Intro to WebSphere Service Registry and Repository and What’s New in v7.5

Martin Smithson – WSRR Architect
Today’s Agenda

1. Market Imperatives / Governance Overview
2. Design Time Governance
3. Runtime Policy Enforcement
4. Runtime Management
5. Service Federation
6. Summary / Next Steps
SOA Governance is key to the success of SOA implementations

"You only need one service to need governance. You only need one service to destroy your business."

Gartner
A scenario on the importance of SOA governance

Client focusing on service control

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
Service Visibility and Governance within SOA Governance

SOA Governance and Service Lifecycle Management

Org Change  Portfolio Management  Service Visibility  Governance

Process Modeling Services
Portfolio Management
Organizational Change
Human Collaboration
Risk Management

Service Lifecycle Management
Registry & Repository Support
Policy Lifecycle Management
Service Level Agreements
Change Management
Analyst Findings of SOA Customers

SOA Buying Trends: How SOA Platforms Are Evolving

Randy Heffner, Vice President, Principal Analyst, Forrester Research Inc, Sept 7, 2010

- “Service-oriented architecture (SOA) is mainstream, and SOA product usage is associated with higher SOA satisfaction”
- “ESB and SOA management products come first”
- “Governance products have more impact” - on satisfaction with SOA

Source: Forrester’s Enterprise And SMB Software Survey, North America And Europe, Q4 2009
But not all Governance Plans are Created Equal

“Failed Governance is often the underlying cause of Management disappointment with SOA”

Source: SOA Magazine, January 2009
For Successful SOA… Keep It Simple

Instead of:

- Enterprise-wide initiatives
- Architecture for architecture’s sake
- Complete re-engineering

Start with:

- End-to-end departmental projects
- Focus on IT professional’s needs
- Integrating existing organizational structures
Basics of an end-to-end SOA Governance Infrastructure

- **Design-Time, Service Development, Registry / Repository**
- **Run-Time, Gateways, Policy Enforcement**
- **Systems Management**
- **Policy Enforcement**

Tools and Systems:
- WSRR ALE
- WSRR
- ITCAM for SOA
- TSPM
- CCMDB
- WPS
- WAS
- WESB
- WMB
- DP XI50

SOA GOVERNANCE
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SOA GOVERNANCE
WSRR is your Enterprise SOA Registry / Repository

Highly Prescriptive Service Lifecycle Governance

- Optimize resource costs by governing service consumption with service contract management
- Accelerate reuse with Automated Service Discovery across heterogeneous environment
- Reduce business risk with prescriptive service lifecycle governance including MQ Applications
- Tailor Service Governance implementation to fit your business needs with WSRR Studio
- Apply operational policies consistently to help achieve reliability and compliance
- Enable enterprise-wide reuse across SOA domains with Service Federation Management
Increased Visibility and Control for Insight into your SOA
WebSphere Service Registry and Repository V7.5

- Ensures *awareness of available applications, services* and their consumers with associated metadata and documents throughout the organization

- Helps implement recommended practices and *increases runtime agility* enabling a policy driven SOA ensuring:
  - Consistent application of operational policies
  - Enforcement of governance lifecycle policies

**New in V7.5:**

- Enhanced role-based business space UI widgets for *improved user experience*, including report hosting to quickly view reports

- **Enhanced search capability** allowing google-type search through metadata and documentation

- Updated policy *authoring, attachment and analytics*, including:
  - Click-to-assign governance lifecycles
  - Assertion wizard to help assign assertions to lifecycle transitions
  - Operational policy analytics for WebSphere Message Broker
Gain Visibility of the Service and Its Consumption

New and Enhanced Business Space Widgets for WSRR

- **Browse by Icons in a Collection Widget**
- **Watch List** to keep alert of what needs attention
- **Role Focused** Google-type Searching
- **Actions list** of the actions a role is allowed to perform
- **Quick Visualization** of SOA health, with the Service Reuse Graph Widget
Capture, Navigate and Govern Critical Service and Consumer Information

New and Enhanced Business Space Widgets for WSRR

- **Collection Widget** which can be configured with most common queries
- **Graphical Navigation** of the registry
- **Action button** on the Detail Widget to guide the user through the process
- **Activity Logging** widgets show how, when and who made changes
Governs the Service Consumers as well as the Service Provider
Change Management is Increasingly Important
WSRR makes it easy to manage and communicate changes to the service metadata

- Discovery and validation of dependencies
- Graphical view
- Impact analysis
- Subscription and Notification
- Configurable Watch List

Manage and communicate changes to services and services related entities so that impact can be identified in time and the consumers can be notified in advance.
Easily Configure Experience Based On User’s Role

**New and Enhanced Business Space Widgets for WSRR**

- **WSRR V7.5** provides two new role-based Business Space templates
  - Registry for Business
  - SOA Governance

