SOA – Assessment & Directions

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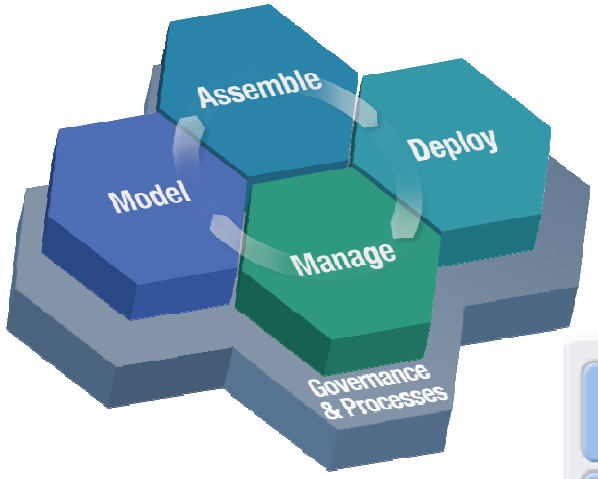
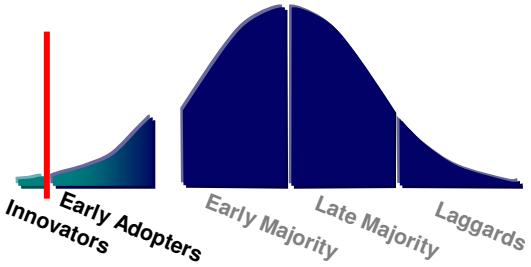
Agenda

- Assessment
  - The 5 consecutive IBM SOA Launches from 2005 to 2007
  - Where are we today ?
- Directions
  - SOA strategy
  - SOA portfolio

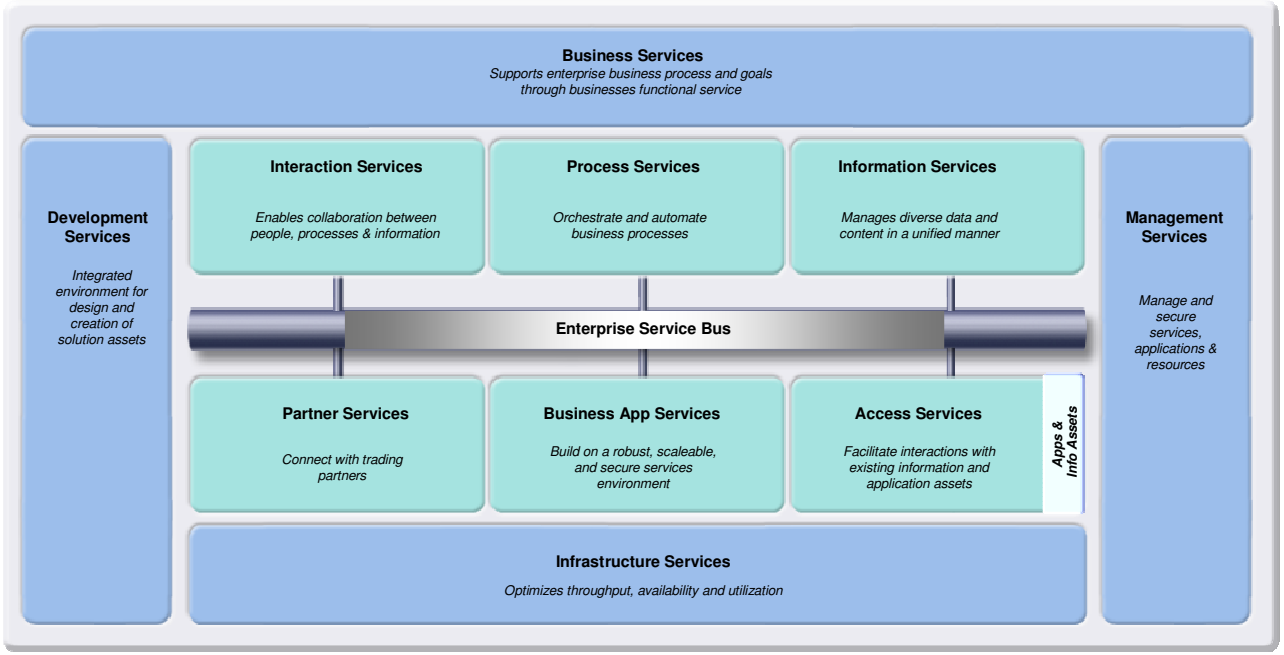
Sept 2005

Introduced Lifecycle and Reference Architecture



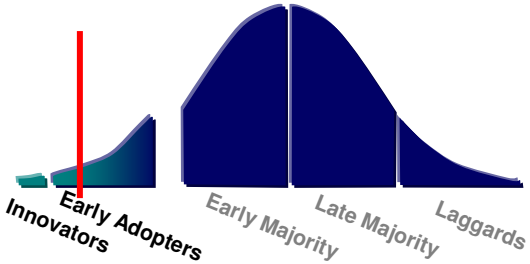


Set the agenda



1H 2006

SOA Entry Points



Get Started

Based On Business Priorities

Business Value

Broad transformation of existing business models or the deployment of new business models

On Demand Business Transformation

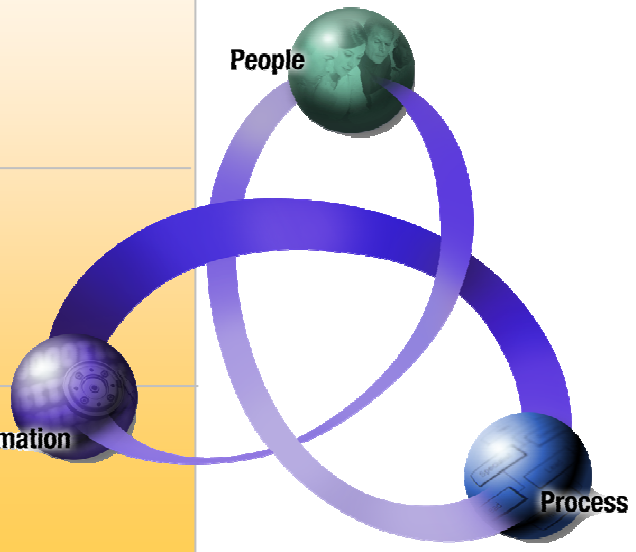
An architected implementation enabling integration across business functions throughout an enterprise

Enterprise Wide IT Transformation

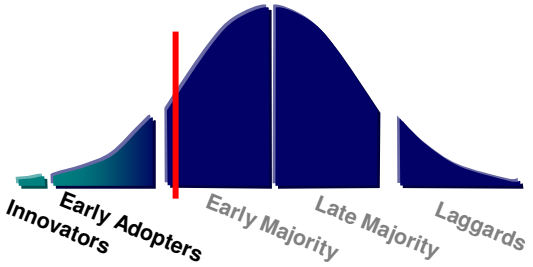
Integrating services across multiple applications inside and outside the enterprise for a business objective

Service Oriented Integration of Business Functions

Implementing Individual Web Services



2H 2006 SOA Ecosystem



Build Resources

Expertise in aligning business and IT processes
- SOA consultants, architects and IT specialists
- Dozens of SOA-enabled business solutions
- Unique intellectual property and methods

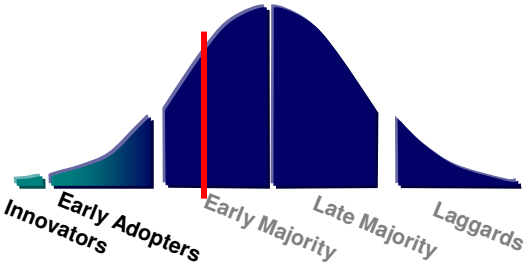
Thriving ecosystem of partners (ISVs, SIs, Resellers)
- 100+ partners in SOA community

Extensive Industry experience and best practices
- Over 1000 customers worldwide

Unmatched breadth and depth of products
- Over $1B/yr invested in SOA
- IBM leads over 50 standards bodies
- Over 300 SOA-related patents

1H 2007

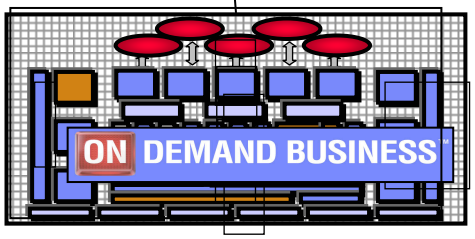
Alignment of Business & IT



BPM & Methodolgies

SOA Consulting Services

- The SOA Strategy
- The SOA Diagnostic
- The SOA Implementation
- BPM & Lifecycle Planning
- Strategic Outsourcing



CBM

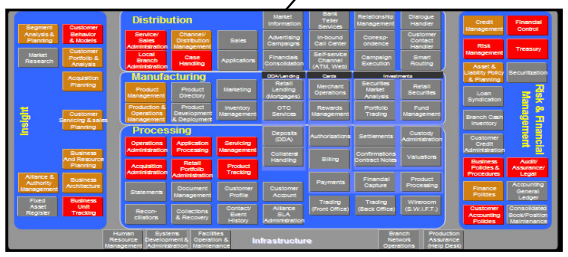
Technique to model and disaggregate an enterprise into portfolio of services to identify improvements

Industry Models

Models provide an information architecture blueprint with detailed banking business content

Industry SOA Solutions

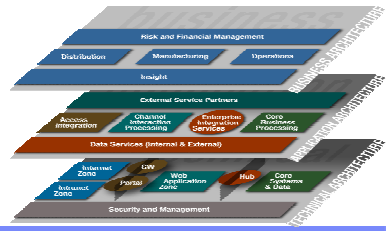
SOA will facilitate the co-existence and migration of Legacy Systems while providing workflow efficiency



IFW Information Framework

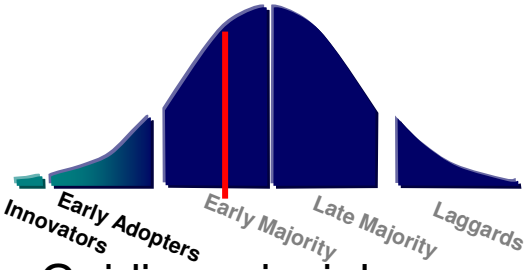
IAA Insurance Application Architecture

Industry content from IFW and IAA Process, Function, Data, Service Models

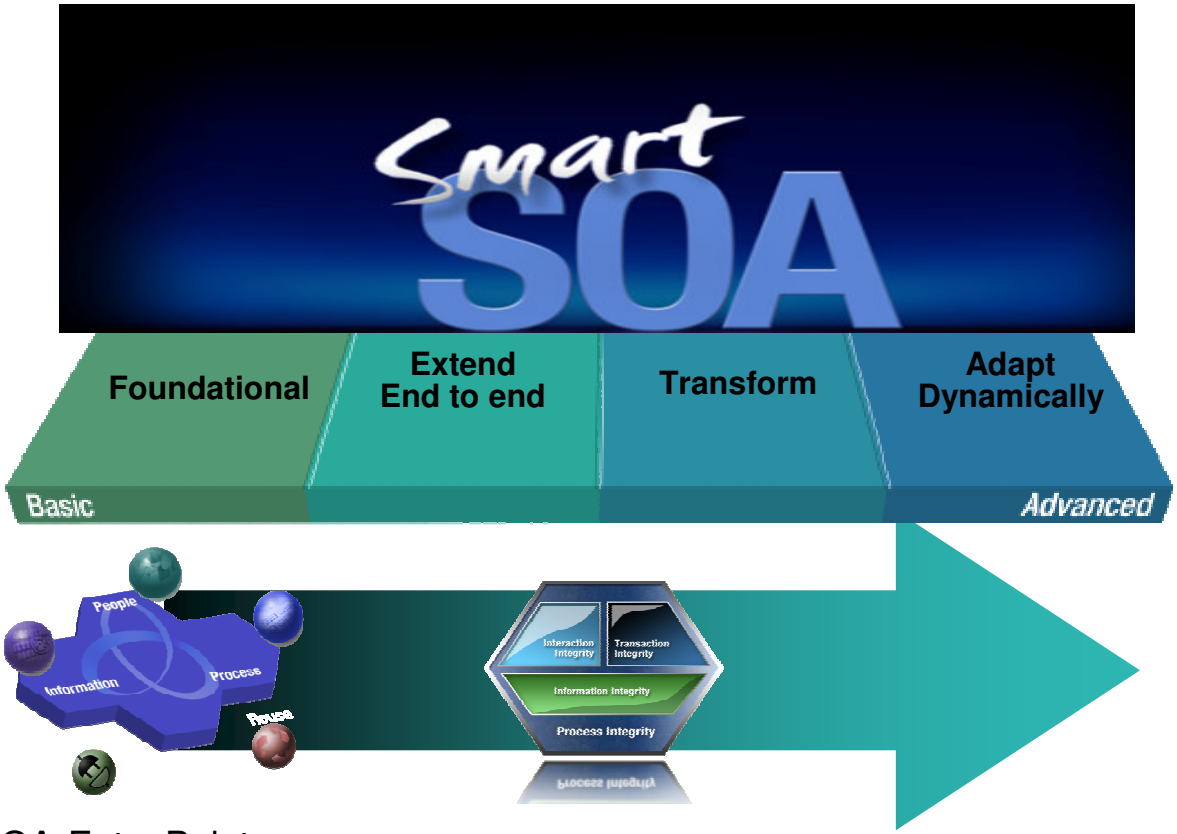


2H 2007 SMART SOA

IBM provides a set of guiding principles at every stage of the continuum, from Basic to Advanced initiatives



