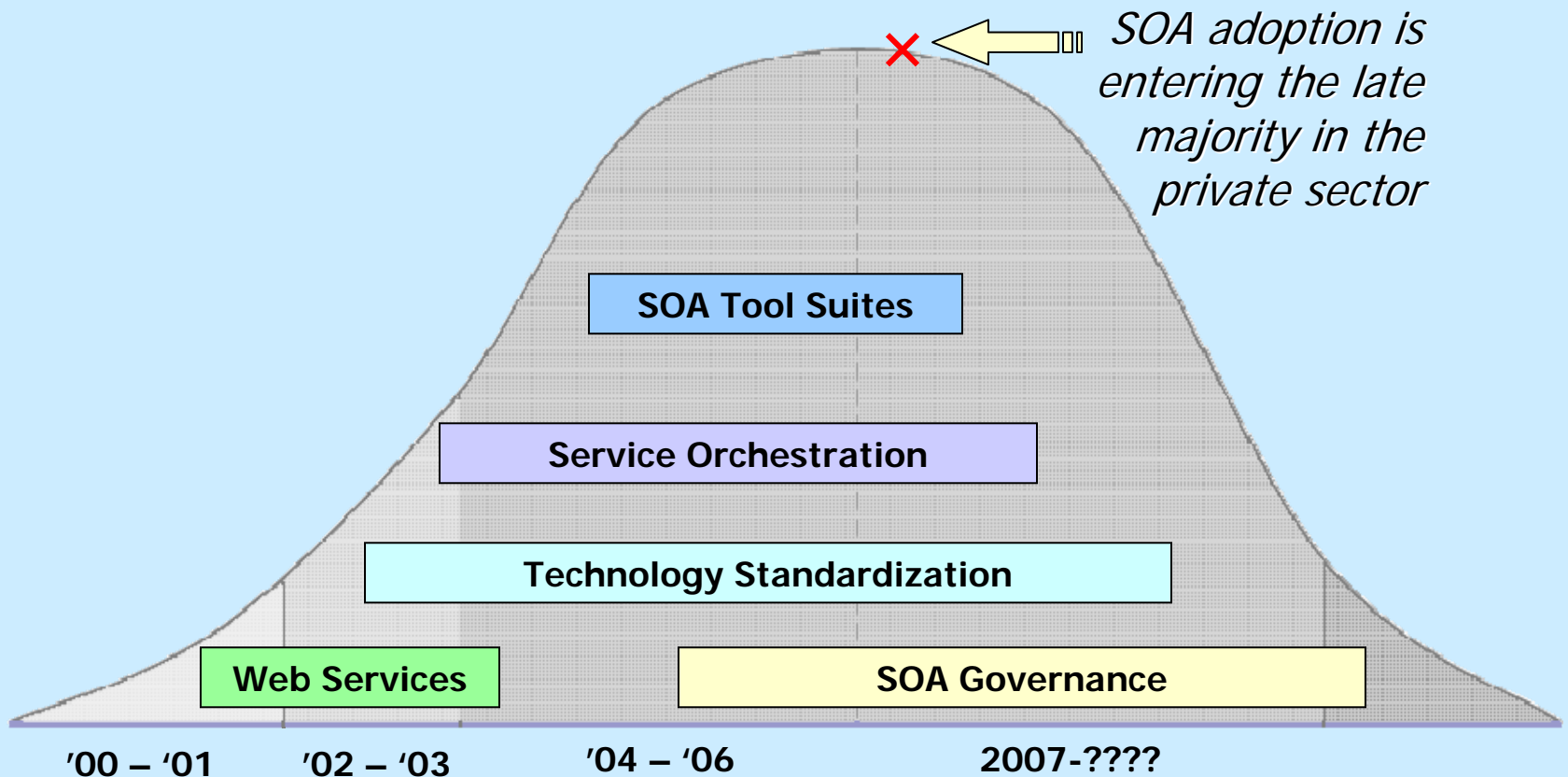


## □ SOA Maturity

- ❖ SOA has been evolving for over 7 years
- ❖ Comprehensive tool suites are now available from multiple vendors and many are standards-based
- ❖ IBM has delivered 1,800 SOA projects for more than 1,000 clients

