IBM SOA ARCHITECT SUMMIT
LE 22 MAI 2008

SOA Governance @ EBSC*

(*European Business Solution Center)

Isabelle Bournel, SOA Solution Architect
La Gaude SOA Leadership Center

Agenda

- SOA Governance & IBM's SOA Governance And Management Method (SGMM)

- Why and how an SOA Governance @ EBSC?

Without proper governance of your SOA…

The promise of SOA

… like this
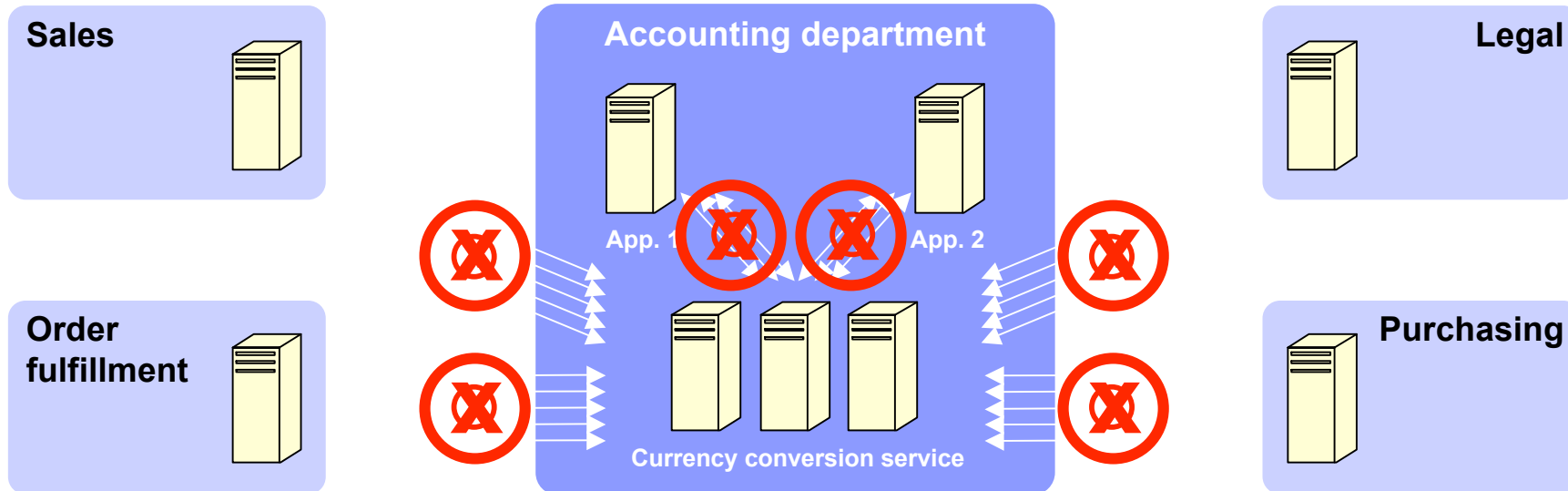

… could become …

A pile of services

… and so would go the promised benefits of SOA

A scenario on the importance of SOA governance

Sales

Accounting department

App. 1   App. 2

Currency conversion service

Legal

Order fulfillment

Purchasing

| 1. Provide a currency service that fills a specific line of business (LOB) | 2. Other LOBs start using the service | 3. LOBs increase use of services / 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,* Bobby Woolf.

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Why SOA Governance Matters

Realize business benefits of SOA

- Business process flexibility
- Improved time to market

"SOA governance isn't optional—it's imperative. Without it, return on investment will be low and every SOA project out of pilot phase will be at risk."

SOA Craves Governance, Gartner, Inc.,
Paolo Malinverno, January 2006

Mitigate business risk and gain control

- Maintaining quality of service
- Ensuring consistency of service

"SOA has turned the corner in many ways ... issues of governance have risen to the fore, and organizations are finally working through the complexities of SOA quality."

Thinking Outside the SOA Box: ZapThink,
Jason Bloomberg, November 2006

Improved team effectiveness

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

"CIOs continue to struggle to align business and IT in meaningful, measurable ways. More effective IT governance processes and tools are becoming top priorities among business-savvy CIOs."

Five Ways the Rise of IT Governance Will Change How Enterprises Buy IT, Summit Strategies, December 2005

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What is Governance?

Governance:
Establishing chains of responsibility, authority and communication to **empower** people (decision rights)
Establishing measurement, policy and control mechanisms to **enable** people to carry out their roles and responsibilities
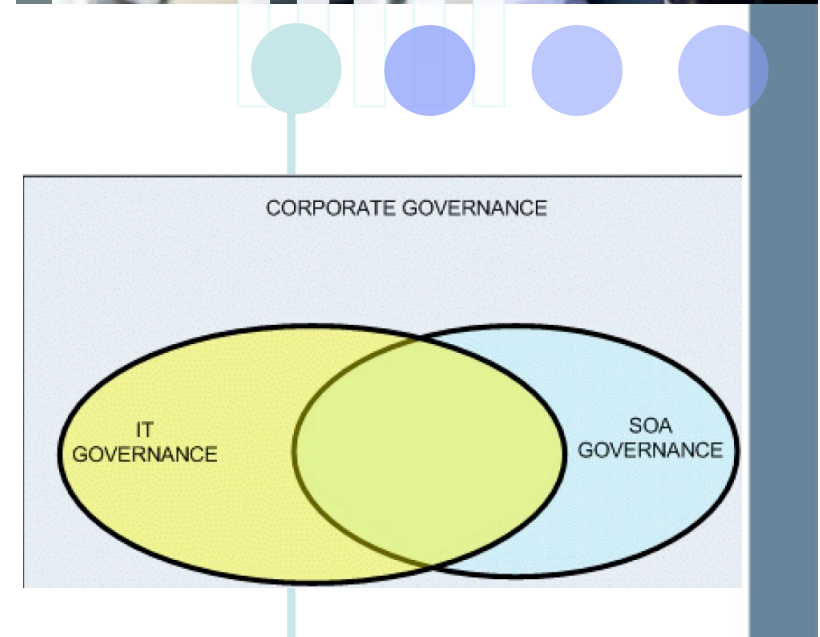
IT Governance:
Establishing decision making rights associated with IT
Establishing mechanisms and policies used to measure and control the way IT decisions are made and carried out

SOA Governance:
Extension of IT governance focused on the **lifecycle of services** to ensure the business value of SOA

CORPORATE GOVERNANCE

IT GOVERNANCE

SOA GOVERNANCE

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What constitutes a SOA governance model?

- **Principles**—guiding objectives and/or goals and associated metrics to ensure they are met

- **Role and responsibilities**—the roles and associated responsibilities that will facilitate business and IT alignment and properly establish decision rights

- **Guiding decisions**—policies, guidelines, best practices and standards

- **Methods**—consistent approach to establishing SOA governance and applying it across the lifecycle

- **Foundational governance processes**
  - Exception
  - Compliance
  - Vitality
  - Communication

- **Platform**—enabling technology (registry, monitoring, etc.)

> *Governance processes should make it easy to do things the right way and hard to do them the wrong way. Build schools, not prisons. The goal is to help people conform to best practices, not police them.*
>
> *Mark Ericson, chief technology officer (CTO), Mindreef*

SOA governance effectively manages the <u>service lifecycle</u>

Which workproducts should we have?

What metrics and key performance indicators will we use?

Assemble solution

- Design the architecture
- Develop the service
- Test the functionally

Deploy solution

- Deploy to infrastructure
- Test the system

Assemble

Deploy

Model

Manage

Governance & Best Practices

Model business processes

- Identify business domain
- Assign ownership
- Allocate funding
- Model the service
  - Identify the service
  - Specify the service
  - Realize the service

Manage / operate system

- Manage access
- Monitor the service
- Manage versions
- Manage retirement

What standards do we need to establish and when?

Who manages the Services Repository? How do we measure our model and the effectiveness of services?