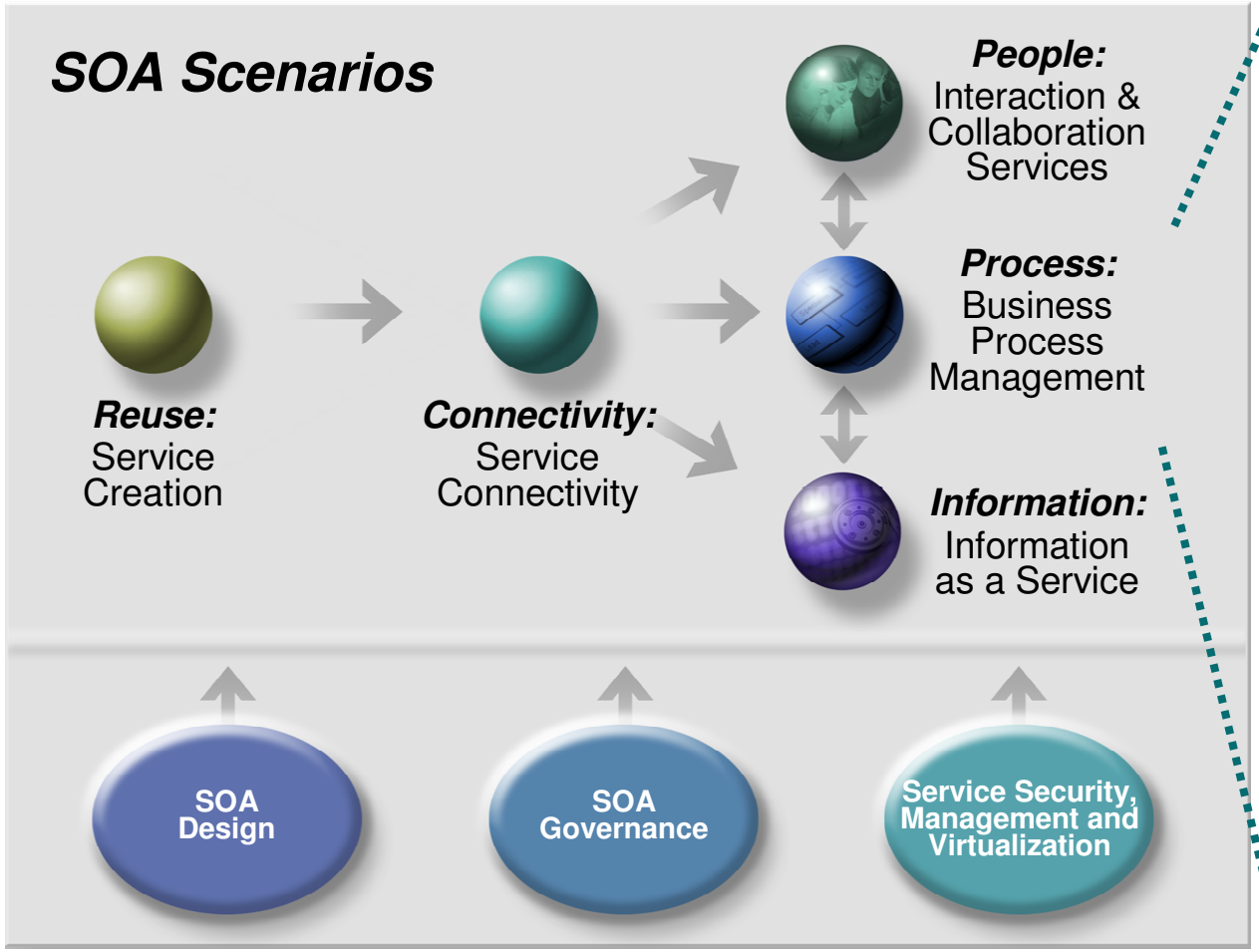
Guiding principles



SOA Entry Points

Process Integrity

SOA scenarios answer 'how to get started' with the SOA entry points

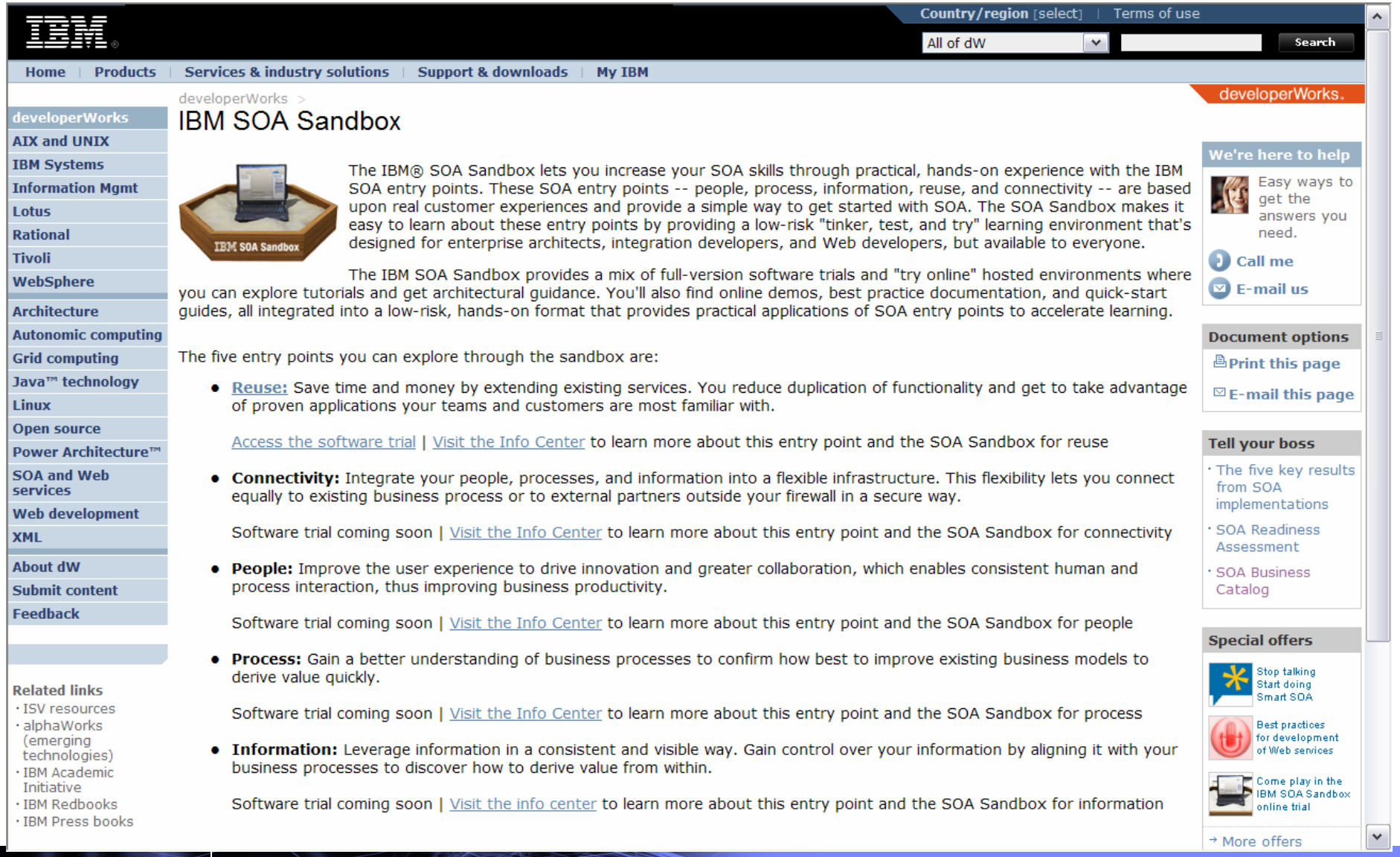


Scenario Deliverables

Core Deliverables
Customer Facing
- Technical whitepaper
- Overview presentation
- Demos

Additional Deliverables*
Customer Facing
- Brochure
- ePoCs
- EoTs / PoTs
- References
- Redbooks

http://www.ibm.com/developerworks/downloads/soasandbox/



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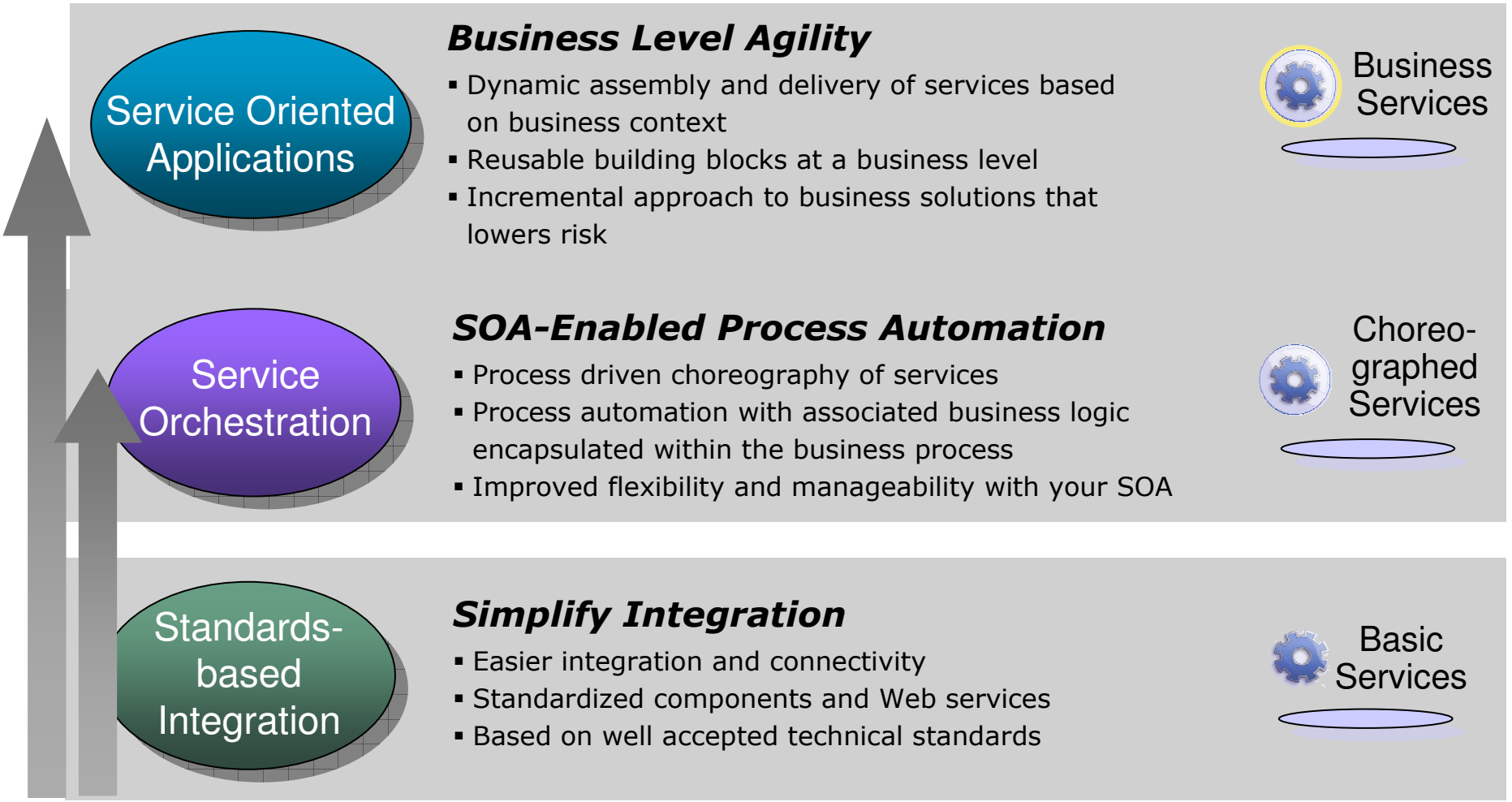
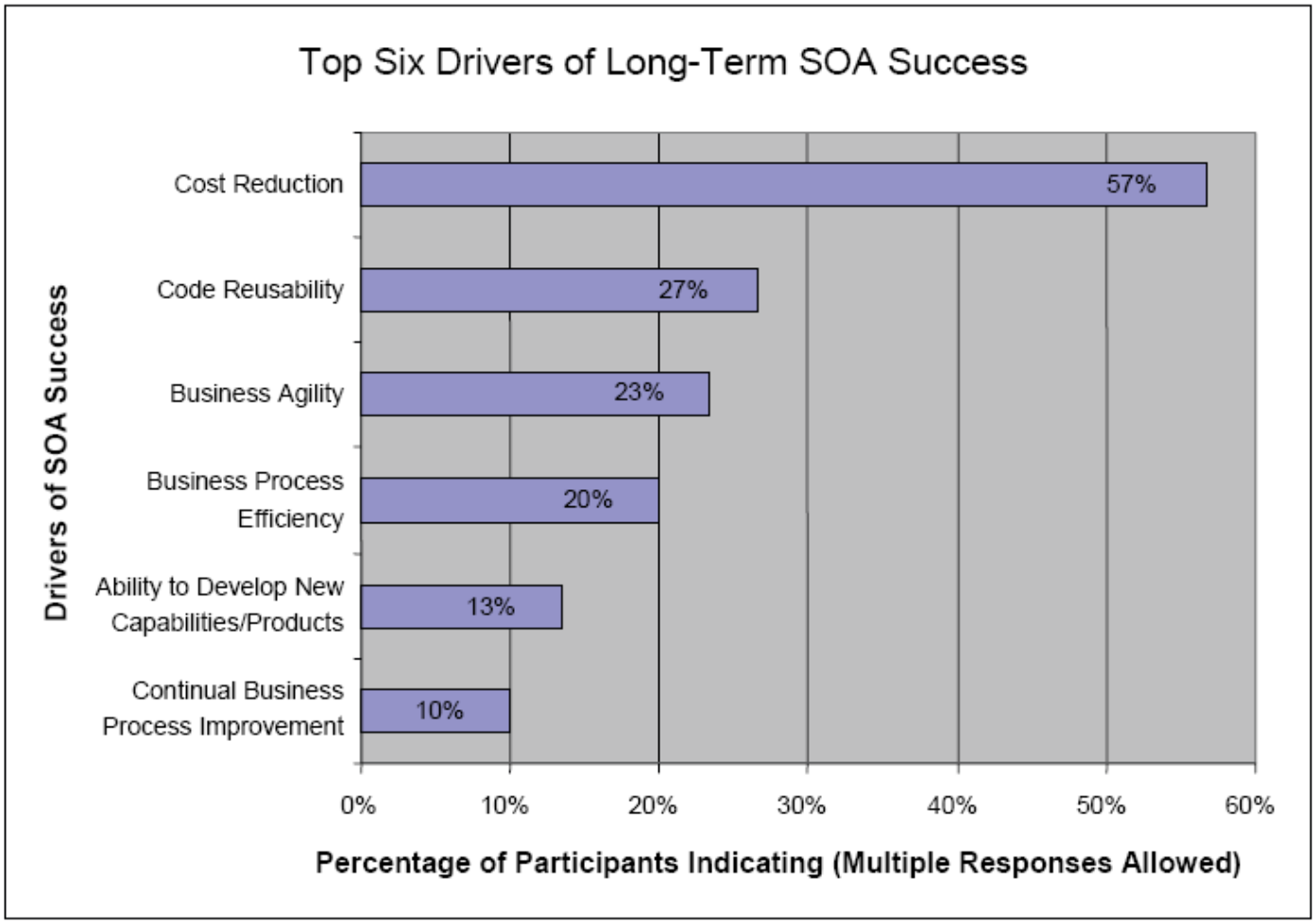
What are Customers doing with SOA? Incorporating variability. From simplified Integration to Business agility