# Innovation Adoption Curve (Private sector)

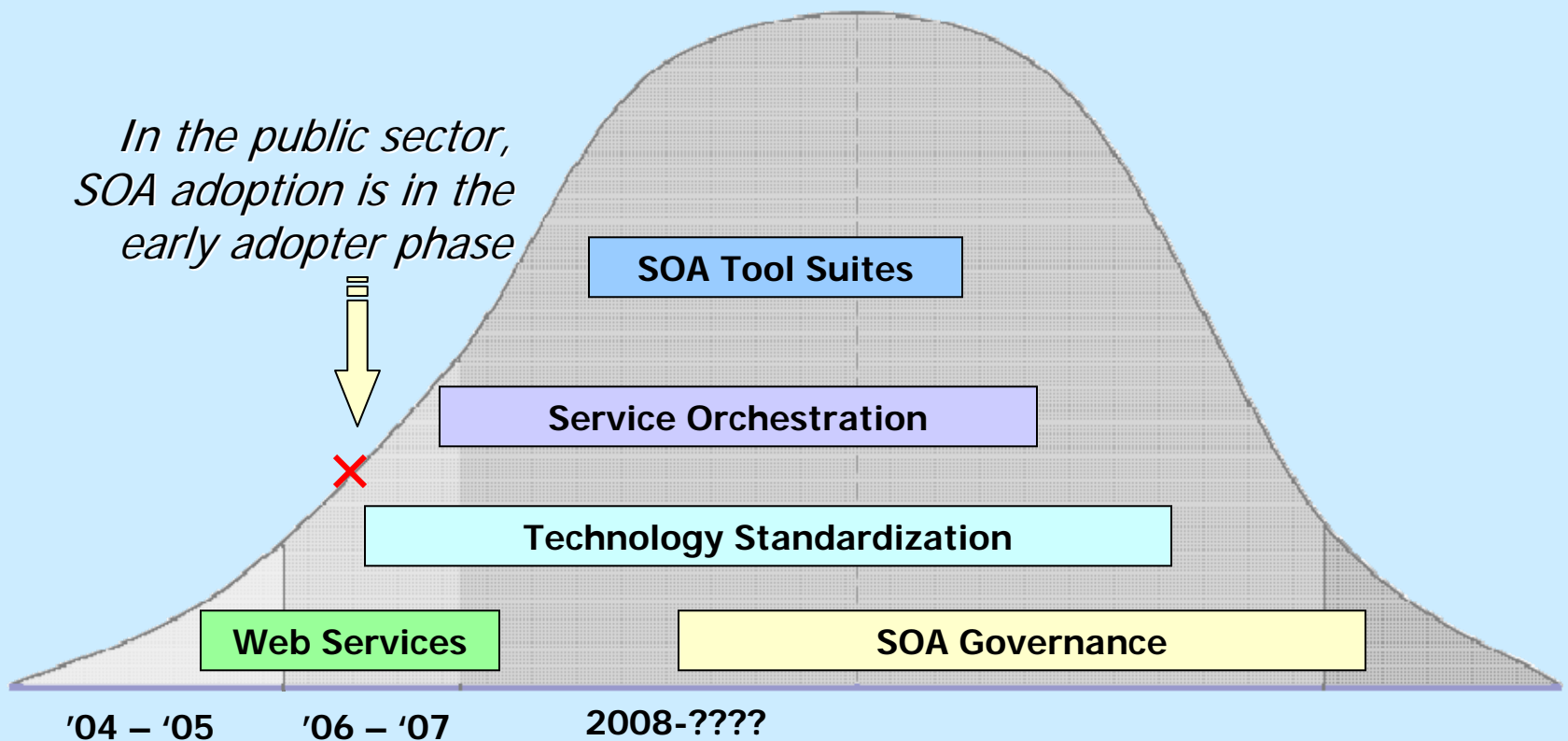
- SOA has been on a constant path of maturity and pervasive adoption for over seven years





# Innovation Adoption Curve (Public sector)

- Government adoption of SOA trails the private sector significantly





# Public Sector SOA Adoption

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- According to a 2006 survey conducted by Merlin Federal SOA Coalition, a consortium of SOA vendors, the public sector is a bit behind the curve
  - ❖ 51% of the survey's respondents had never heard of SOA
  - ❖ 13% of civilian governmental IT staffers and 8% of DOD IT personnel have implemented SOA
- Of those federal agencies that had begun work on SOA, the results were not stellar
  - ❖ Only 11% have completed an SOA project
  - ❖ 61% are not even beyond planning stages
- Of those 11% that have completed an SOA project, the success rate is not tremendous
  - ❖ More than one third describe their initial SOA efforts as either "Not Successful" or "A Fiasco"
  - ❖ The #1 deficiency identified was a lack of training and skills





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- ❑ SOA is an approach to aligning business and technology along shared enterprise goals
- ❑ BPM enables this alignment by providing a common point of reference
- ❑ SOA+BPM breaks up the silos and encourages a process-centric, enterprise perspective
- ❑ SOA+BPM deliver on the promises of efficiency and enterprise agility
- ❑ While the industry as a whole is fairly mature, the public sector lags behind the private sector with respect to SOA, particularly in the area of training and skills readiness