

Service Oriented Architecture: An Overview Discussion

Jeff Simpson
Principle SOA Architect



What is SOA?

SOA is not a thing ...

- *It's a set of principles and best practices*

Attributes of SOA

- **Loosely coupled, Course Grained**
 - **Service Discovery, Mediation, Network Interop**
 - **Declarative - Writing code should not drive SOA**
- *"Haven't I heard this before?"*
 - Yes – the term "SOA" has been around for about 10 or so years
 - Yes – the concepts have been around for 20 years
 - "Service-based Component Architectures" have been around for about 8 or so years (e.g. J2EE and .NET)
 - So what is the big deal? Not everyone does SOA the same.



Enabling Technology

HTTP

- Ubiquitous transport protocol

J2EE and/or .NET

- Scalable/reliable Service-based component server

Business Process Management

- GUI driven process development and automated execution

Web Portal

- Ubiquitous application surfacing

XML and SOAP

- ubiquitous message encoding format ... *it's about time*

WebServices

- Ubiquitous RPC over the web ... almost.

Enterprise Services Bus





Technology Convergence

Whole is greater than the sum of its parts

Technology Convergence manifest in Application Platform Suite (APS)

Truly enables the Gartner mantra

- *“Implement tactically, but plan strategically”*

Enabling Technology + SOA Architecture + APS

- The tools and the architecture do the heavy lifting around de-centralized computing
- Integration is no longer the “long pole in the tent”
- Developers are free to focus on business problems

SOA: A Paradigm Shift

Distributed Component Architecture		Service Oriented Architecture
Functionality Oriented	→	Process Oriented
Designed to Last	→	Designed to Change
Long Development Cycle	→	Interactive and Iterative Development
Cost Centered	→	Business Centered
Application Block	→	Services Orchestration
Tightly Coupled	→	Agile and Adaptive
Homogeneous Technology	→	Heterogeneous Technology
Object Oriented	→	Message Oriented
Known Implementation	→	Abstraction

Putting Your Arms Around "SOA"

Service Enablement



Adapters (JCA)
Virtual Data Views

XML
Web Services
Resource Access

Existing Services
Web Applications
Portlets (WSRP)

Portals
B2B Apps
Mobile Devices



Service Consumption

Service Orchestration



Human Workflow
Business User Tools

Processes
Data Mapping
Composite Services

Process Monitoring
Service Broker
JMS Services

Advanced Message Brokering
Web Services Management
Distributed Messaging

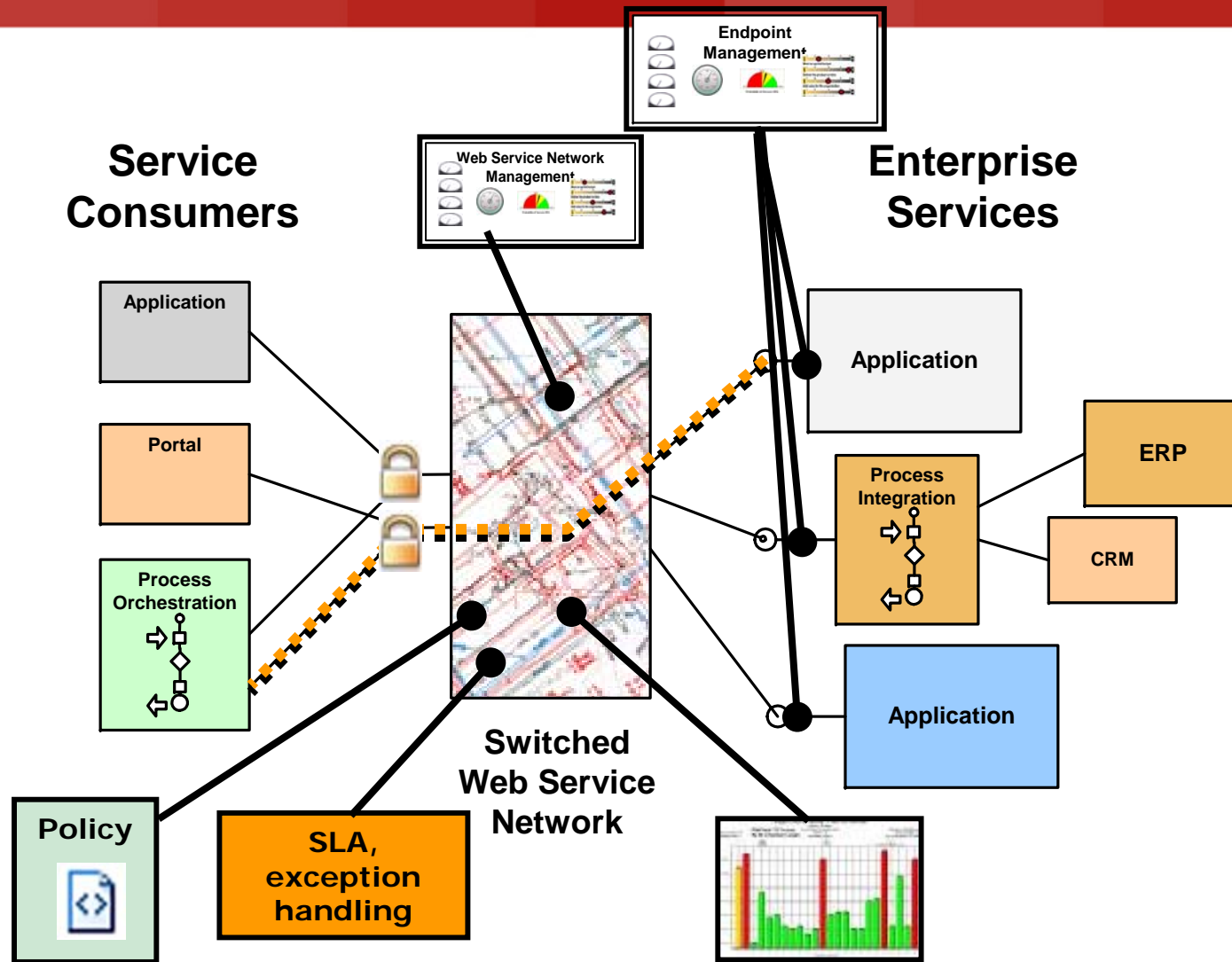


Service Routing
Monitoring & Management



The Enterprise Service Bus

Messaging and WSM Challenges in SOA



What are people doing with SOA?

• Commercial Sector

▪ Financial Services

- Wells Fargo – Consolidated Customer Service Systems
- Citi Group – Money Laundering Detection Systems
- CapitalOne – Insertion of loosely-coupled integration hub

▪ BioPharma

- Pfizer – reorganization of IT assets into SOA

What are people doing with SOA?

• Government Sector

▪ DoD

- DISA – NCES (Net Centric Enterprise Services)
 - Providing core services and infrastructure for next-gen combat environment

▪ Dept of Homeland Security

- DHS – eMerge2
 - Consolidating all of the financial systems of the Dept of Homeland Security
- DHS – US Visit
 - New system to re-invent how people are tracked coming in and out of the US



Current Challenges

- SOA Governance

- How do I control risk?
- How do I re-align the cost model?
- How do I manage the network on a service basis?

- Service Enablement

- What systems do we Service Enable?
- Do we build composite apps and then enable those as services?
- Who is responsible for doing the work?

- True Understanding of Implications

- A) Organizations **do not** understand full implications
- B) Organizations **do** understand full implications