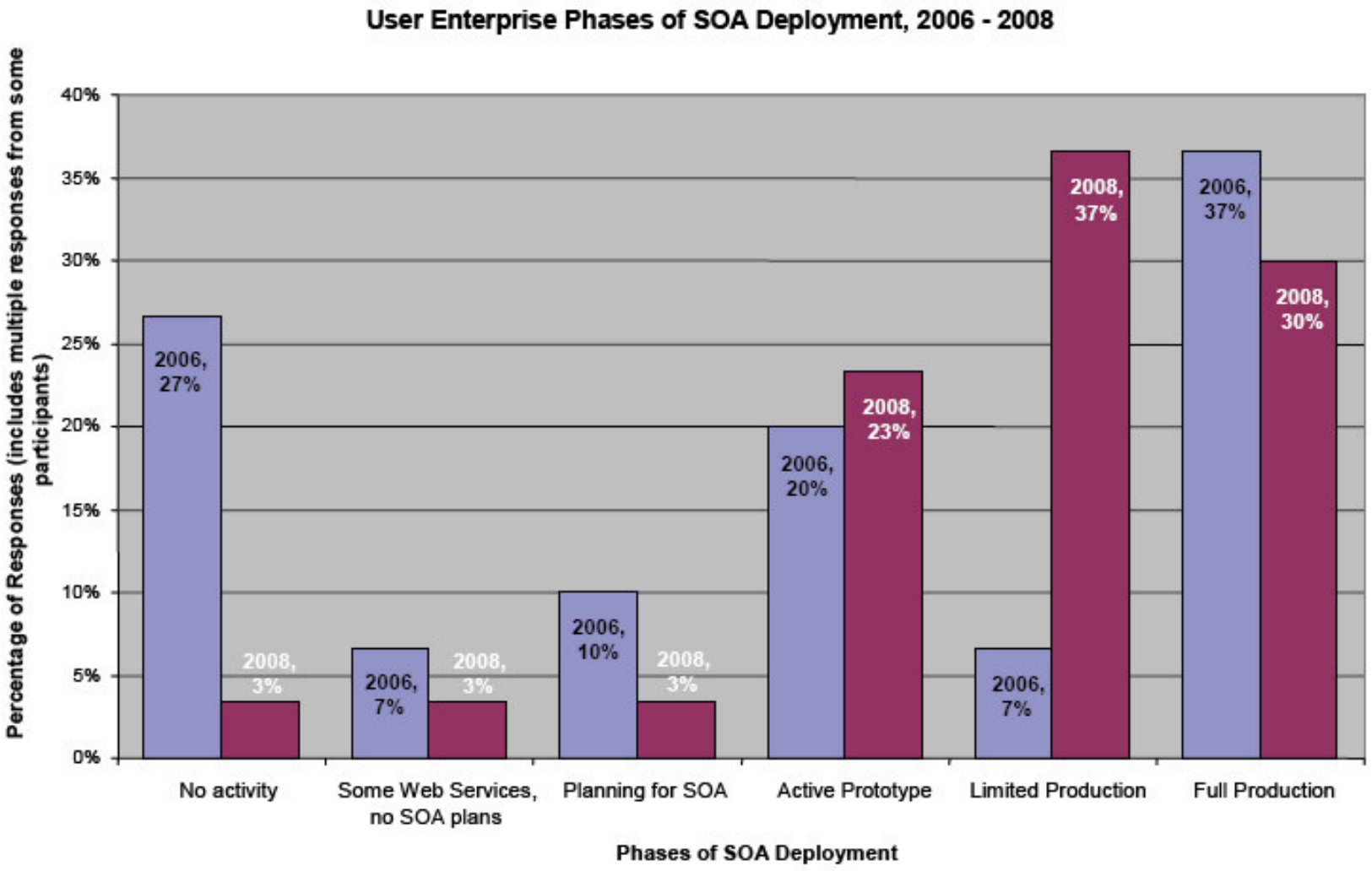
SOA Reality check, Dec 2006

	Wave I – 1999-2005	Wave II – 2003-2009	Wave III – 2006-2012
Deployment Focus	• Departmental Initiatives, Project-based	• Cross-Departmental Initiatives, Process-based	• Enterprise-wide initiatives, Program-based
Representative Projects	• Portals • Application and Data Integration	• Sharing of Services • Cross-departmental Process Workflow	• End-to-end Business Processes • Composite Applications
Vendor Value Proposition	• Integration via SOA and Web Services	• SOA enables Business Process Flexibility	• SOA as a Foundational IT Resource
Desired User Benefits	• Application and Data Integration • Validation, proof of concept • Extend life of existing legacy applications	• Reduced development costs through reuse • Process Efficiencies • Improved System Maintainability	• Business Agility • Rapid Response to New Business Challenges • Cost Efficiencies in Systems Management
Benefits Likely to Be Realized	• Process Integration • Beachheads for follow-on SOA projects • Expertise	• Software and process consistency across departments • Tactical Sharing/Reuse of Components and Services	• Enterprise Technology Assets; Coherent IT and Business Architectures • Foundation for Agility
Risk/Unintended consequences	• Rework / Project Restarts • Limited benefits of reuse	• Project Delays Due to Process Tradeoffs	• Coordination Inefficiencies • Service proliferation
Key Challenges In Governance	• Methodology, Standards • High development costs • Avoiding "islands of SOA"	• Sharing Computing Resources and Costs • Security and Standards	• Turf/Control Issues • Platform Heterogeneity • Continued Investment

SOA Reality check, Dec 2006 ….



SOA Reality check, Dec 2006 ….

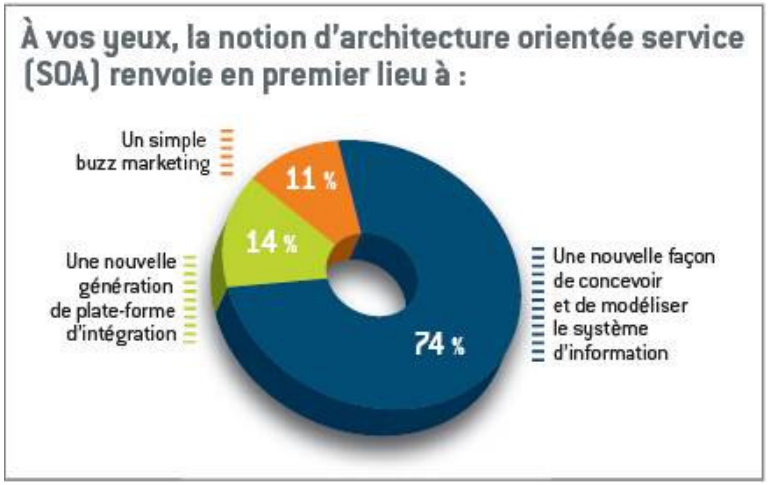


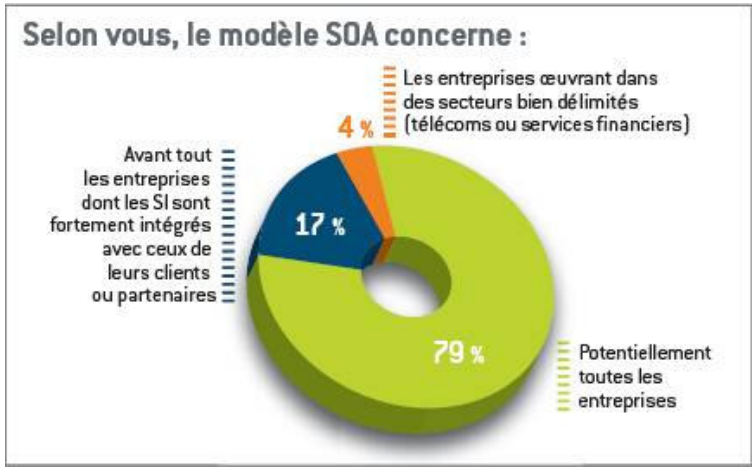
Etude SOA en France, Fev 207

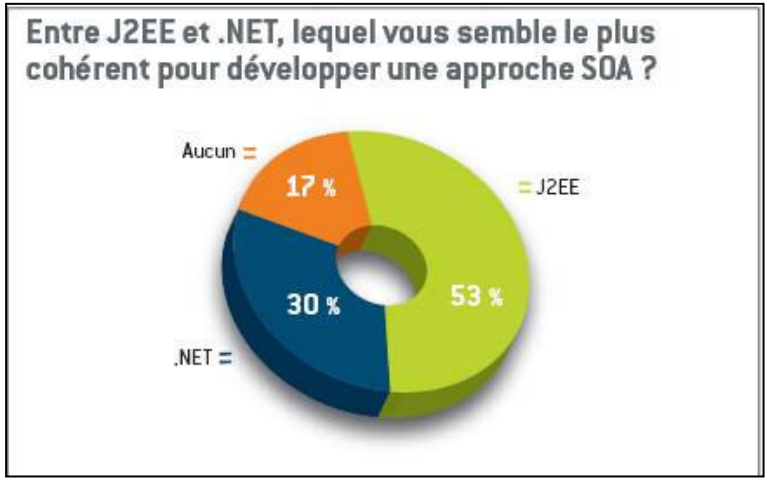
GROUPE TESTS

ENJEUX ET PERSPECTIVES DES ARCHITECTURES ORIENTEES SERVICE

Sondage réalisé auprès de 85 entreprises utilisatrices







The Issues Driving Change in Financial Services Today

Management priorities

- ✓ Drive revenue growth and Enter new market
- ✓ Adapt products and services to geographies
- ✓ Reduce costs and inefficiencies
- ✓ Provide a flexible business model
- ✓ Reduce risk and exposure

Risk & Compliance

- Sarbanes Oxley Act
- Basel II
- Fraud
- AML
- SEPA
- MiFID

Operational Efficiencies

- Core Systems Renewal
- Front Office Renewal
- Infrastructure
- Systems Integration
- Process / Systems Rationalisation/ Simplification

The Financial Services industry is evolving in a highly regulated and competitive environment

- Currently most of the European actors (retail banks, actors on the financial markets and insurance companies) have undertaken projects to comply to :
  - SEPA : Single Euro Payments Area pursues the objective to render Euro (cross country) payments faster and cheaper
  - Mifid : Markets in Financial Instruments Directive introduces more transparency to the Financial Markets
- Besides these projects, the main preoccupation of the Financial Services Industry is related to :
  - The customer 360 view taking into account all relationships, assets and liabilities the customer has with all the different entities of the Bank/Insurance
  - Account opening (retail banks and insurers) with the objective to better serve customers and reduce cost
  - Renewal of the branch plateforms, integrating the new tools
  - New technology related opportunities (mobile phone, internet, ..)

The challenges for Insurance Industry

- Gartner:
  - Insurers must focus on reducing the cost and complexity of their policy and claims systems and processes.
  - Begin back-office renovation with portfolio rationalization — it will establish the plan and road map for back-office investments.
- TowerGroup
  - identifies business optimization and competitive advantage as two of the top 10 business drivers for insurers in 2007

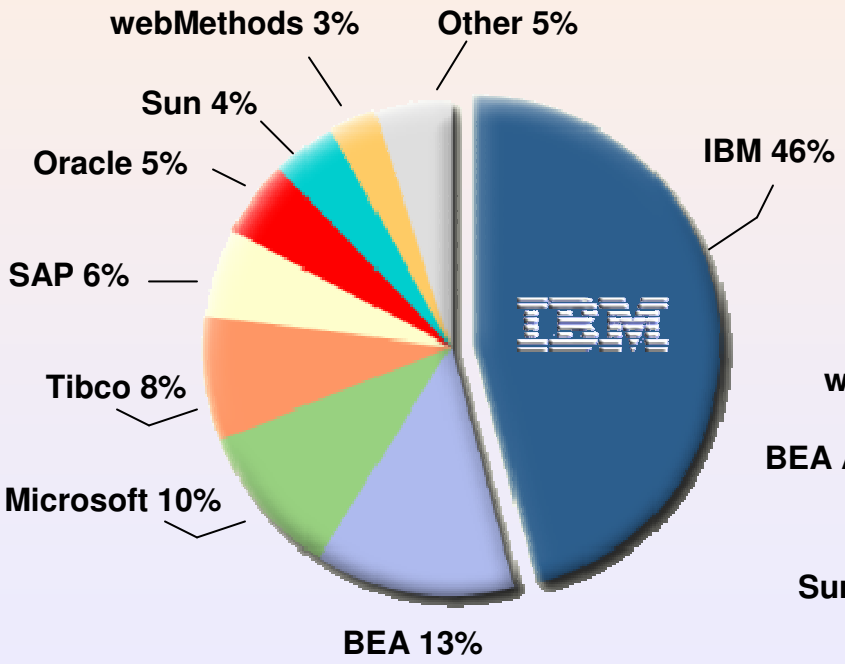
Source: TowerGroup

Business Drivers	Strategic Responses	Technology Initiatives
Business intelligence	Business architecture	Automated underwriting
Business optimization	Customer intimacy	Data management and tools
Catastrophe management	Data standards/simplification	Disaster response/recovery
Competitive advantage	Delivery channel integration	Enterprise automated controls
Demographics	Efficiency of core operations	Legacy replacement and integration
Distribution management	Precision pricing and catastrophe (CAT) modeling	Rules, rating, and workflow engines
Enterprise business and IT alignment	Product and services innovation	Security and privacy
Profitable growth and financial stability	Product portfolio management	Service-oriented architecture (SOA)
Regulation and compliance	Risk management	Web portals/agency system integration
Reinsurance	Straight-through processing	Workforce transformation/ management