- **WSRR v7.5** provides the following configurable widgets
  - Search
  - Collection
  - Detail
  - Navigation
  - Graphical Explorer
  - Actions
  - Chart
  - Activity (non-configurable)
Configure the Governance Process to Fit the Need

New and Enhanced WSRR Studio Capabilities

- Start with a prescriptive recommended practice governance profile
- Drag and drop to build out or extend metadata model and lifecycles
- Click to assign lifecycles to entities
- Click to assign assertion to lifecycles and entities in the model
- Click to view assigned lifecycles and assertions
- Click to deploy governance profile
Configure Fine Grain Role Based Security with Ease

New WSRR Access Control Editor

- WSRR Access Control editor provides guidance for authoring roles and permissions
- Allows for advanced permissions with the specification of an XPath expression
- Click-to-Assign permissions to roles
- Easy view for understanding what permissions are assigned to the various roles
Analyze and Fine Tune your SOA Governance Process

- View metrics over all governance policies in a selected a date range
- Determine worst performing policies and take action
  - Remove policy
  - Change policy
  - Educate the team
- View individual policy pass and failure rate
- View an individual policy failure’s error messages
Bring Visibility to MQ Applications

- **Catalog MQ queues** in WSRR to understand what you have
- Make *controlled changes to MQ* services based on usage by processes & applications
- Apply *recommended practices* to govern MQ services
Gain Visibility into File Transfers

- WSRR can provide visibility into all file transfers across a WebSphere MQ File Transfer Edition network
  - **Auto-extract** information about transfer agents
  - **Represent** as service definitions
  - **Describe** by applying meta-data
  - **Analyse** interdependencies
  - **Govern** and manage life cycle

- Most organizations have little or no visibility of their file transfers today
  - Plethora of transfer scripts
  - Running on different platforms
  - Using platform specific commands
  - No centralized view
  - No understanding of the interdependencies
SCA Governance Enhancements
Plus a New SCA Governance Tutorial

- Introduction of SCA Service Endpoints in the Governance Enablement Profile (GEP) to represent non-WebService export bindings
- New ability to override the values of SCA exposed endpoints directly from the WebUI for easier promotion
- New tutorial explaining how to govern SCA objects using the GEP from both a service provider and service consumer view point
Easier Migration and Upgrade for WSRR

- **New web UI** in the Configuration perspective to *help with migration*

- **New feedback on upgrade progress** with exceptions displayed as they occur

- Complete upgrade process is run from the target WSRR 7.5 instance

- **New content manipulation feature** allows content to be transformed on migration. It can be used outside of the migration to manipulate content already in WSRR 7.5
Unified Governance With WSRR – Advance Lifecycle Edition

*Reaching Across The Enterprise to Give You End-to-End Control*

- Store and organize to get what you need, fast
- Tools to assess the impact of change
- Integrate with development and business tools

- Out-of-the-Box integration with IBM ESBs enabling agile policy driven SOA
- Report and audit to give you SOA insight
- Service Federation Management enabling enterprise-wide reuse

**WSRR ALE Linkages and Integrations**

- Requirements
- Development Tools
- Source Control
- Policy Manager
- Builds
- ESBs
- Monitoring
- CMDBs
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WSRR Provides Key ESB Enhancements

Enhances ESB’s low-level connectivity capabilities with business level control

- Dynamically choosing service providers and end points
- Validation checks of Service Level Agreements
- Allows selecting application and transformation logic
- Creates policy enforcement for access control rules
- Quickly adapting to the status of critical services
- Policy driven mediations

- Out of the Box Integrations with IBM ESBs
- 3 optimized APIs for integration with other runtimes
Delivering Solutions via Industry Proven Patterns Enabling Quick Adoption and Success with SOA

By identifying client based patterns associated with policy, we provide a way to quickly and effectively define, attach, promote and enforce policies in a cohesive and prescriptive way.

Policy Domain patterns under construction:

- SLA Management
- Service Support & Delivery
- Security
- With more to come….
Know What’s Going Right In the ESB
New Operational Policy Analytics for WebSphere Message Broker

- Provides detailed pass and failure rates for operational policy over a period of time
- Leverages WebSphere Message Broker Explorer to Author the Policy Sets
- Supports WS-Security Policy
Accelerated SOA Deployment with a Combined Solution

WebSphere Enterprise Service Bus Registry Edition V7.5

- **Decouples** complex *integration logic* from each application

- **Increases visibility** with an established catalog of services

- **Promotes fast ROI** through tracking of service usage

New in V7.5:

- Incorporates unified role-based business space UI for SOA users of WESB and WSRR
- Delivers benefits of V7.5 enhancements to both WESB and WSRR, including:
  - Multiple consumability updates
  - Dynamic service connectivity to Lombardi, WAS to address greater integrated BPM / AI scenarios