Effective SOA governance must:

- Govern key processes across the entire lifecycle
- Help define guiding decisions around these processes
- Properly enforce these guiding decisions
- Communicate these guiding decisions effectively

- Evolve these guiding decisions with changing needs
- Ensure that the perspective of both service providers and consumers are properly met

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SOA Governance Lifecycle
… where Governance is Defined

Design the governance approach
- Define / modify **governance processes**
- Design **policies** and enforcement mechanisms
- Identify success factors and **metrics**
- Identify **owners** and the **funding** model
- Charter / refine an SOA center of excellence
- Design the governance IT **infrastructure**

Put the governance model into action
- Deploy governance mechanisms
- Deploy the governance IT infrastructure
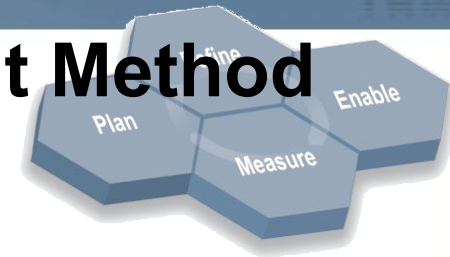- Educate and deploy on expected behaviors and practices
- Deploy policies

Scope the governance need
- Define / refine the **SOA vision** and strategy
- **Assess current** IT and SOA capabilities
- Review current governance capabilities and arrangements
- **Lay out the governance plan**

Manage and monitor the governance processes
- Monitor compliance with policies
- Monitor compliance with governance arrangements
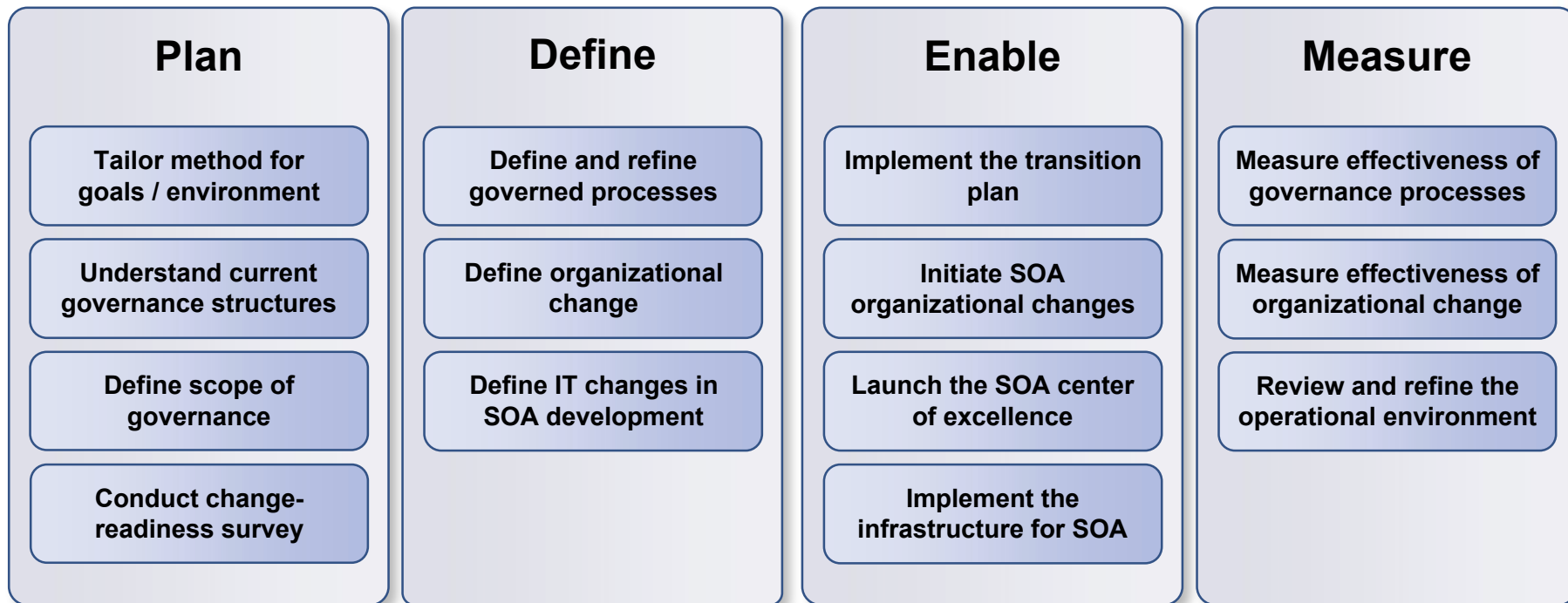- Monitor IT effectiveness metrics

Define

Enable

Plan

Governance and
Best Practices

Measure

"IBM's approach aligns with Gartner's view of SOA governance, and we believe it is likely to be more effective than narrower approaches."

Gartner

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SOA Governance and Management Method

SGMM

| Plan	Define	Enable	Measure
Tailor method for goals / environment	Define and refine governed processes	Implement the transition plan	Measure effectiveness of governance processes
Understand current governance structures	Define organizational change	Initiate SOA organizational changes	Measure effectiveness of organizational change
Define scope of governance	Define IT changes in SOA development	Launch the SOA center of excellence	Review and refine the operational environment
Conduct change-readiness survey		Implement the infrastructure for SOA	

The SOA governance and management method is an end-to-end approach to designing, implementing, and improving governance of an SOA
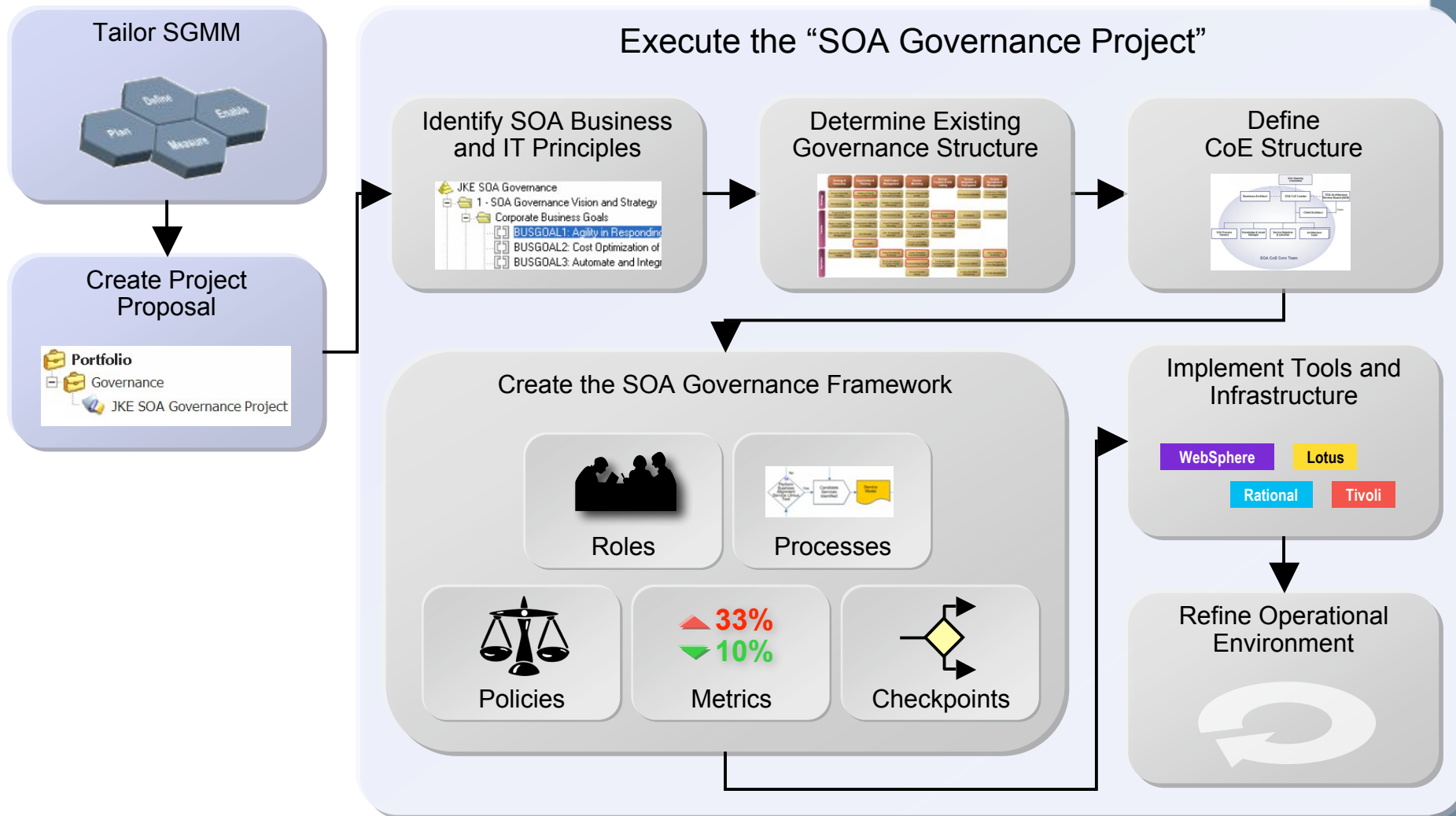
SOA Governance lifecycle

Service Lifecycle
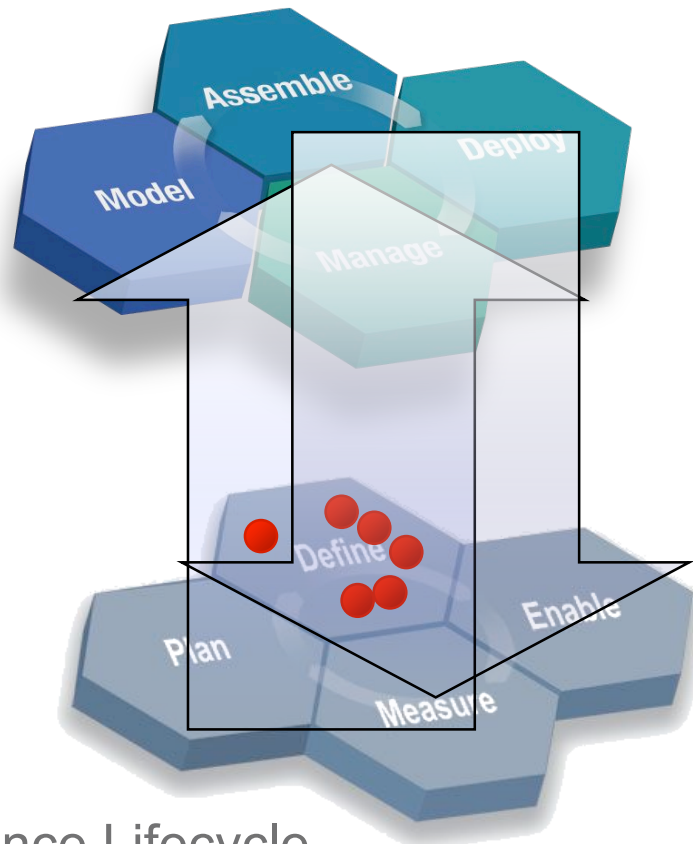
Governance Lifecycle

- **Policies**
  - controls
  - Metrics
  - Quality gates (checkpoints)
  - standards