Driven by the Success of SOA

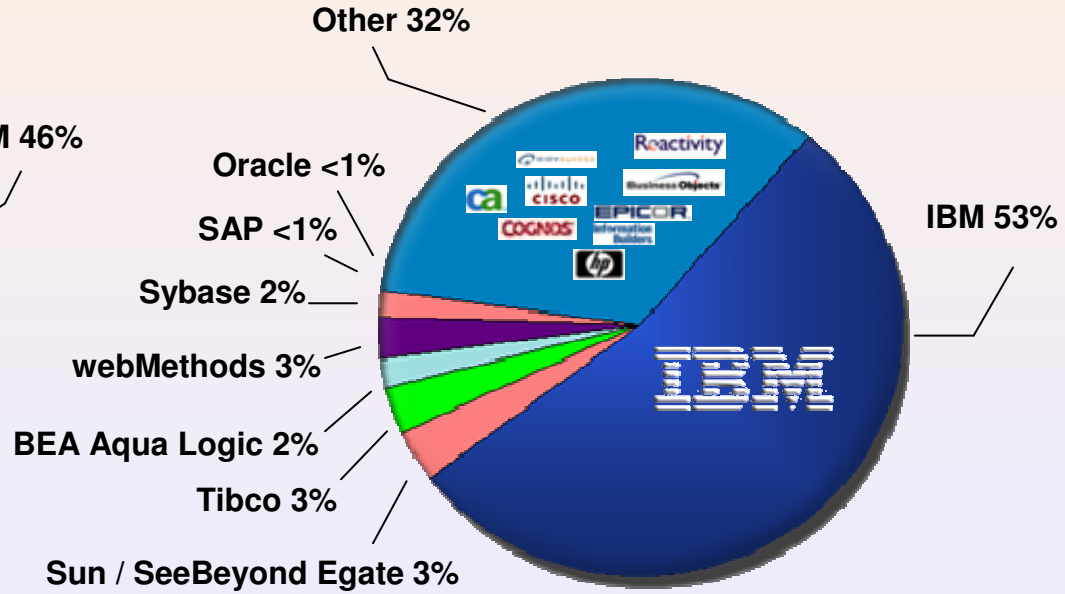
Worldwide SOA Engine License Shares

2005 Market Share



Source: Wintergreen Research, 2006
Software Engine and Components only

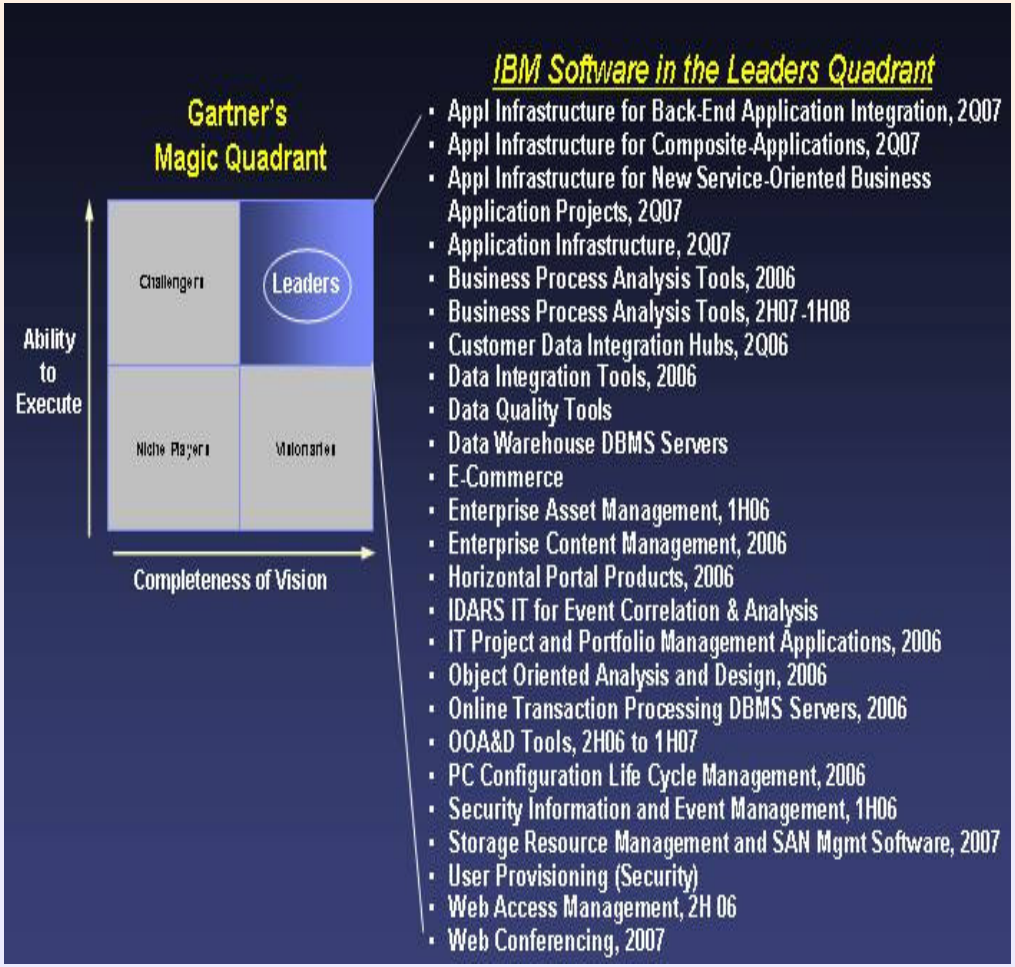
2006 Market Share



2006 Total
$989.7 Million

Source: Wintergreen Research, April, 2007
Software Engine and Components only

IBM SOA Enterprise View and Market Positioning



Business Unit and Key Product Segments	IBM Share Position
WebSphere	#1
Integration Server	#1
Web Application Server	#1
Portal Server	#1
Information Management	#2
Enterprise Content Management	#1
Information Integration (incl MDM)	#1
Database Engines & Tools	#2
Lotus	#2
Collaboration	#2
Tivoli	#2
Security Management	#1
Storage management	#3
Rational	#1
Software Configuration Mgmt	#1
Software Lifecycle Mgmt & Governance	#1

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IBM Software Strategy themes

Openness	**IBM supports** open standards, open source, and open architecture **Innovation is essential and accelerated by openness**
SOA	**Expressing application logic as** loosely coupled services**. IBM Software embraces and** enables SOA
Middleware	**Industry is shifting from vertical integration to** horizontal integration**. This shift requires significant middleware infrastructure**
Componentization	**Componentization enables greater flexibility and enables better expression of** application logic as services
Industry Focus	**IBM has industry and technical expertise to create industry solutions with** industry specific middleware**.**
Consumability	**Technology needs to be easier to use, easier to consume and easier to apply in solving business problems. Componentization and** SOA makes consumption of technology easier**.**
Acquisitions	**IBM is maintaining its** best of breed middleware **position and making buy versus build decisions. Strategy of acquisition of technology that complements the IBM portfolio**
Partnership Ecosystem	**IBM is** partnering with thousands of partners**. IBM is enabling an ecosystem of greater capabilities**

Main themes of our Software SOA Technical Strategy

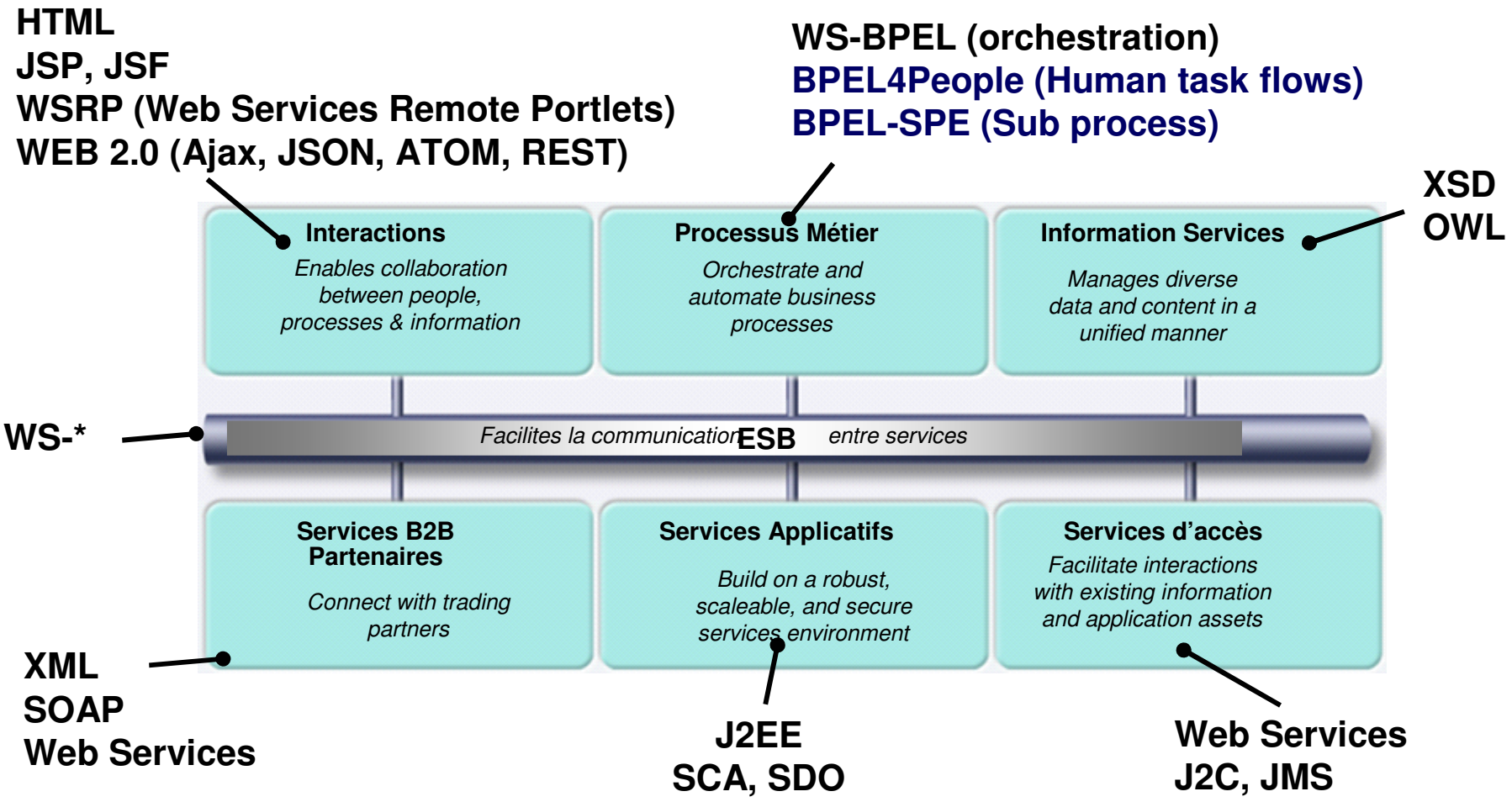
1. *Deliver an Integrated and Consumable Technology Portfolio*

Enable our clients to easily consume our portfolio across all aspects of the Software and SOA lifecycle.
Complete cross-product integration and deliver capability enhancements

2. Deliver on *Business Value* of SOA through *Industry Specialization*

Expand differentiated and flexible SOA solution software platform that addresses industry specific business needs.
Aligned with industry standards and incorporating variability points

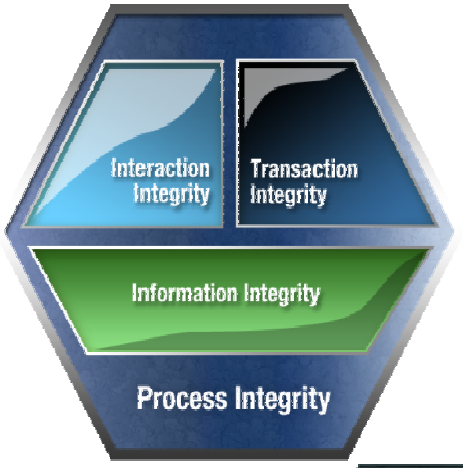
Some major Standards around SOA

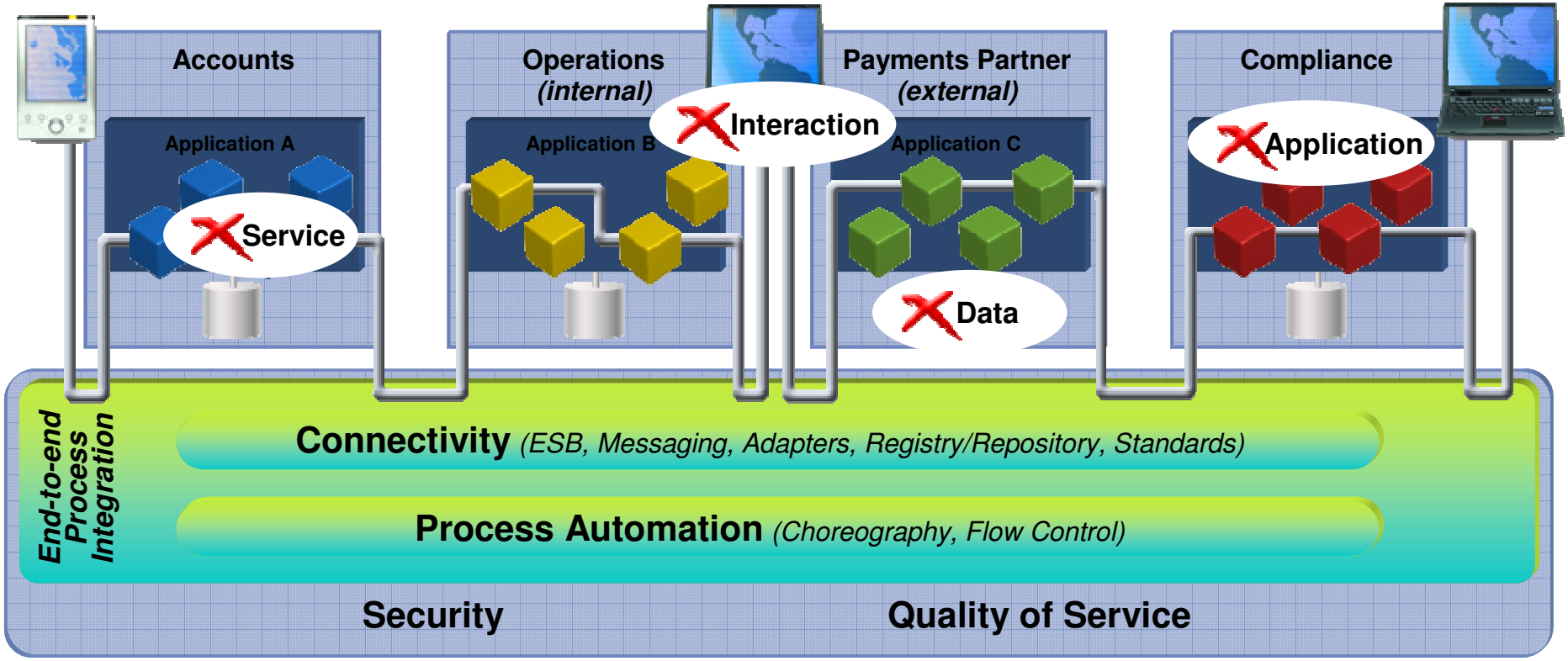


Process Integrity is Critical to SOA Projects

To achieve business agility without sacrificing integrity

- Process Integrity is the degree to which loosely coupled "open" systems deliver the reliability, consistency, scalability and predictability of tightly coupled "closed" systems