- are **defined** in the Governance lifecycle (for different aspects of Governance)…

- …and they are **enforced** in the service lifecycle

- metrics are captured to improve governance process

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A Typical SOA Governance Project

Tailor SGMM

Define
Plan
Enable
Measure

Create Project Proposal

Portfolio
Governance
JKE SOA Governance Project

Execute the "SOA Governance Project"

Identify SOA Business and IT Principles

JKE SOA Governance
1 - SOA Governance Vision and Strategy
Corporate Business Goals
BUSGOAL1: Agility in Responding
BUSGOAL2: Cost Optimization of
BUSGOAL3: Automate and Integr

Determine Existing Governance Structure

Define CoE Structure

Create the SOA Governance Framework

Roles

Processes

Policies

▲ **33%**
▼ **10%**
Metrics

Checkpoints

Implement Tools and Infrastructure

WebSphere   Lotus

Rational   Tivoli

Refine Operational Environment

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Agenda

- SOA Governance & IBM's SOA Governance And Management Method (SGMM)

- Why and how an SOA Governance @ EBSC?

Why an SOA Governance @ EBSC

- The EBSC (European Business Solution Center) in La Gaude, France, supports a **wide range of Industries with end-to-end integrated Business Solution prototypes**, for pre-sales demonstrations in Europe:
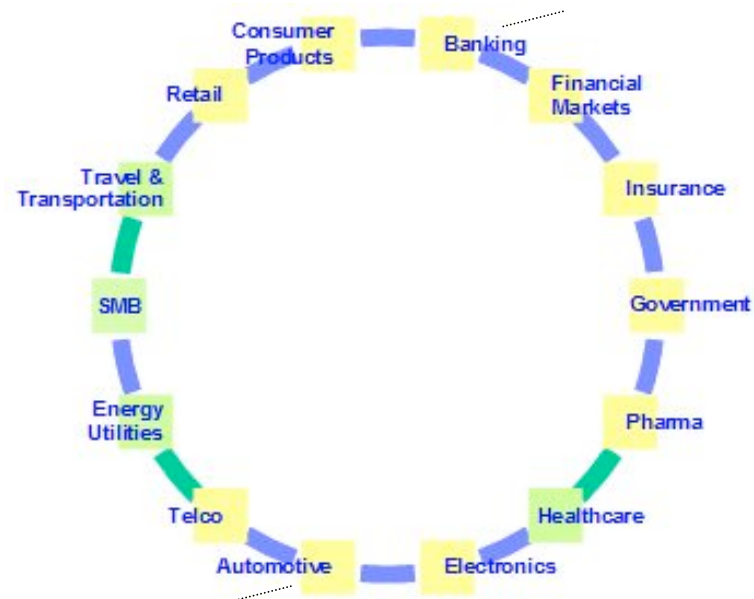
- There are **many opportunities for reusing functionalities between these prototypes**… **But there was actually very little sharing/reuse**
- We are **organized by Industry Teams, just like the different LoBs** of our Clients…

  So, why not applying SOA Governance to our solution assets ?
  Our goals being more efficiency (better capability in nb of projects), better quality
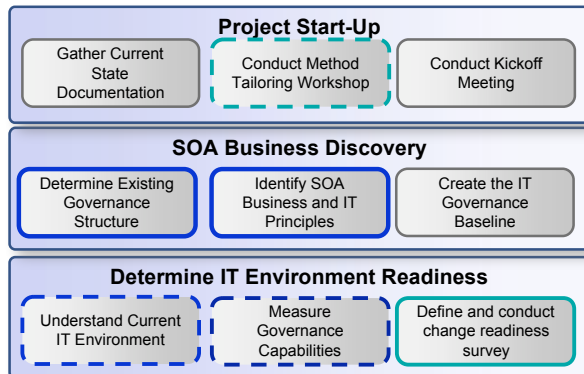
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SOA Governance @ EBSC: how did we start?

- Idea, will, need (main goal: reuse, & use what we sell)

- Get the Executive sponsorship

- A full-time project leader assigned and dedicated

- Preparing the way….
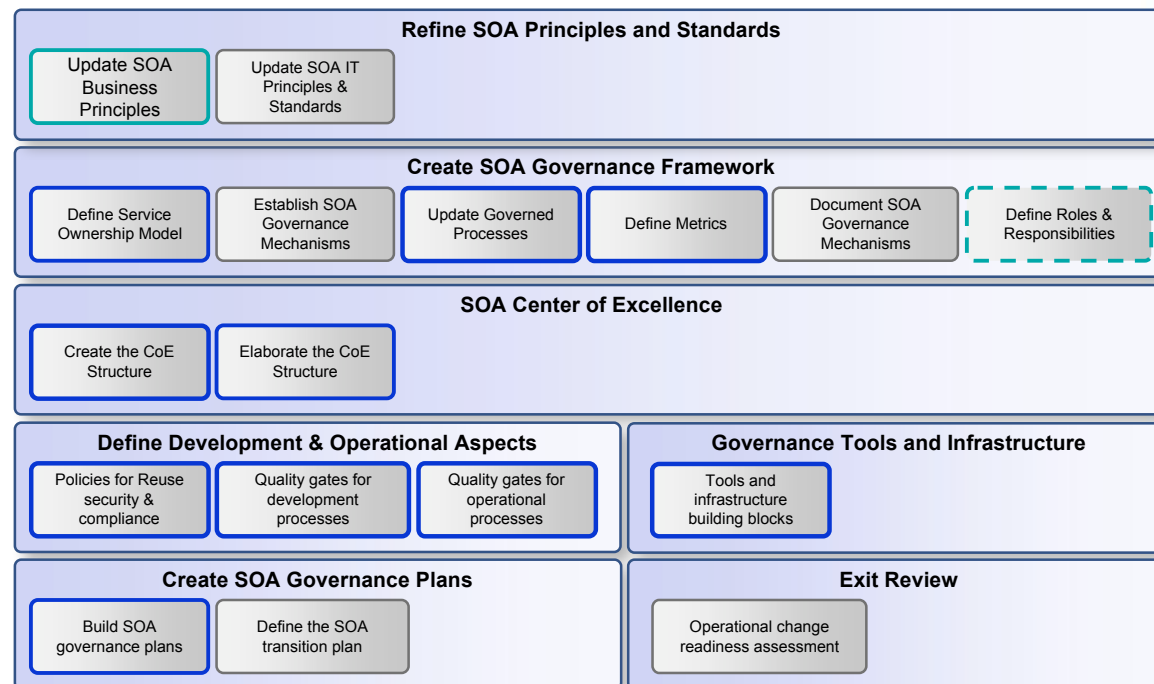
- SOA maturity assessment survey // Study & tailor SGMM
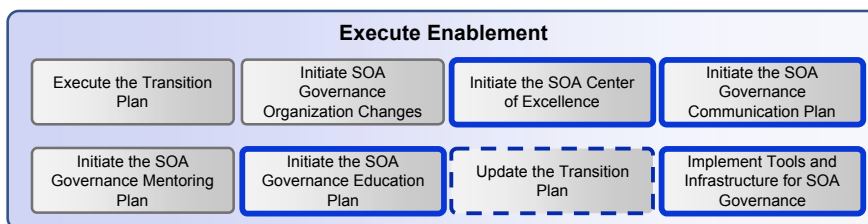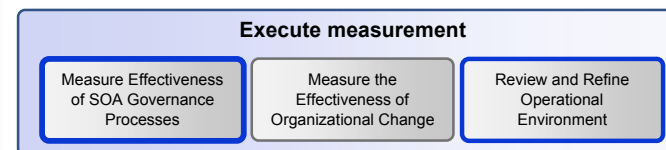
Tailored the SGMM for EBSC SOA Governance

Plan

Project Start-Up

Gather Current State Documentation	Conduct Method Tailoring Workshop	Conduct Kickoff Meeting

SOA Business Discovery

Determine Existing Governance Structure	Identify SOA Business and IT Principles	Create the IT Governance Baseline

Determine IT Environment Readiness

Understand Current IT Environment	Measure Governance Capabilities	Define and conduct change readiness survey

Define

Refine SOA Principles and Standards

Update SOA Business Principles	Update SOA IT Principles & Standards

Create SOA Governance Framework

Define Service Ownership Model	Establish SOA Governance Mechanisms	Update Governed Processes	Define Metrics	Document SOA Governance Mechanisms	Define Roles & Responsibilities

SOA Center of Excellence

Create the CoE Structure	Elaborate the CoE Structure

Define Development & Operational Aspects

Policies for Reuse security & compliance	Quality gates for development processes	Quality gates for operational processes

Governance Tools and Infrastructure

Tools and infrastructure building blocks

Create SOA Governance Plans

Build SOA governance plans	Define the SOA transition plan

Exit Review

Operational change readiness assessment

Enable

Execute Enablement

Execute the Transition Plan	Initiate SOA Governance Organization Changes	Initiate the SOA Center of Excellence	Initiate the SOA Governance Communication Plan
Initiate the SOA Governance Mentoring Plan	Initiate the SOA Governance Education Plan	Update the Transition Plan	Implement Tools and Infrastructure for SOA Governance

Measure

Execute measurement

Measure Effectiveness of SOA Governance Processes	Measure the Effectiveness of Organizational Change	Review and Refine Operational Environment

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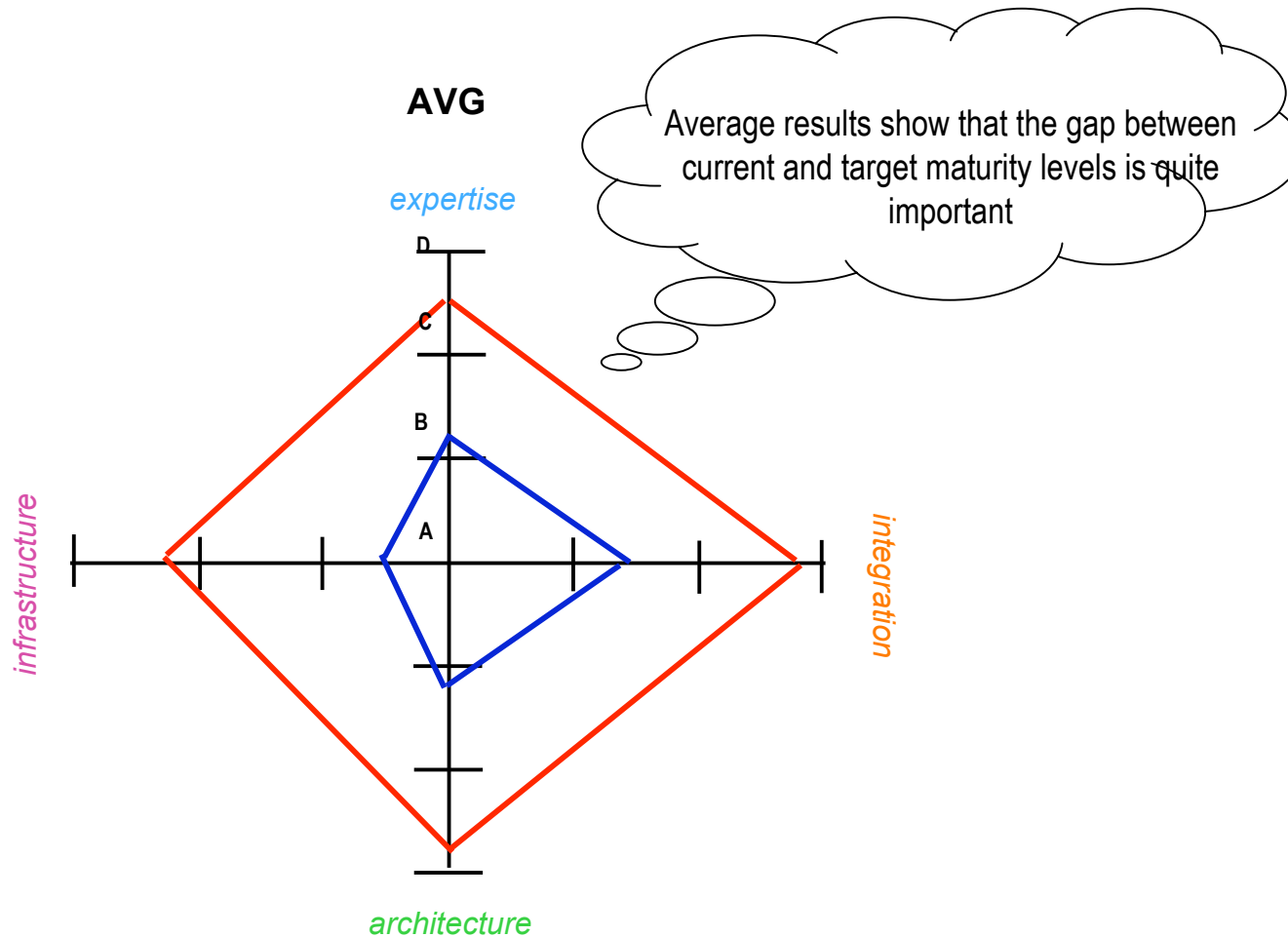
The EBSC SOA maturity assessment survey

- Goals
  - Assess where EBSC stands in terms of SOA maturity
  - Assess where EBSC wants to be in terms of SOA maturity
  - Define EBSC's SOA roadmap

- Category of questions
  - Expertise: How well do you master SOA concepts?
  - Integration: How well do you integrate and reuse applications?
  - Architecture: How well do your solutions' architecture fit SOA architecture?
  - Platform: How well does your platform support SOA lifecycle?

- Possible answers ranging from A (lower maturity level) to D (higher maturity level)

EBSC SOA maturity assessment survey Results

AVG

Average results show that the gap between current and target maturity levels is quite important

Define
Enable
Plan
Measure

expertise

D

C

B

A

infrastructure

integration

architecture

Current maturity level

Target maturity level

EBSC SOA Governance project plan

Phase 1: Establish the Governance Need -> 4Q06

Perform a SOA maturity assessment at EBSC (**survey**)

Propose a SOA evolution roadmap

Define the EBSC SOA governance board structure

Present results of Phase 1

Stakeholder evangelization

Phase 2: Define the Governance Approach -> April 07

Establish the SOA Governance Board

Define the SOA Governance processes for reusable services

Des...

Def...

Pre...

Incremental process

ID	Task Name	2006			2007				20	
		Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
1	Phase 1									
2	Perform a SOA maturity assessment at EBSC (survey)									
3	Propose a SOA evolution roadmap									
4	Define the EBSC SOA governance board structure									
5	Present results of Phase 1									
6	Phase 2									
7	Establish the SOA Governance Board									
8	Define the SOA Governance processes for reusable services									
9	Design the architecture of an SOA platform for the EBSC									
10	Define Education & communication strategies									
11	Present results of Phase 2									
12	Phase 3									
13	Educate (methods & tools expertise)									
14	Install and make ready for use the tools and the platform needed to sup|									
15	Present results of Phase 3									
16	Phase 4									
17	Measure effectiveness, monitor policy compliance									
18	Provide access and visibility to information									
19	Present results of Phase 4									

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ecember 07

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The SOA Center of Excellence (CoE)

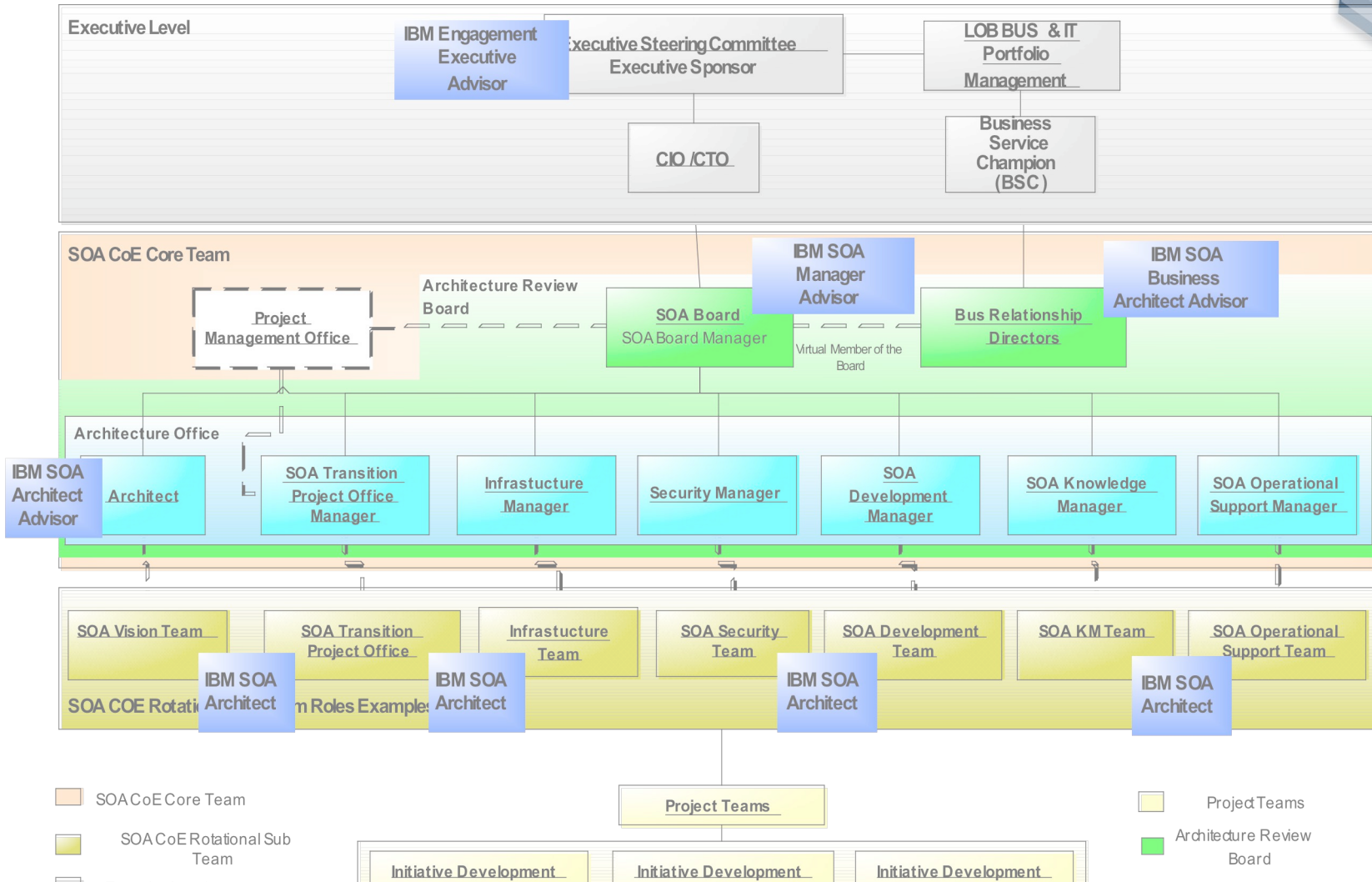*a proven organizational and delivery model for SOA Governance*