IBM's SOA Platform Directions

Consumer Platform

- **Joint LOB/IT App Construction**
- **Self-Service App Construction**

Provider Platform

- **Enforces Architectural Designs**
- **Enforces Governance**
- **Provides "enterprise" level QOS**
- **Exposes IT assets as Business Assets**

Business Rules
Business Processes
Business Views

Consumer Platform

•"Light weight" platform

•Facilitates creation of "simple" service based apps (mash-up, REST services)

Enterprise Platform

• "Robust" provider platform

• Atomic and composite service enablement

• Service metadata mgmt. and governance

• Facilitates creation of "basic" next gen apps

Business Services Platform

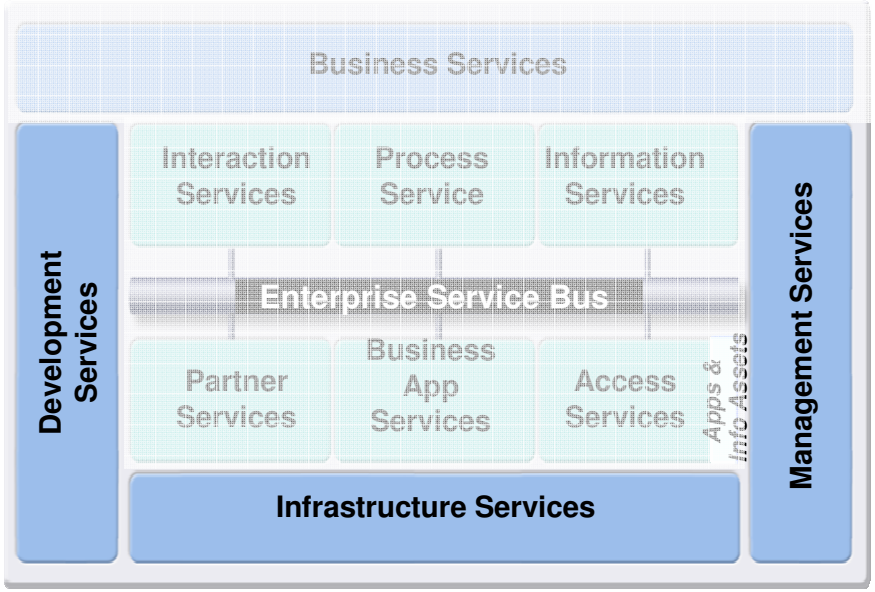
• Extends SOA Foundation

• Business services enablement

• Industry specific content

• Facilitates creation of "advanced" next gen apps

Instantiating the SOA portfolio



Key Offerings:

Key product capabilities centered around:

Development Services:

Rational Software Delivery Platform

- Service development and delivery management; addressing design and construction, service testing and delivery process

Infrastructure Services:

WebSphere XD

- Workload Virtualization for improved application resource utilization

Tivoli Provisioning Manager

- Policy-driven provisioning of service and application resources

Management Services:

ITCAM for SOA

- Discover and monitor services in pre-production and production environments as part of overall IT environment
- Pro-actively address service performance and availability through managed mediations (WESB integration)
- Control “rouge” services through reconciliation of registered vs. deployed services (WSRR integration)

Tivoli Federated Identity Manager

- Policy-based identity mediation for SOA
- Service security management

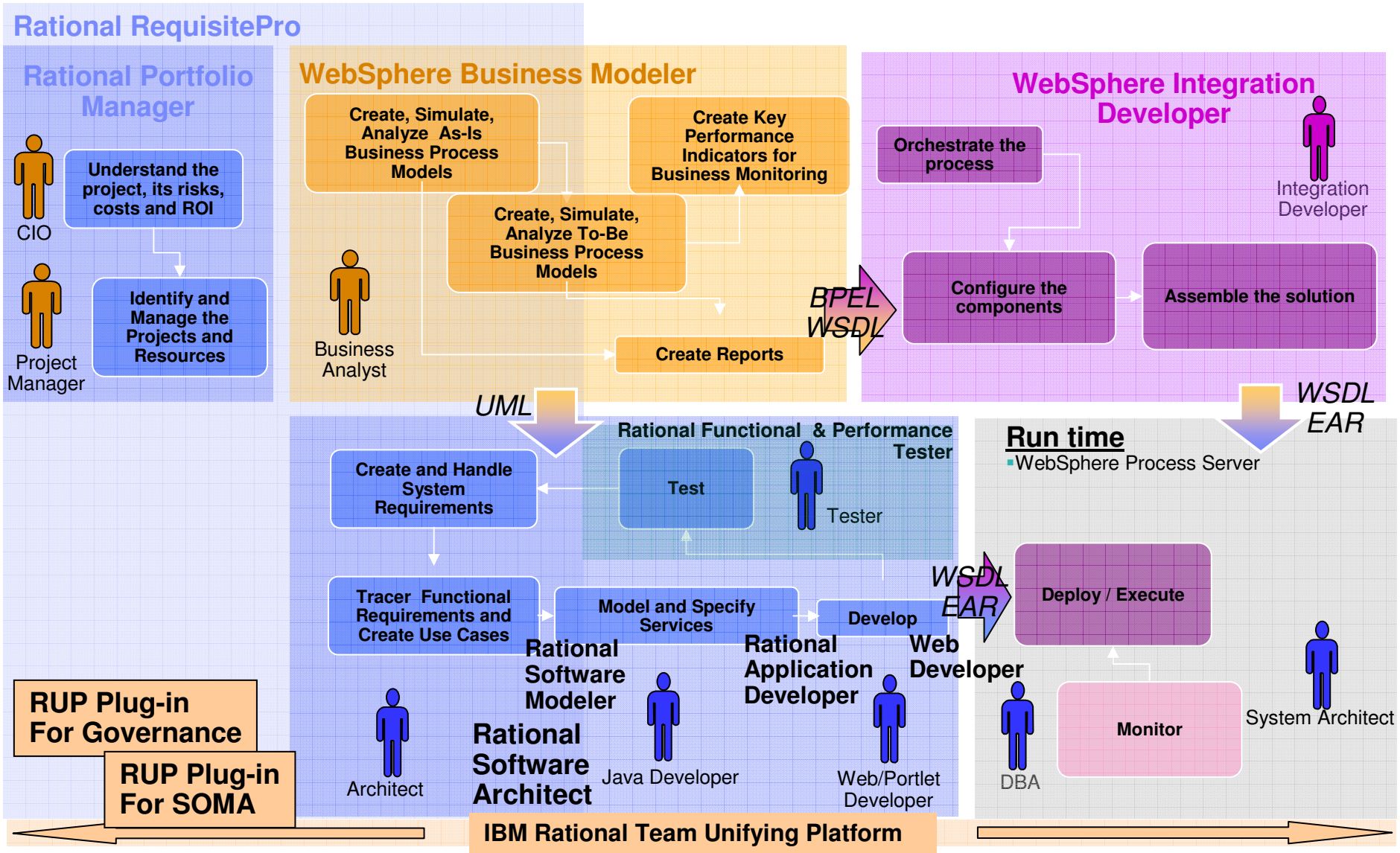
Tivoli Service Level Advisor

- Generate key Service Level Agreement (SLA) reporting, and trends analysis

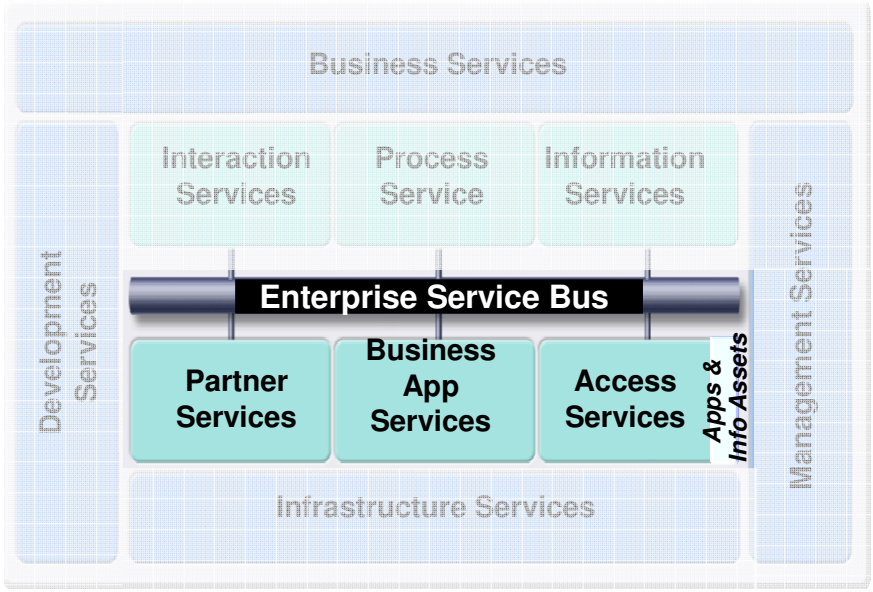
The IBM Rational software view

- SOA and Web 2.0 are reshaping the application development world
  - SOA business components and processes must be well architected
- Web 2.0 technologies will enable “situational” collaboration without IT intervention
  - Mashups of services and business rules
  - Efficient social collaboration/community tools (email, Wikis, newsgroups, blogs, RSS feeds)

- Product capabilities:
  - Defining SOA architecture (Rational Software Architect/Modeler (RSx), SOA plug-ins)
  - Method guidance for SOA (Rational Method Composer Plug-in for SOA)
  - Method guidance for SOA governance (RMC Plug-in for SOA Governance)
  - Methods and capabilities for business process definition (WebSphere Business Modeler integrations, RUP for business modeling, RSx)
  - Managing assets (RAM)
  - Developing services (Rational Application Developer, RSx transforms)
  - Testing web services (SOA Tester)
  - SOA governance (Rational Portfolio Manager, WebSphere Registry and Repository integrations, Tivoli Provisioning Manager integrations)
  - Method enactment (ClearQuest, Buildforge, Jazz)



Instantiating the SOA portfolio



Key Offerings:

Key product capabilities centered around:

Enterprise Services Bus:

WebSphere Enterprise Service Bus

- Enhanced performance and configurability for mediation between standards based services (XML, JMS, …)
- Integration with Service Registry and Repository

WebSphere Message Broker

- Advanced mediations and routing for both services and traditional endpoints
- WebSphere Transformation Extender support on multiple platforms

WebSphere DataPower X150

- Specialized functions in a hardware form-factor
- Security and ease of use

WebSphere Service Registry and Repository

- Centralized management and governance of service metadata
- Federation with other repositories

Business Application Services:

WebSphere Application Server

- Enhanced security, configurability and manageability
- Implementation of new communication standards e.g. SIP

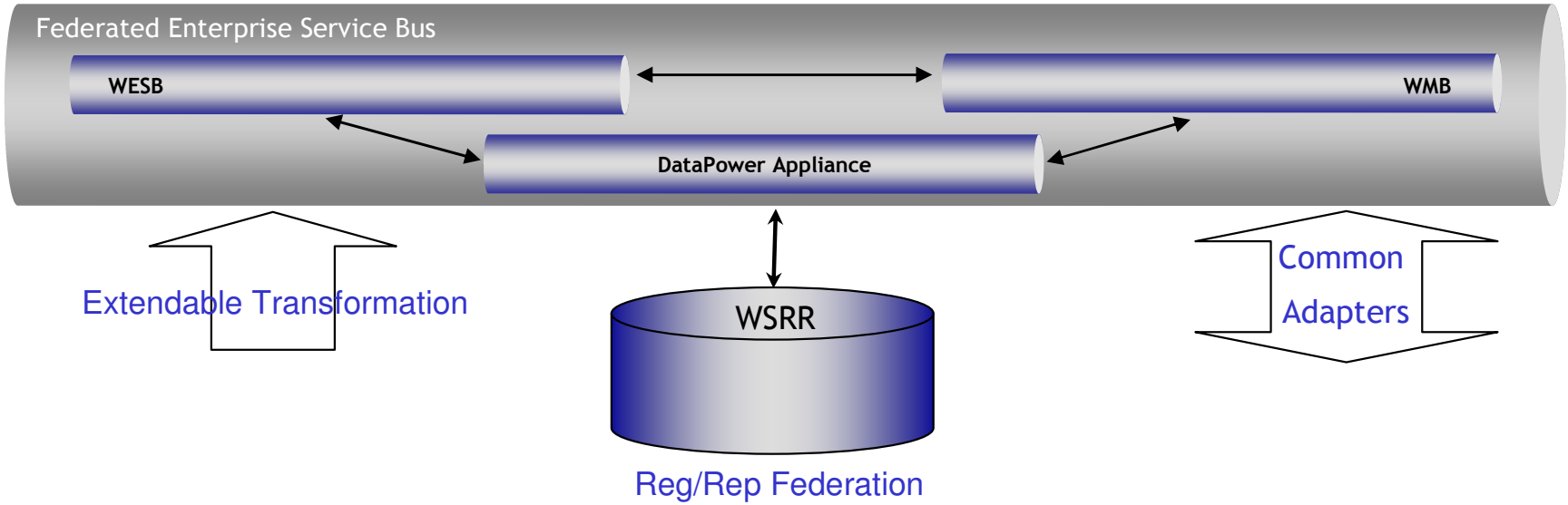
Access Services:

WebSphere Adapters

- Additional JCA based adapters for applications and technologies e.g. JD Edwards, Oracle EBS, FTP etc.
- Enhanced adapter toolkit for creation of custom adapters

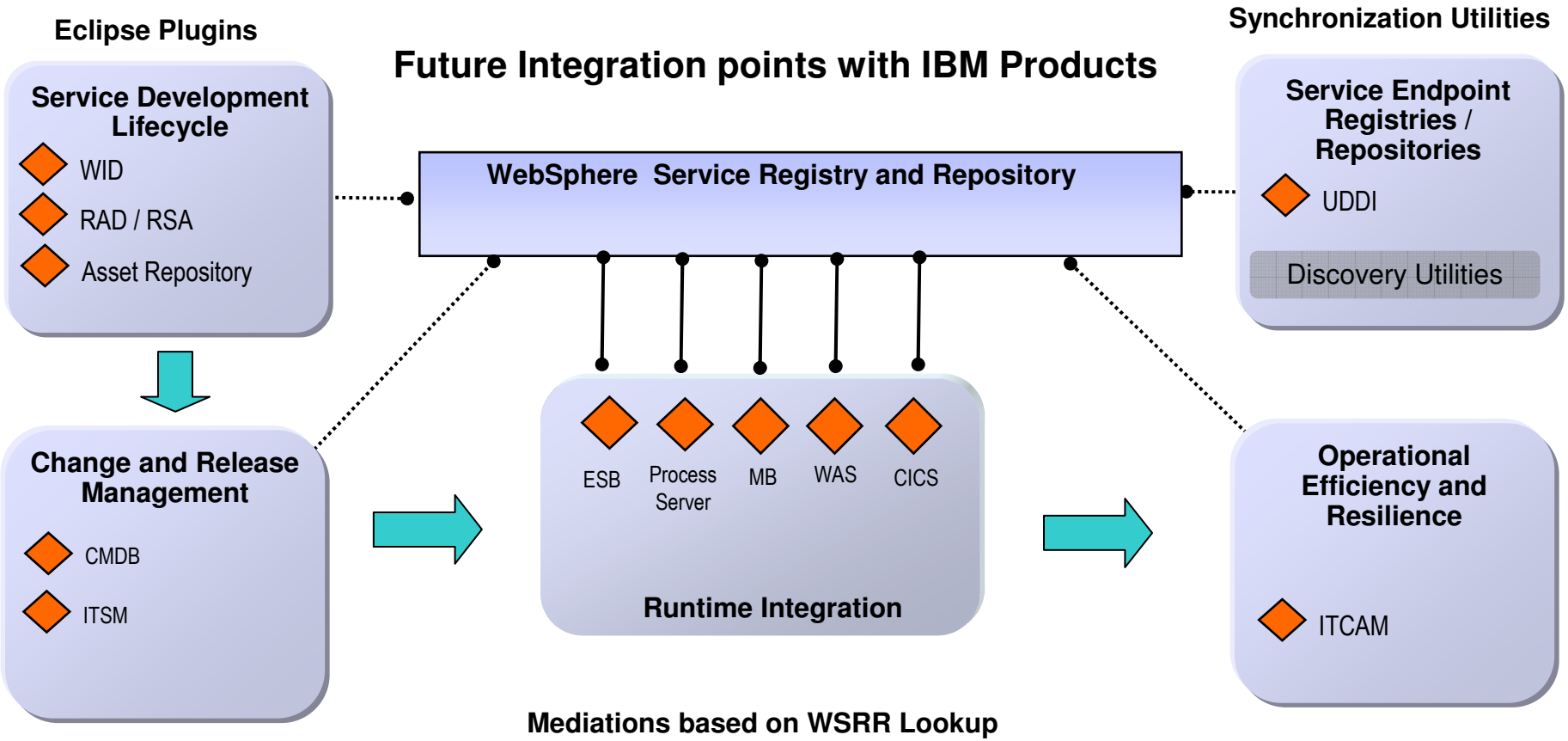
ESB – Universal Connectivity

- Provide a family of products and technologies giving customers a range of solution choices across the various capabilities required for universal connectivity
  - ESB capabilities delivered through software and appliances, providing deployment options
  - Enhanced SOA integration with additional Event handling capabilities (SOA+EDA)
  - Extendable transformation capabilities across all ESB options
  - Common adapters across software ESB options for top ISV applications … leverage ecosystem for additional adapters
  - Governance and service lifecycle management through registry/repository federation



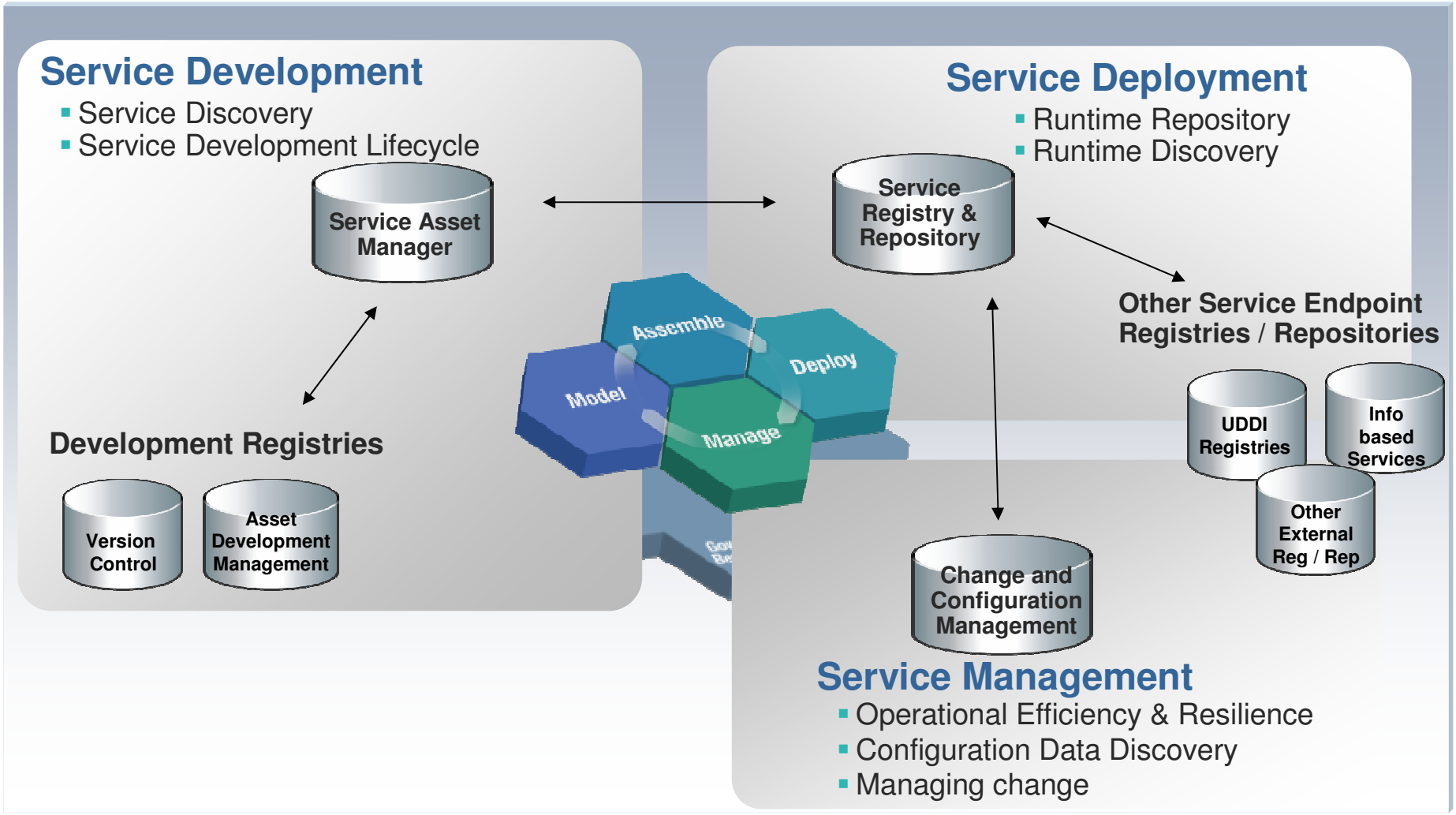
WebSphere Service Registry & Repository

Current & future Integration Points

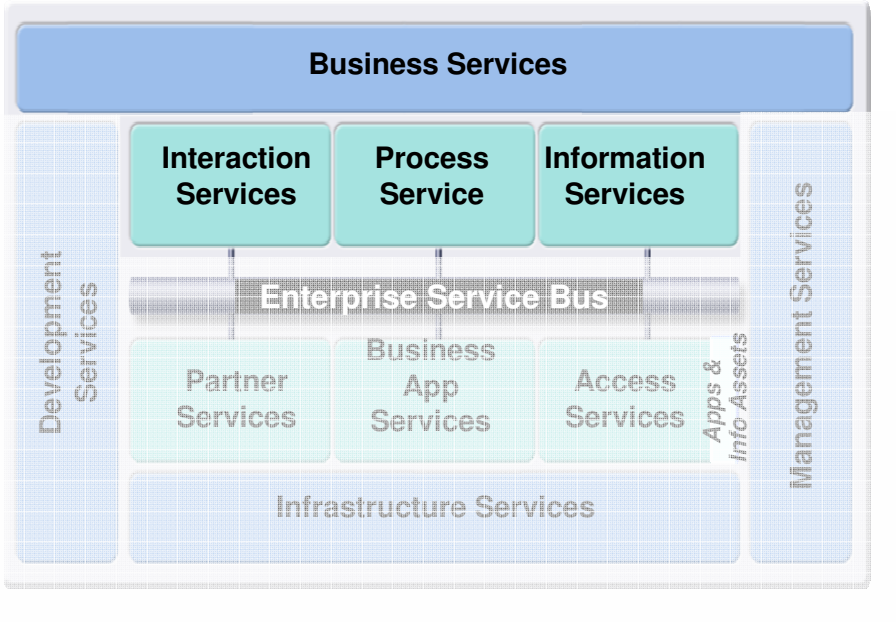


All plans and proposed features subject to change

Requiring a Federated Set of Capabilities
To Enable End-to-end Service Lifecycle Management



Instantiating the SOA portfolio



Key Offerings:

Key product capabilities centered around:

Business Services:

WebSphere Business Modeler and Monitor

- Enhanced Process modeling analysis with SOA lifecycle artifact management and reuse
- Business Activity Monitoring and visualization

WebSphere Business Services Fabric

- Modeling, assembly, deployment, management, and governance of Business Services
- Policy-driven, dynamic service assembly and delivery

Interaction Services:

WebSphere Portal and Lotus Sametime

- Extend service interaction in real time across collaboration modes
- Aggregate information and human interaction in the context of business processes

Process Services:

WebSphere Process Server

- Advanced human workflow and service choreography
- Enhancements to relationships, state machines, and mappings

Information Services

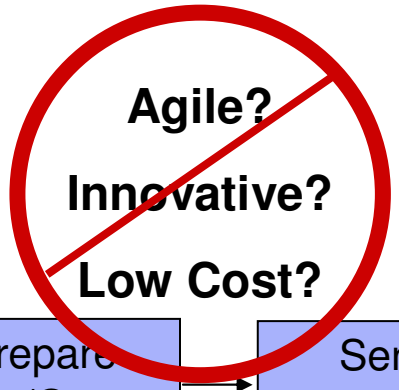
IBM Information Server and DB2 V9

- Service enablement and federation of information sources
- Hybrid relational and pure XML Data store

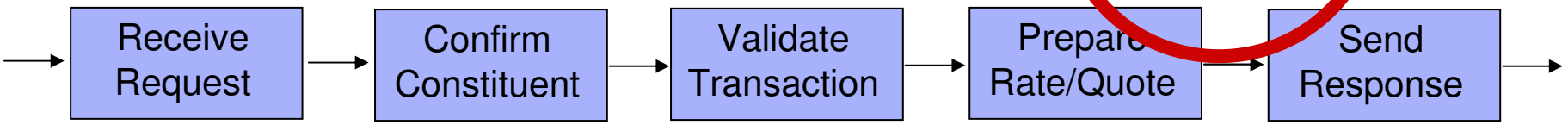
Business Process Management 6.1 Highlights

- WebSphere Business Modeler
  - Enhanced traceability with WID, improving iterative development support
  - Business rules and human task modeling and generation
  - Modeler integration with FileNet and RDA
  - Tighter integration with WSRR and MS Office tools for enhanced analyst productivity
- WebSphere Process Server/WebSphere Integration Developer/WESB
  - Core JDK 5, (WID based on RAD 7, Eclipse 322 – WPS based on WAS ND 6.1)
  - WID: Reduced footprint, WorkplaceForms integration and portlet generation for content and human oriented processes
  - WPS/WESB: SCA support for WTX, SDO support for Complex Cobol structures
  - Participant substitution/delegation and batch work item transfer for improved workflow support
  - Comprehensive WSDL/XSD support including support for any HTTP Binding for simplified connection to XML/http clients
  - WESB: New primitives, Fan-in, Fan out
- WebSphere Business Monitor
  - Development productivity enhancements: advanced visual KPI, metric & correlation tools, aggregated metric analysis, improved event performance & synchronization, etc.
  - Industry Content and Broader Reach for Events
    - Banking, Healthcare, Retail
    - Combination of ESB & Adapters to monitor applications (e.g., SAP)
    - FileNet, WebSphere MQ Workflow monitoring integration
  - Extended Line of Business Dashboards
    - Revamped AJAX-based user interface with drag & drop customization

Customer's BPM Problem:
Hardwiring services together



Rate Quote Process



If condition
then service 1
else service 2

If condition
then service 21
else service 22

If condition
then service 3
else service 4

If condition
then service 15
else service 16

If condition
then service 29
else service 30

If condition
then service 13
else service 14

If condition
then service 19
else service 20

If condition
then service 25
else service 26

If condition
then service 5
else service 6

If condition
then service 11
else service 12

If condition
then service 17
else service 18

If condition
then service 1
else service 2

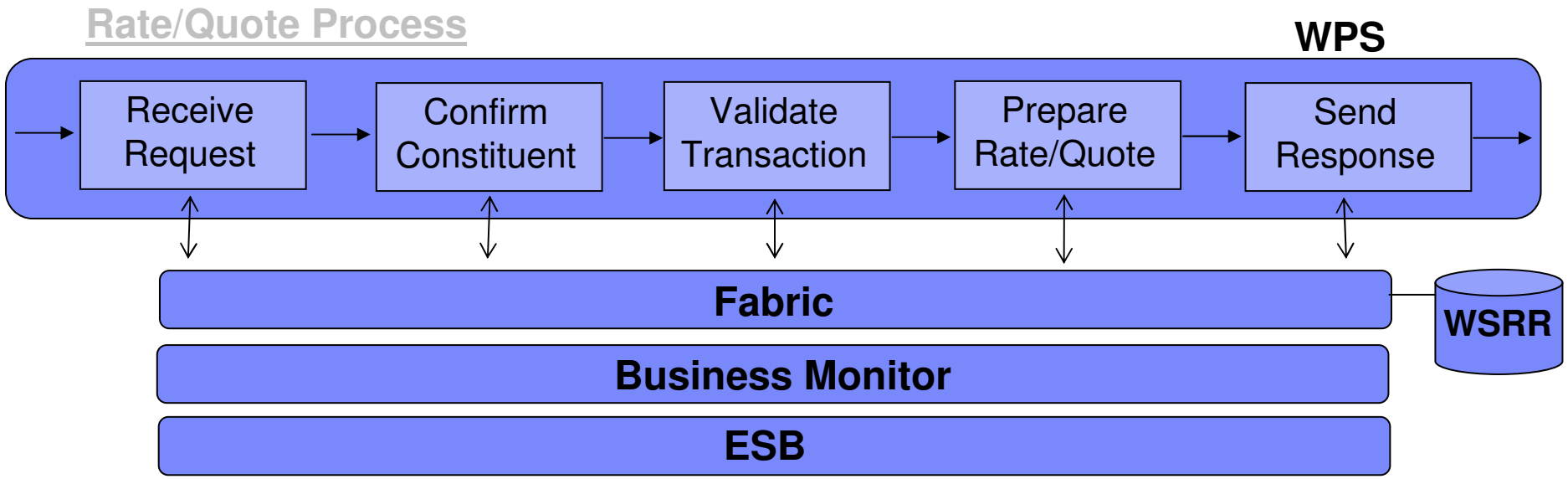
If condition
then service 23
else service 24