Manage the SOA Lifecycle

Change management including **policies for publishing, using and retiring** services
Infrastructure to help **govern** access and **monitor** service vitality

Provide SOA Measuring Best Practices

Visibility to usage and project information
Business and IT **dashboards**

Provide Skills Transfer & Early Proof of Concepts

Identify skills gaps and create development roadmaps
Drive use of new technologies and techniques such as BPM

Provide Architecture Vitality & Thought Leadership
Continuously assess, refine and architecture framework and supporting assets based on internal & external influences

Center of Excellence

Provide Architectural Authority

Single point of accountability and **communicates SOA best practices, assets, and patterns**

Conduct SOA Architecture Reviews

Perform **independent design and architecture reviews for key applications** and infrastructure

Establish Decision Rights

Service portfolio planning and organizational design
Assets and best practices

Define High Value Business Services

Modeling business processes, information services Best practices for identifying and defining shared services

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SOA CoE Structure - Summary

Role Summaries

Define
Enable
Plan
Measure

- Key touch points to/from LOBs
- Communicates business needs, priorities

- Sets SOA vision, principles, policies
- **Prioritizes** SOA efforts; allocates SOA funding
- **Resolves exception requests**

Executive Steering Committee

- Sets SOA standards, policies
- Defines all SOA architecture elements (Tech., application, data, security…)
- Provides thought leadership
- Harvests assets
- Supports SOA development and operations
- (Permanent roles)

- Sets business direction and priorities
- **Authorizes funding**
- Enforces SOA mandate
- Resolves disputes (final)

Core CoE Team

SOA Board

Business Relationship Directors

Architecture Office

- Pool of skilled resources
- Executes day-to-day SOA functions
- (**Rotational) roles**

CoE Sub-Teams

Project Teams
(Project Team Authority)

- Develops applications using SOA assets, guidance of the CoE
- Ensures project-level compliance

= SOA Architecture Review Board

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Example of SOA Governance Organization

Define
Enable
Plan
Measure

Executive Level

| IBM Engagement Executive Advisor | Executive Steering Committee Executive Sponsor | | LOB BUS & IT Portfolio Management |
| CIO /CTO | | Business Service Champion (BSC) |

SOA CoE Core Team

Architecture Review Board

| Project Management Office | IBM SOA Manager Advisor | SOA Board SOA Board Manager | Bus Relationship Directors | IBM SOA Business Architect Advisor |

Virtual Member of the Board

Architecture Office

| IBM SOA Architect Advisor | Architect | SOA Transition Project Office Manager | Infrastucture Manager | Security Manager | SOA Development Manager | SOA Knowledge Manager | SOA Operational Support Manager |

| SOA Vision Team | SOA Transition Project Office | Infrastucture Team | SOA Security Team | SOA Development Team | SOA KM Team | SOA Operational Support Team |

SOA COE Rotational Team Roles Examples

IBM SOA Architect
IBM SOA Architect
IBM SOA Architect
IBM SOA Architect

| SOA CoE Core Team | | | Project Teams |
| SOA CoE Rotational Sub Team | | | Architecture Review Board |

Project Teams

| Initiative Development | Initiative Development | Initiative Development |

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EBSC SOA Governance Center of Excellence

Define
Plan
Enable
Measure

EBSC SOA Governance organization

SOA Executive Level

EBSC SOA Executive Steering Committee

Leader

EBSC Management

SOA Core Team

ISC Architecture Board

Leader for 6 months

EBSC SOA Board

1 person per department

Project Managers Board

SOA Workstreams

...   .

EBSC Project Teams

...   .

Existing governance bodies

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EBSC SOA Business Case based on reuse benefits

Define
Plan
Enable
Measure

Typical Project costs

cost

100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0

1   2   9   10

■ SOAProjectCost
■ ProjectCost

governed projects a less
expensive than governed ones

Thanks to SOA reuse cost saving,
we are able to improve:

✓ our efficiency/competitiveness: we can handle
more projects per year

✓ our quality: added value services are quickly &
easily integrated into our Industry solutions

The investment on the
internal Governance
recovered as early Danuary

Project count

3

2

1

0

2 500 000 €

2 000 000 €

1 500 000 €

1 000 000 €

500 000 €

0 €

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec | Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

2007   2008

■ Monthly Projects count   —— Without SOA   —— With SOA

25
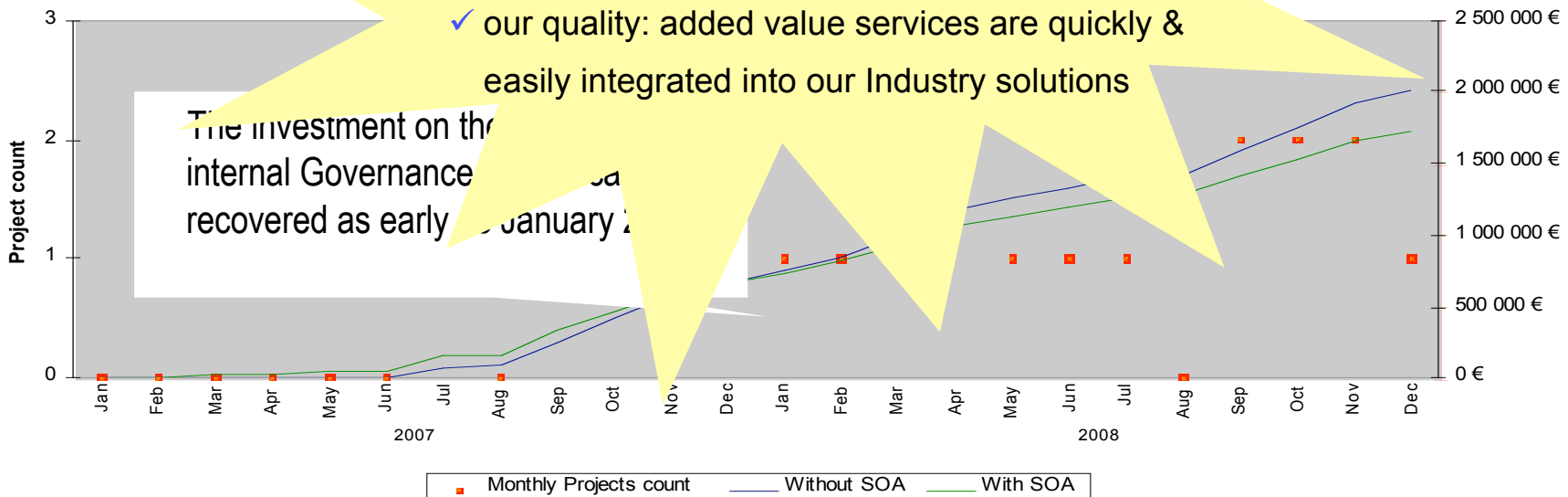
Our EBSC's SOA Governance Framework

Define
Enable

Crea

| Processes | F |
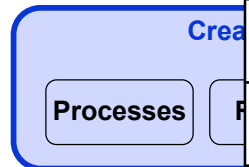
5 governance domains have been id

- Ownership (SO
- Compliance (CM
- Reuse (REU1)
- Management (M
- Communication

➡ 19 p

Subject Area	SOA Governance	Topic	Management
Architectural Topic	Ownership Transfer	ID	MGT05
Description	Defines how to manage when a service owner doesn't need the service anymore but consumers still do.		
Assumptions			
Motivation	Ensure service has always an identified owner.		
Alternatives	**Alternative 1: Ownership is transferred to member within the same industry/technical area based on agreement with current owner and proper communication is done (EBSC Governance Board gives its blessing)** **Pros:** •smooth transition •proper skill **Cons:** •can lead service w/o ownership (no formal transfer)		
	Alternative 2: Ownership is transferred to one of the consumers based on agreement with current owner and proper communication is done (EBSC Governance Board gives its blessing) **Pros:** • smooth transition • good will **Cons:** •may result in difficulties if no consumer can handle the service maintenance (lack of proper skills, resource…) •can lead service w/o ownership (no formal transfer)		
	Alternative 3: Current owner propose is resignation to the EBSC Governance board that will manage and inform. **Pros:** •service has always a owner ensured by EBSC Governance board **Cons:** •Additional workload for EBSC Governance board.		