If condition
then service 27
else service 28

The actual IT assets used to execute a process vary based on the business context:

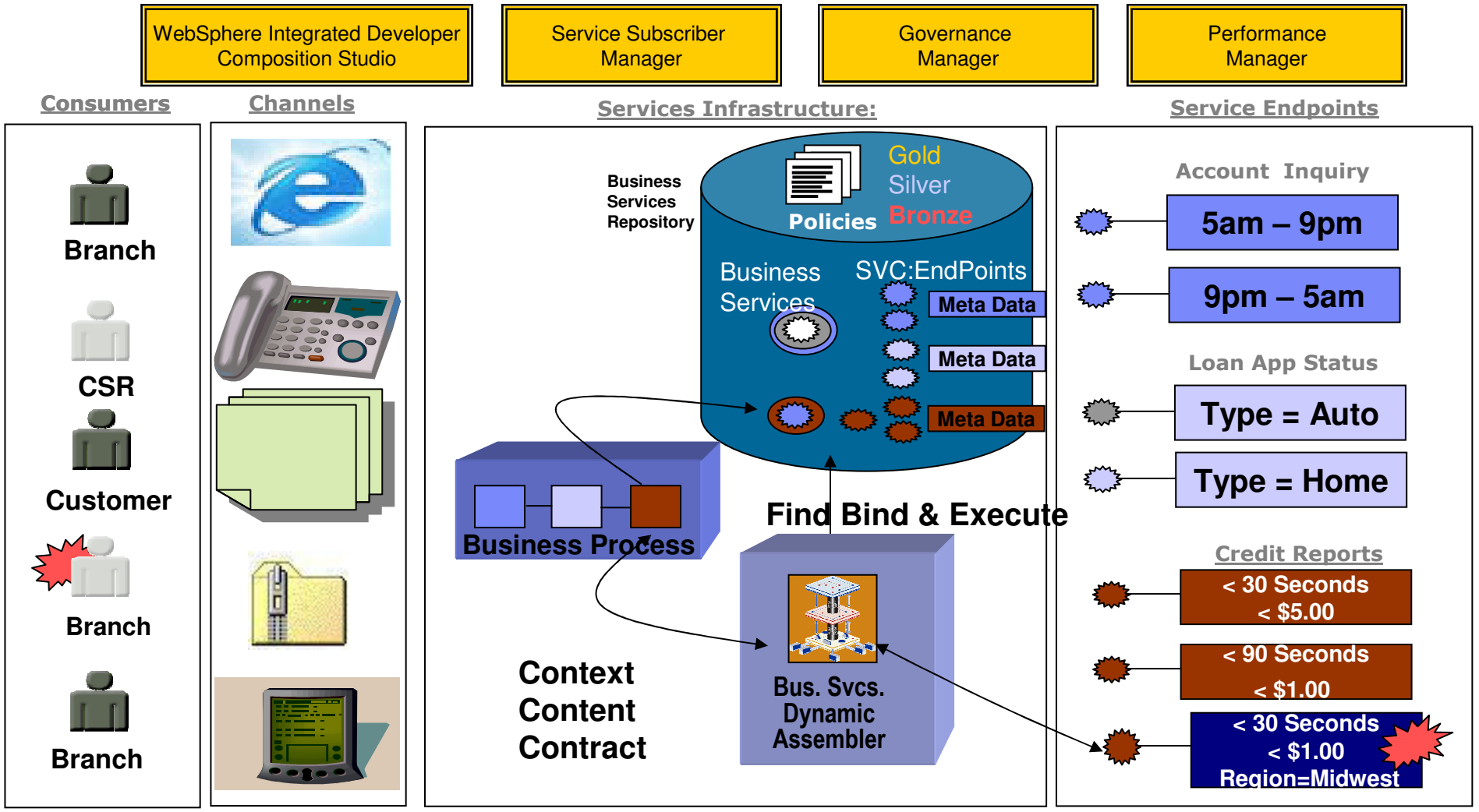
- Constituent Location
- Market Size Segment
- System Availability
- Preferred Constituent Program
- Channel
- Line of Business
- Constituent Role
- Cost of Service
- Constituent's Local System
- Current book of business
- Appetite for New Sales
- Etc.

Customer's Solution:
Loosely Coupling Services to the Business Process



- Services are listed in the Fabric and labeled with meta-data about their business context.
- At each process step (where a service is required), the Fabric is searched to find a service using the business context of the transaction.
- Once a service is selected, its execution can be handled by the ESB.
- Business context data can be shared with monitoring tool.

Dynamic Assembly of Business Services with Business Service Fabric



WebSphere Business Services Fabric Includes optional Industry Content Packs that contain pre-built SOA assets that accelerate development of industry-specific Service Oriented Applications

IBM Industry Content Packs

- IBM Insurance Property & Casualty Pack
- IBM Banking Payments Pack
- IBM Telcom Operations Pack
- IBM Healthcare Payer Pack
- ....

Types of Pre-Built Industry SOA Content

Industry Common Services

Pre-built infrastructure services that can be shared across business services and solution deployments

Reference Industry Models

Industry Semantic Models

Pre-built and configurable OWL-based SOA meta models that define a common language to facilitate interoperability

Industry Service Models

Defines business meta-data for a business process. Includes policy assertions types used to speed definition and development of policies.

Industry Message Models

Standardize the messages and transactions between IT systems.

Assets – IBM Banking Payments Pack

- **Reference Business Services Templates**
  - Calculate Fees
  - Corporate Sweeps
  - Create Account
  - Create Wire Entries
  - Funds Control
  - Inbound Payment Exception
  - Manage Inbound Payments
  - Manage Pending Payments
  - Open Case
  - Optimize Payment Routing
  - Perform Interactive Payment
  - Perform Investment Payment
  - Perform Lending Payment
  - Perform Payroll Payment
  - Perform Trust Payments
  - Perform Vendor Payment
  - Review/Release Payment
  - Setup Payments Profile
  - Validate Customer Qualification
  - Central Bank Position
  - Correspondant Bank Position
  - Customer Payment Analysis

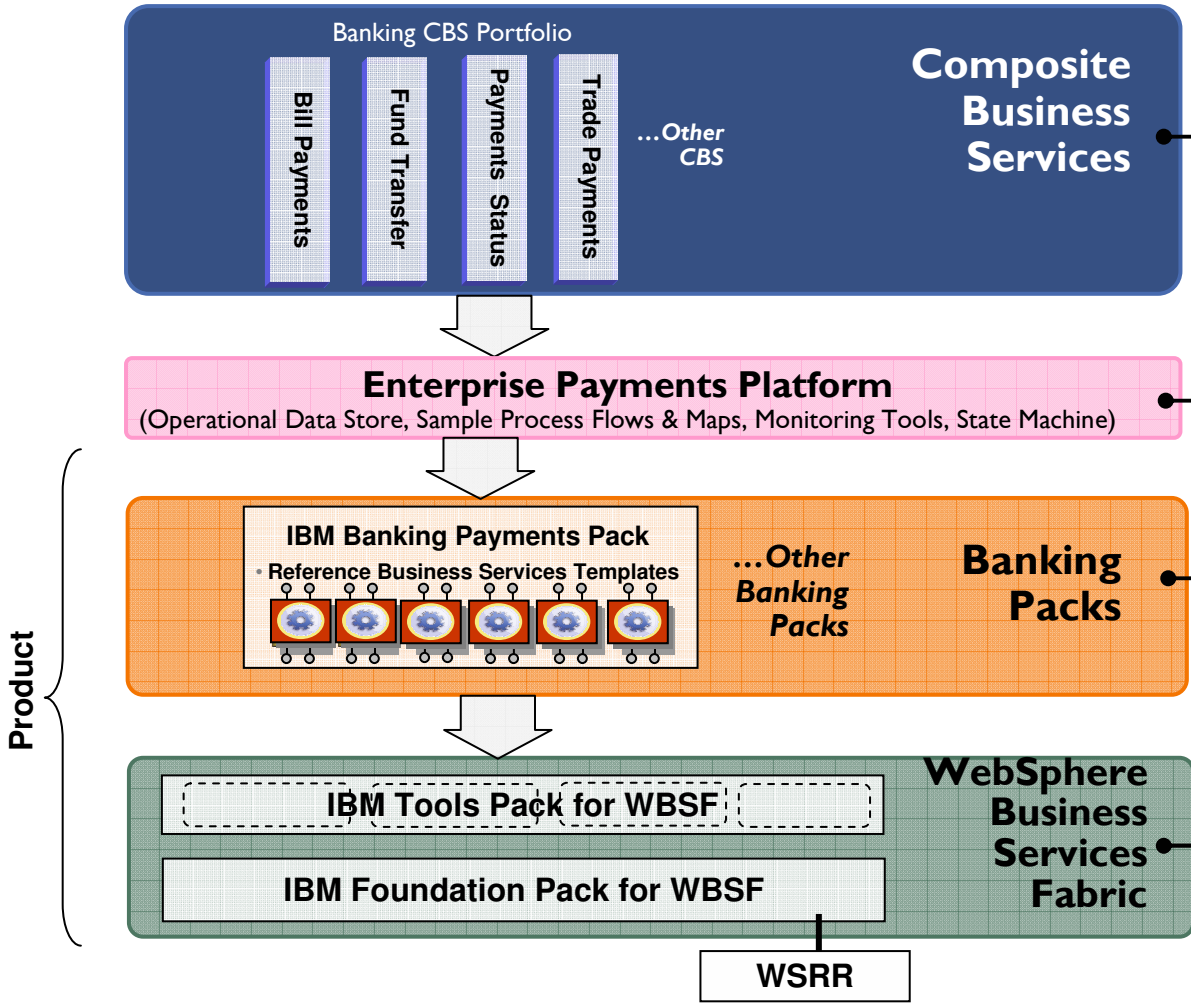
- **Reference Business Services Templates**
  - Payment Volume Analysis
  - Payments History
  - Payments Status
  - Peak Payments Volume Analysis
  - Pending Transaction Analysis
  - Profile Analysis
  - Reject Payment Analysis
  - Track Payment

- **Banking Payments Business Glossary**
  - ISO 20022 Standards
  - NACHA Standards
  - IFW Business Object Model

- **Banking Payments Business Object Model**
  - ISO 20022 based Banking Payments Business Object Model

- **Banking Payments Common Services**
  - ISO 20022 Customer Credit Transfer Initiation V02 Reject Repair Service
  - ISO 20022 Customer Credit Transfer Initiation V02 Unbundling Service
  - ISO 20022 Customer Credit Transfer Initiation V02 Validation Service
  - ISO 20022 Customer Direct Debit Initiation V01 Reject Repair Service
  - ISO 20022 Customer Direct Debit Initiation V01 Unbundling Service
  - ISO 20022 Customer Direct Debit Initiation V01 Validation Service
  - ISO 20022 Customer Payment Reversal V01 Reject Repair Service
  - ISO 20022 Customer Payment Reversal V01 Validation Service
  - ISO 20022 Payment Cancellation Request V01 Reject Repair Service
  - ISO 20022 Payment Cancellation Request V01 Validation Service
  - Image Transformation

EPP can consume assets from Banking Payments Pack for a WBS Fabric deployment



Banking Payments Service Oriented Applications available through GBS, System Integrators, and ISV's

Payments Transformation Platform from IBM Software Group

Banking SOA solution accelerators that are optional extensions to the WBS Fabric

WBS Fabric consists of a "Tools Pack" and a "Foundation Pack"

Assets – Insurance Property & Casualty pack

Insurance Business Services Metadata

Decomposition of Insurance P&C Business Services including assertions, policies, roles and channels

(e.g. Quick Quote, Record Claim, Endorse Policy, Claims Status, Billing Inquiry)

Insurance P&C Business Glossary

Insurance P&C specific taxonomy of business terms derived from multiple Insurance standards such as ACORD P&C standards and IAA Industry Models

Insurance P&C Common Services

Insurance P&C specific common services that include WSDLs, BPELs, and implementations

(e.g. ACORD Error Identification, Bundling-Unbundling, IAA Validation)

Insurance P&C Service Interfaces

Insurance P&C specific data types and Web service interfaces

(e.g. Quote Request, Policy Verification, Address Check, Fraud Check Request)

Insurance P&C Business Object Model

Provides conceptual view of enterprise data for Insurance industry; derived from ACORD P&C Messaging Model

Knowledge Assets

Reference Architecture, How-To-Guide, Reference Implementation, Developer Guide, Install Guide