EBSC SOA Service State Transition Mod

analysis

Outlined

Deferred or Discarded ← Board Decision ←

SO01,
CMP02.1,
CMP06, MGT01

Approved

Specification

CMP01, CMP02.2,
CMP05

Board decommission
Decision

Designed

MGT04

no backward
compatibility

Build & Test

CMP02.3

Deprecated

Rework
Required

Constructed

Acceptance Test

CMP02.4
(CMP03/CMP04)

No more
consumers

Ratified

End-point publication ← backward
compatibility

MGT02, COM03

Operational — New version → **Re-Versioned**

INDEX

Old Service State
Action or Activity
New Service State
In Registry

EBSC SOA Governance Platform Architecture

EBSC DMZ

EBSC INTRANET LAB

SOA Prod Env

Svc1

WESB/WSRR

Svc2

WESB 2

Svc3

WPS

Svc7   Svc8

DataPower

SOA Prod Env

Svc4

WESB/WSRR

Svc5

WESB 2

Svc6

WPS

Svc9   Svc10

Svc new

DataPower

SOA Integration

Env

WESB/WSRR 1

WPS

Svc new

Client Application

Internet

Client Application

Intranet

Client Application test

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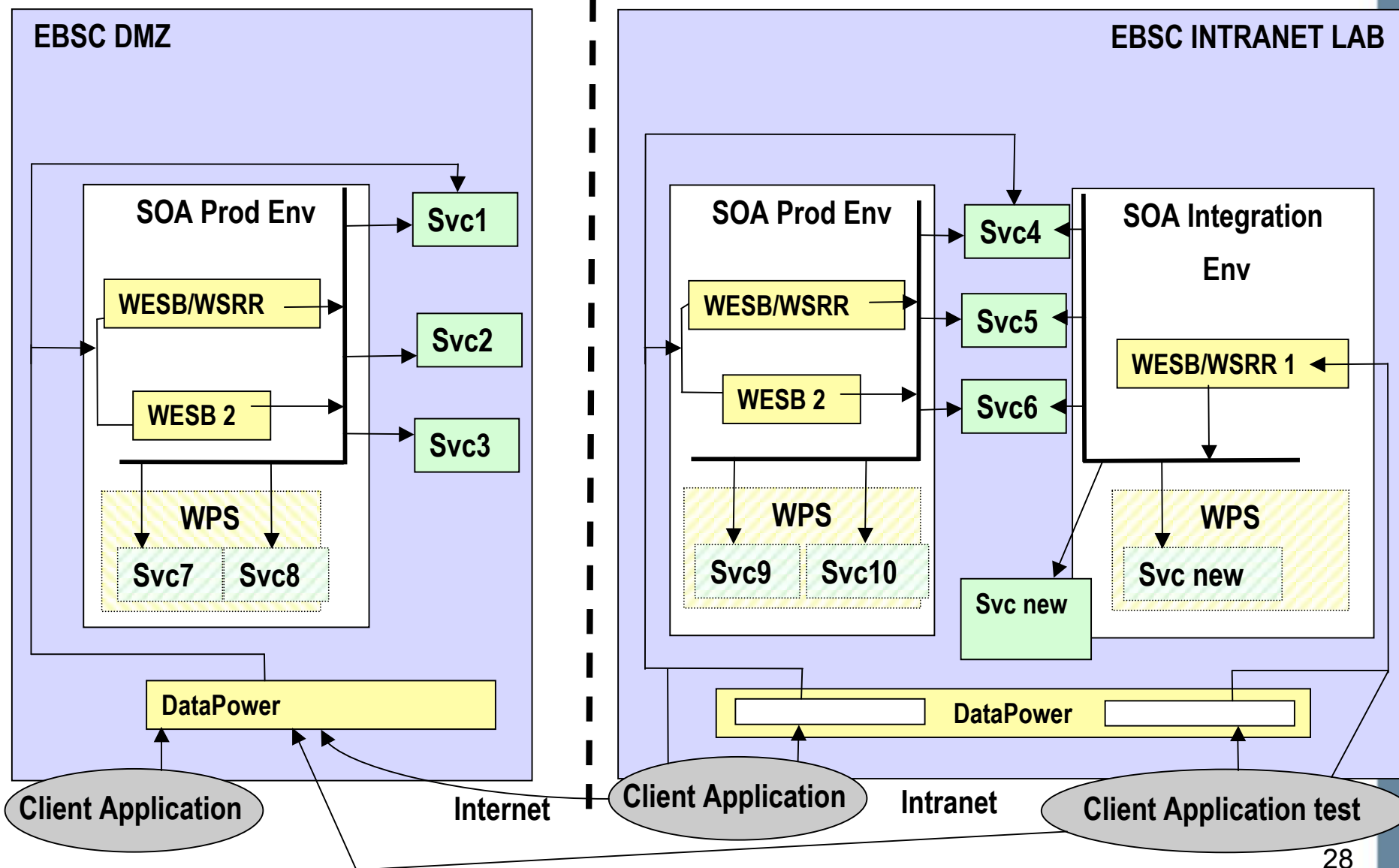
WebSphere Service Registry and Repository
Provides value throughout the service lifecycle

Publish	Find	Enrich	Manage	Govern

Publish

IBM WebSphere Service Registry and Repository 6.1

Enrich
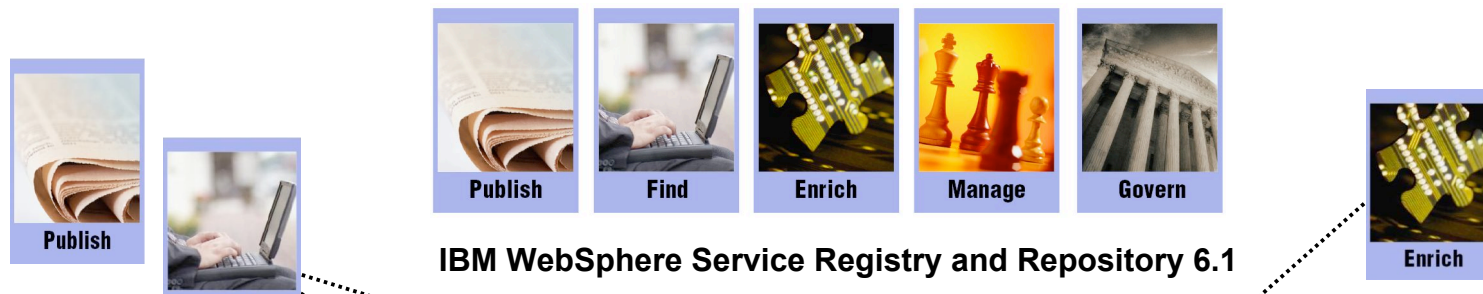
- WSRR is the master location where to **store**, **find** and **manage** service and service-related information
- WSRR enables better **management** and **governance** of your services
- WSRR helps manage the **entire lifecycle** of a service, from creation to retirement
- WSRR is a key enabler of SOA governance at runtime, working in concert with WESB, WMB, WMQ, DataPower, ITCAM for SOA, RAM, WBSF, .Net, UDDI…

Using WSRR @ EBSC:
Model/Assemble phases
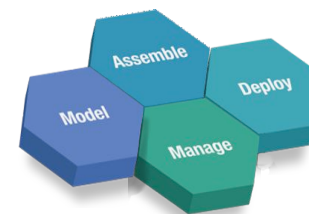
Customized Web-
based Console