AJAX based Client Side Aggregation in the Web Browser

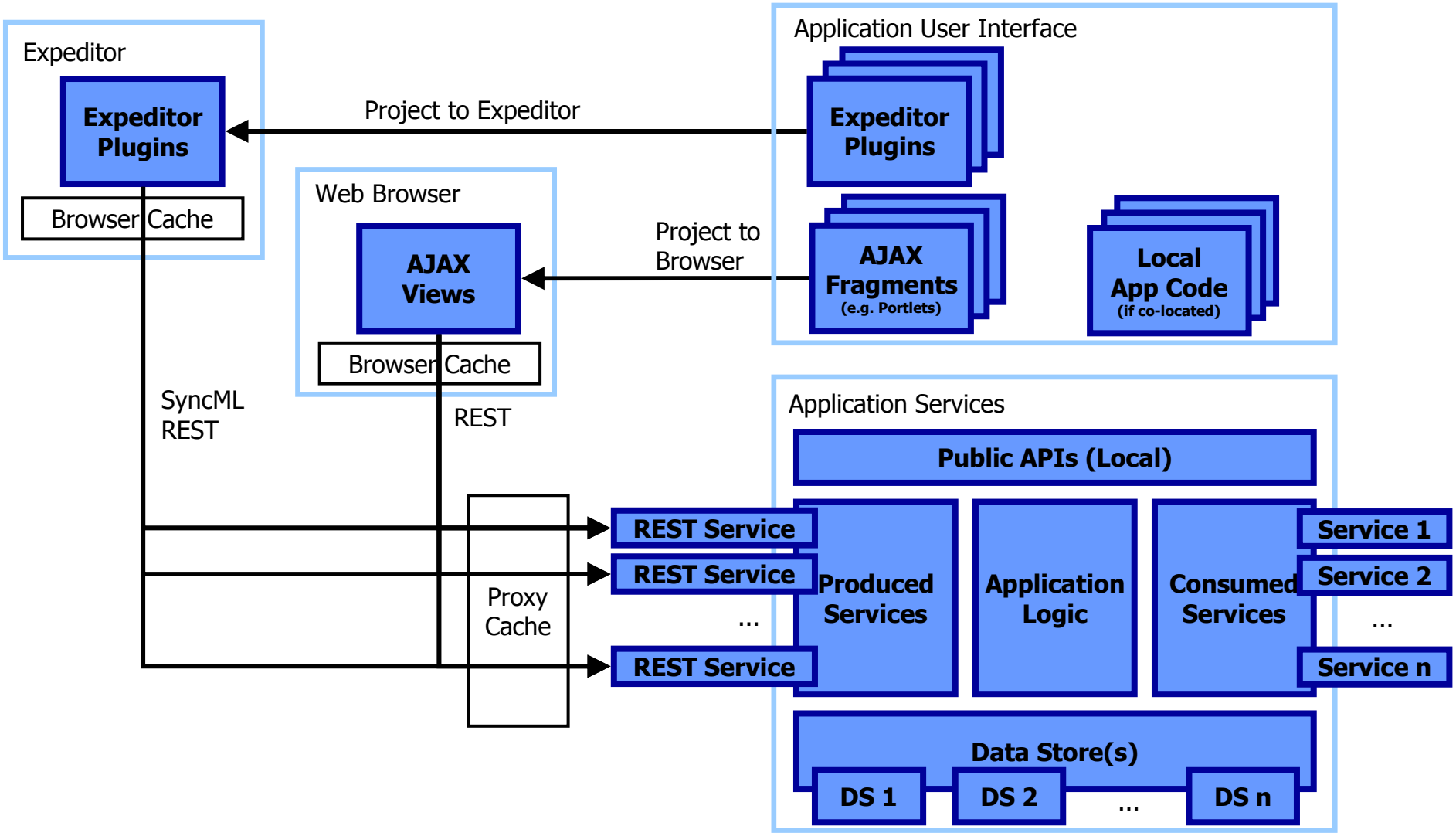
REST-accessible Markup Fragments from WP Portlets or any other URL

Atom / RSS Feeds

Services created with Google Gadgets

WSRP Services

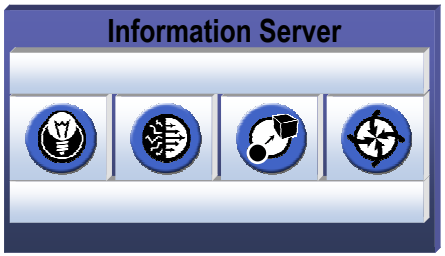
Application Architecture Pattern



Information as a service

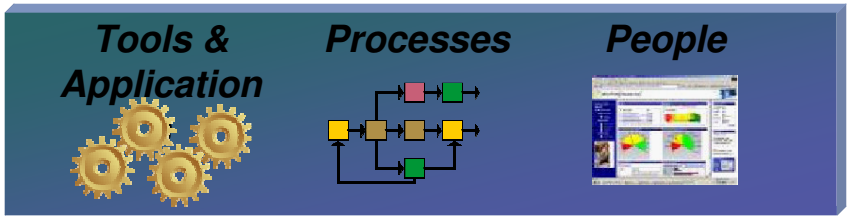
1

Virtualization, Data Quality, Transformation, etc.



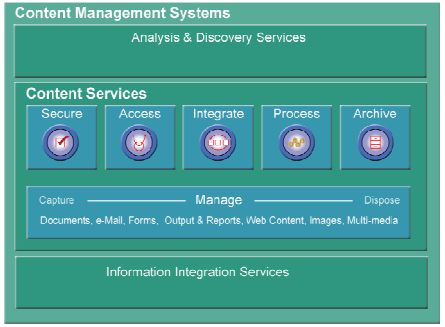
Based on standards

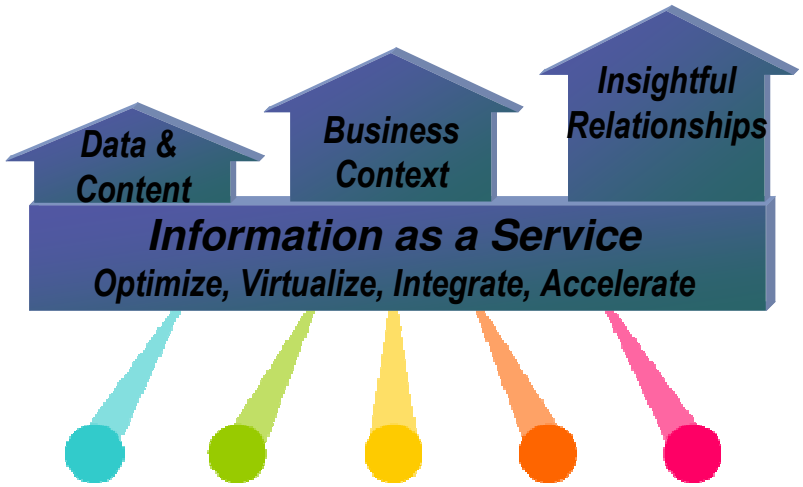
- XQuery, JSR170, JDBC, Web Services, REST services, ...
- Industry standards



3

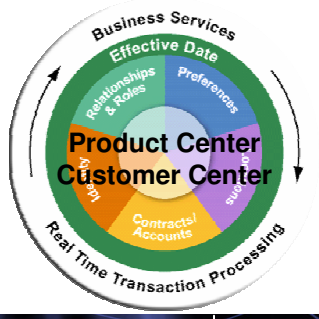
Non Structured Data Content Management





2

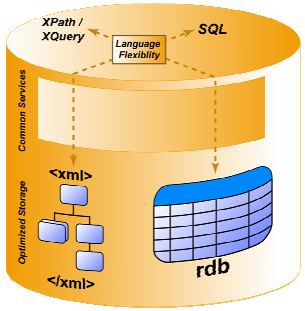
Master Data



Data Servers
Metadata Server

4

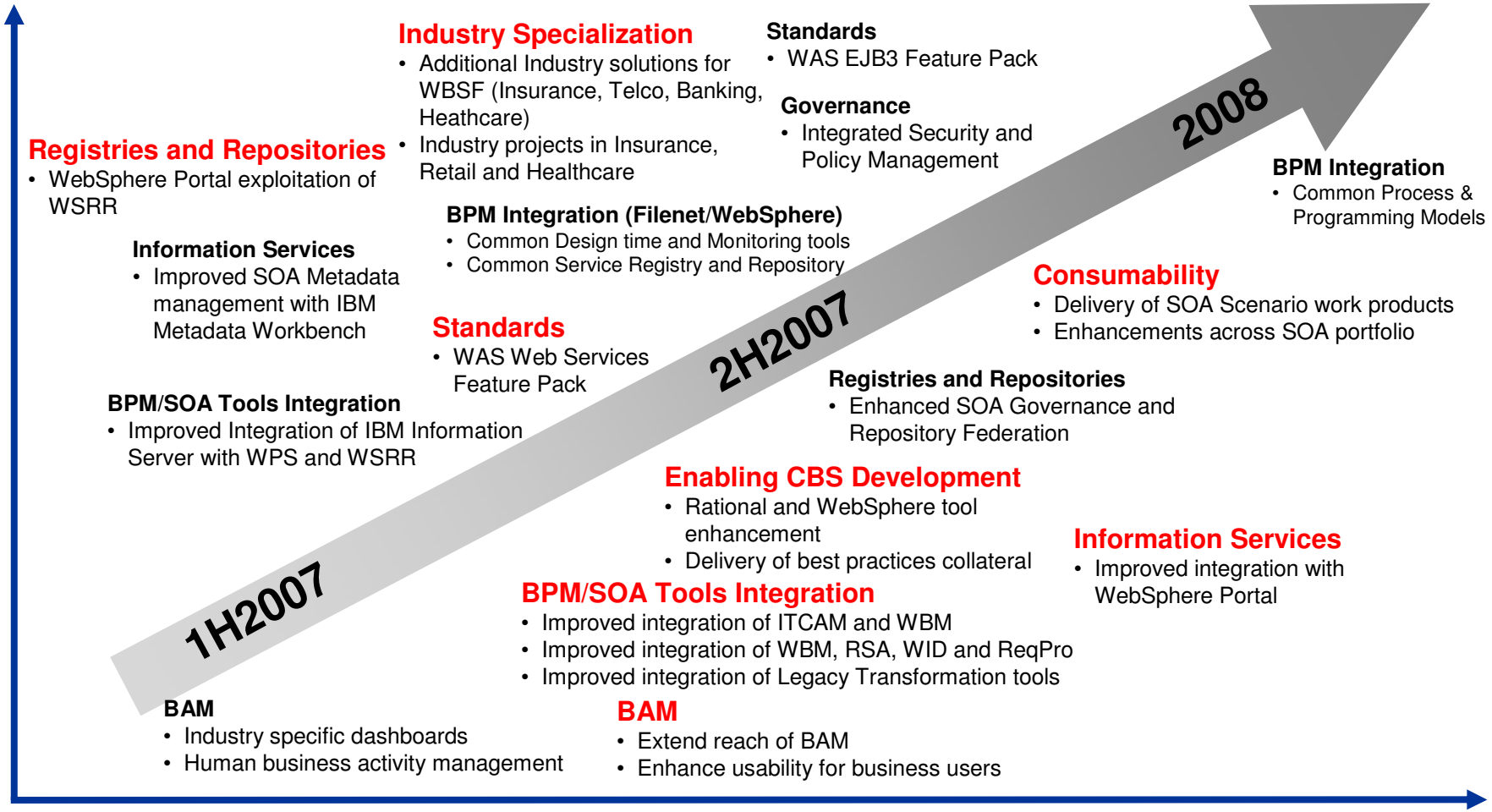
XML Engine



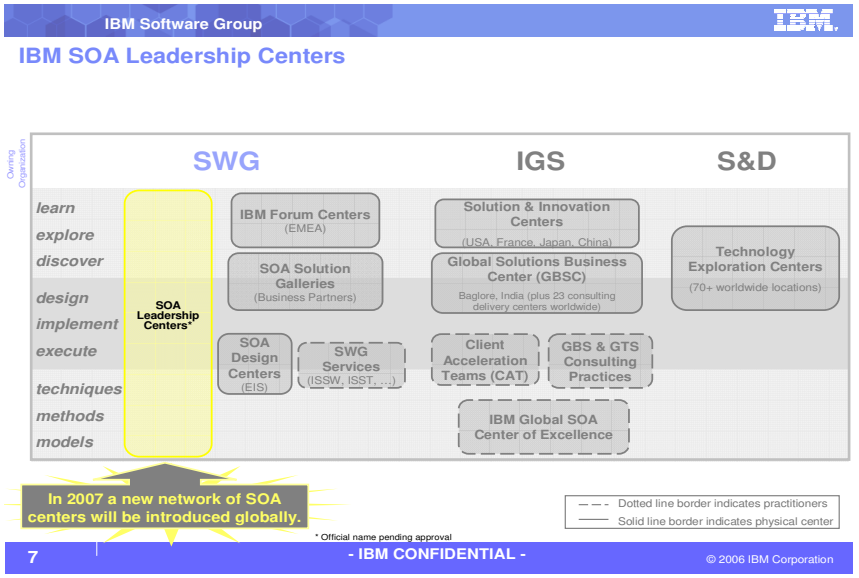
Agenda

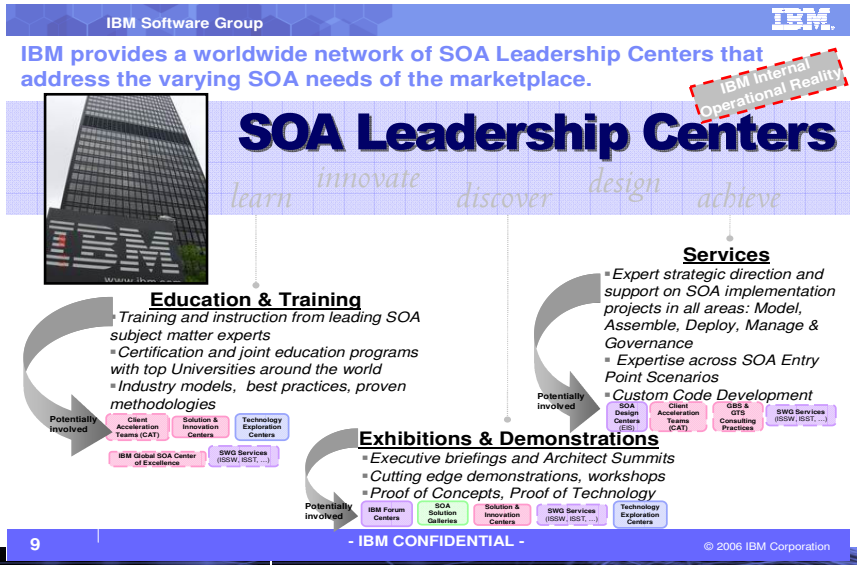
- Assessment
  - The 5 consecutive IBM SOA Launches from 2005 to 2007
  - Where are we today ?
- Directions
  - SOA strategy
  - SOA portfolio highlights
- Wrap-up

Technology: IBM SOA SWG highlights



France is one of the two first Worldwide IBM "SOA Leadership Center"





Capabilities

1. Services
   - Method
   - Architecture
   - Technology
2. Education & Training
3. Exhibitions & Demonstrations

धन्यवाद
Hindi

多謝
Traditional Chinese

ขอบคุณ
Thai

Спасибо
Russian

Gracias
Spanish

Thank You
English

شكراً
Arabic

Merci
French

Obrigado
Brazilian Portuguese

Grazie
Italian

多谢
Simplified Chinese

Danke
German

நன்றி
Tamil

ありがとうございました
Japanese

감사합니다