Retrieve, Import, Publish

WSRR

Websphere Integration Developer

Retrieve,
Import,
Publish
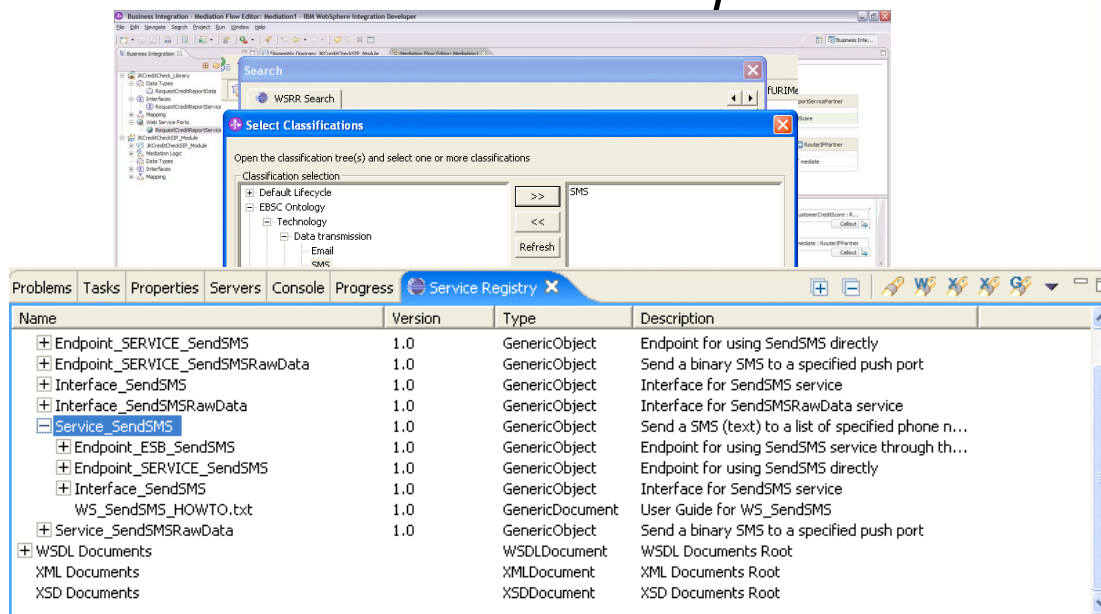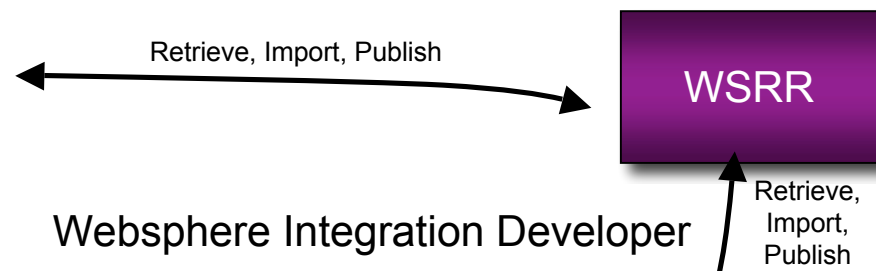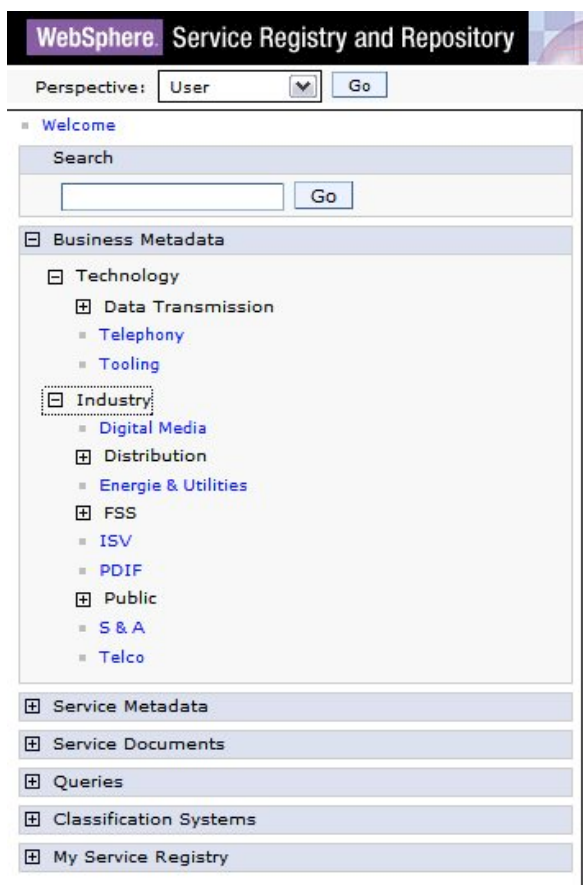
ITCAM for SOA enhances SOA governance

Service Discovery & Reconciliation

– ITCAM for SOA discovers "rogue services" running in production by comparing with registered services in WSRR

Service Monitoring & Logging

– ITCAM for SOA maintains logs of service calls in data warehouse (for historical reporting)

– Monitors for service degradation and thresholds defined by service level agreements

– Automated 'take action' commands to re-route services to meet SLAs

Service Reporting

– Tivoli Usage & Accounting manager creates reports for chargeback

– Tivoli Service Level Advisor creates SLA reports for compliance
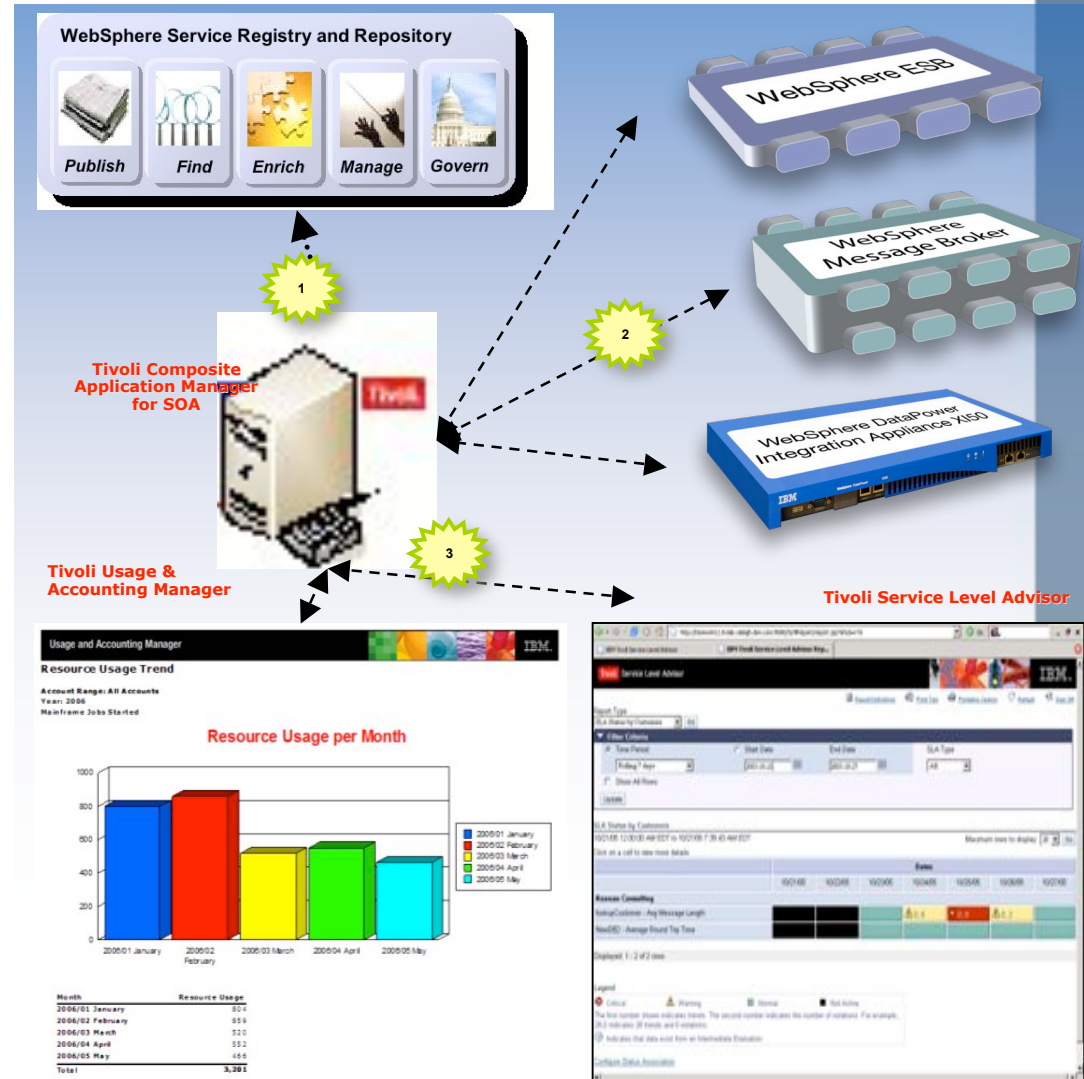
- **Websphere Services Registry and Repository (web User Interface)**
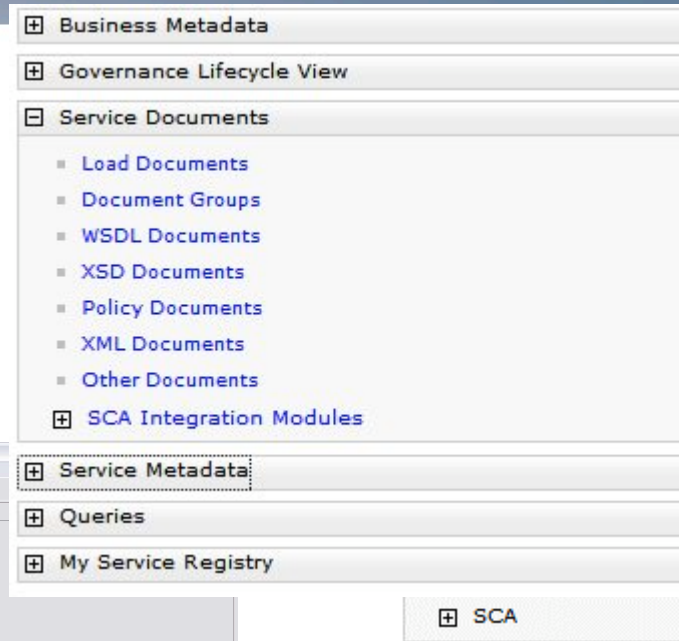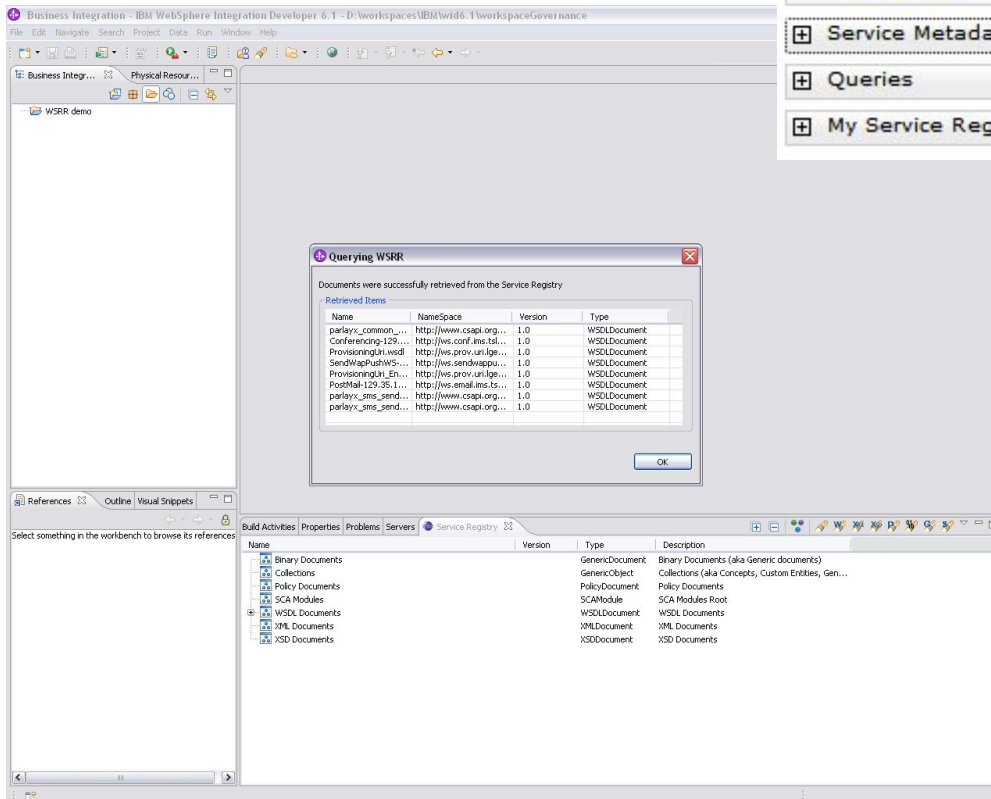
- **Websphere Integration Developer (eclipse development environment)**

Deploying the EBSC's SOA Governance Model
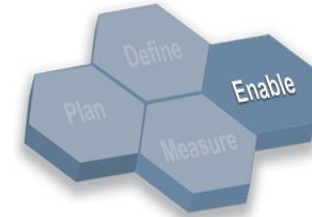
- **SOA Platform realization**
  - Implement the EBSC SOA common platform
  - Enforce defined policies
  - Homogenize and publish existing services

- **Communication workstream**
  - SOA governance is our main cross-entity topic
  - synergies between EBSC teams improved (community tools)
  - We started delivering & sharing our experience

- **Education** (The goal is to educate on SOA & SOA Governance, but also on what is being put in place at the EBSC in terms of methods and tools)
  - SOA Governance policies for EBSC
  - SOA development reference process for EBSC
  - Rational Software Architect usage for EBSC PoCs developments
  - common vocabulary for EBSC
  - social computing tools for EBSC

Monitor & refine our
EBSC SOA Governance processes

- First reusable services under deployment

- Measure effectiveness (based on ITCAM reports, EBSC teams' feedbacks). New SOA maturity assessment survey

- Reviewed and refined Operational Environment

- SOA Governance Board meets every 2 weeks, and every month with the executive board (after a 5 months delay)

- Every new (potential) project is studied with the board for potential reuses (services this project could reuse, services it could provide to the community)

- Ambassadors continuously remind about SOA governance

… and benefits are already there

✓ **Business benefits**
- IBM Customers and sales forces benefits (*presented to several Customers*)
- EBSC benefits
  (*presented at TLE CBS .... 2007 (...CITA...)*)

✓ **Technical benefits**
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  the...
- Ski...

✓ For ex...
- Fos...
- Giv...
- Cla...
- Re...

✓ People...
- Inc...
- A « human adve...
- Reuse spirit

Services
SendSMS service
ReceiveSMS service
SMSRawData service
SendE-Mail service
SendWAPPush service
Conferencing Service
Video On Demand service
Total devmt costs reduction

SOA certifications @ EBSC

Legend: 664, 665, 667, TechMgrs, total, Gd total
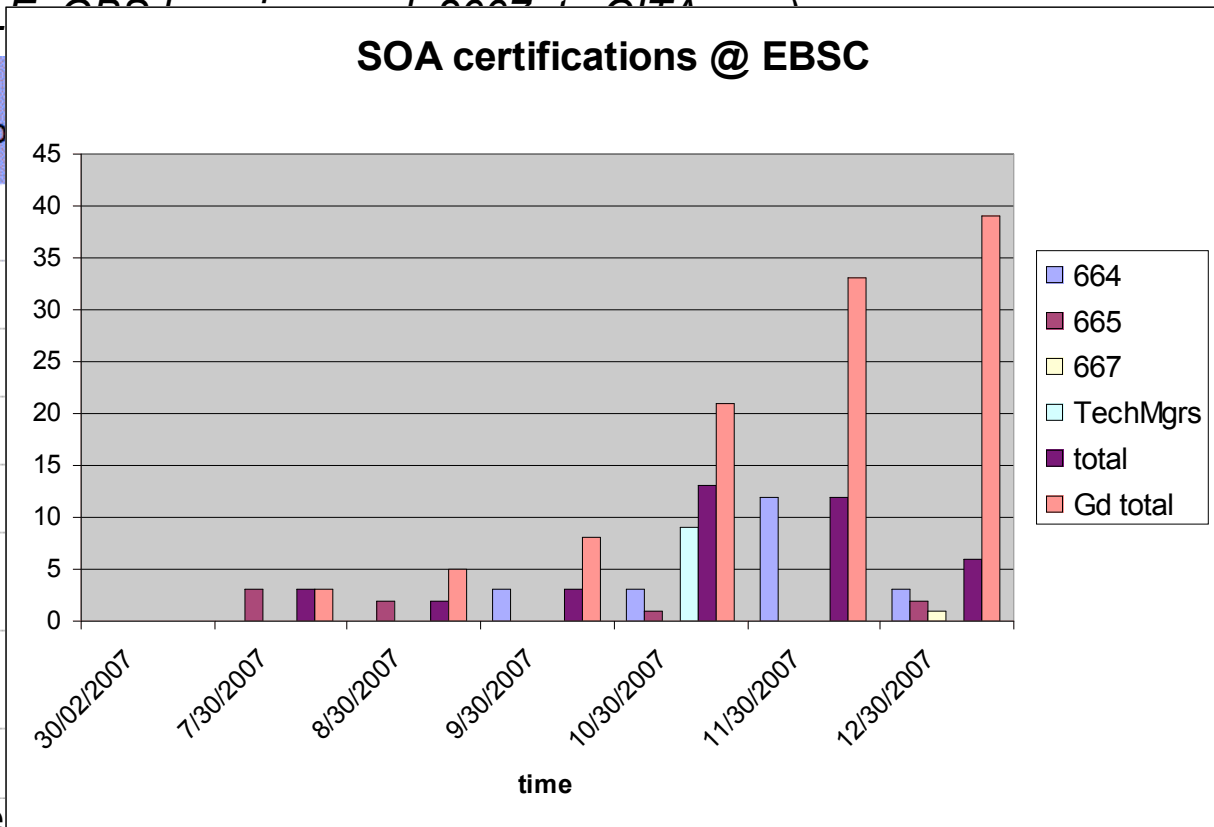
time

SOA Governance @ EBSC: lessons learnt

- Executive sponsorship

- A full-time project leader assigned and dedicated, at least

- Understaffing the SOA Governance organization is often said to be SOA killer. However be careful not to involve too many resources.

- An iterative approach

- Not always possible to have consensus, compromises need to be made, and decisions to be taken

Governance processes should make it easy to do things the right way and hard to do them the wrong way. Build schools, not prisons. The goal is to help people conform to best practices, not police them.

Mark Ericson, CTO of Mindreef

Reference materials

- SOA Governance Homepage – www.ibm.com/soa/gov
- IBM SOA Home Page – www.ibm.com/soa
- SOA Architectural Summit
  http://www.ibm.com/software/solutions/soa/events/soasummit.html
- SOA Executive Summit
  http://www.ibm.com/software/solutions/soa/events/soa_executive_summit.html?
- SOA Architecture Workshops – Contact your local IBM Representative
- IBM Redbooks
  http://www.redbooks.ibm.com/
- IBM Education homepage –
  http://www.ibm.com/industries/education/index.jsp?re=boost

- **2 days "SOA Governance @ runtime" Proof Of Technology**
- SOA Governance Strategy Services
- SOA Assessment Roadmap workshop (Component Infrastructure Roadmap)

Thank You
English

多謝
Traditional Chinese

ขอบคุณ
Thai

Спасибо
Russian

Gracias
Spanish

شكراً
Arabic

Merci !

Obrigado
Brazilian Portuguese

Danke
German

Grazie
Italian

多谢
Simplified Chinese

धन्यवाद
Hindi

நன்றி
Tamil

감사합니다
Korean

ありがとうございました
Japanese

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