Packaged SOA solution combining ESB and Registry for accelerated SOA success
Cost Effectively accelerate ESB / System performance

Elastic Caching for Connectivity

- Provides *improved system response* times and *enhanced throughput* as redundant calls are stored for rapid access
- Leverages IBM WebSphere eXtreme Scale and DataPower XC10 Appliance to:
  - **Cache content** of transactions flowing through your WebSphere ESB solution
- Use WebSphere Service Registry and Repository to:
  - **Provide your ESBs** with service policies that manage and exploit elastic caching

Offload redundant back-end processing to reduce costs and accelerate ESB / System performance
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SOA GOVERNANCE
Achieving Operational Control and Visibility Across the Enterprise

**Service and Asset Development**
- Service Discovery
- Service Development Lifecycle

**WSRR ALE**
- Federation

**Service Deployment**
- Runtime Repository
- Runtime Service Discovery

**Service and Asset Development**
- Rational Asset Manager

**WSRR ALE**
- WebSphere Service Registry & Repository (WSRR)

**Tivoli Change and Configuration Management DB (CCMDB)**
- Tivoli Change and Configuration Management

**SOA Management**
- Operational Efficiency & Resilience
- Configuration Data Discovery
- Managing change

Automate deployment configurations using approved software images from the governed catalog.

A Federated Registry/Repository capability serves as a control point for managing the services lifecycle.
Monitor and Manage Services and the end-to-end SOA Infrastructure

- Monitor and manage **services and service performance**
- Monitor and manage **application servers**
- Monitor and manage **messaging backbone**
  - WebSphere MQ
  - WebSphere Message Broker
- Monitor the health and availability of **WebSphere DataPower appliances**
- Monitor and manage **virtual environments**
- Monitor and manage **operating systems**

Reduce MTTR by quickly identifying and isolating service level problem areas
Operations Management with ITCAM and WSRR

- Reconciliation of services registered in WSRR with those monitored in target systems by ITCAM for SOA
- Topology views show relationships between service operations for impact analysis
- Forwards status information to WSRR to allow selection of services based on performance and other metrics
The ITCAM for SOA Event Handler is now integrated with WSRR
- No need to install separate Support Pack
- Configure via a wizard

Configure which objects the metadata is stored on
- For example: ServiceEndpoint, SOAPServiceEndpoint, SCAServiceEndpoint

New support for both Consumer and Provider event types
Basics of an end-to-end SOA Governance Infrastructure

SOA GOVERNANCE

Design-Time, Service Development, Registry / Repository

Run-Time, Gateways, Policy Enforcement

Systems Management

WSRR ALE WSRR

SOA Insight

ITCAM for SOA TSPM CCMDB

WPS WAS WESB WMB DP XI50

Policy
Achieve SOA Insight Through Rich Reporting Capabilities that Works the Way You Do

New and Enhance Reporting Capabilities

- Regulatory **Compliance Checking**
- Insight to **Managing risks**
- Ability to Provide **Service Cost Analysis**
- **Understand service consumption** and manage their usage
- Gain ability to **decommission versions** of the services **reducing operational costs**
- Provide for **resource provisioning**
- **Champion your SOA** to executives
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Build Bridges across SOA Domains to Enable Enterprise-Wide Service Reuse

**Service Federation Management** enables a federated enterprise, allowing service reuse that spans domain boundaries. It manipulates the connectivity infrastructure of the individual service domains to establish enterprise-wide service visibility, service security, service management and service governance.

**Objectives**

- Enable enterprise-wide service reuse seamlessly, transparently and in a controlled way
- Secure, Manage, Monitor and Govern service sharing across heterogeneous domains
- Provide IT flexibility that handles the necessary separation of concerns and responsibility required by the different service domains
- Automated deployment of pre-tested proxies to eliminate errors and reduce quality assurance costs
Manage Service Visibility and Reuse across the Enterprise with SFM

- Integrated solution across WSRR (console UI and registry) and the ESB family to enable service reuse across enterprise domains.
- Provides a unifying view of federation relevant content
- Web 2.0-based protocol to access the service connectivity and registry components supporting a domain
- Easy configuration of best practice patterns for service sharing
- Automated deployment of pre-tested service proxies

Enabled in:
- WebSphere Message Broker V7
- WebSphere Enterprise Service Bus V7
- WebSphere Service Registry Repository V7
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Customer Adoption Patterns for WSRR

- **Runtime Governance**
  - Understand what services – approved or rogue are actually running in your network
  - Drive Policy and Service Levels with runtime enforcement

- **Service/Application Development**
  - Provide ability to develop new/updated services worldwide
  - Allowing people to Integrate information when and where needed across applications

- **Service Management**
  - Reports on business services to make updates to address SLAs
  - Improve IT costs by providing more operations automation

- **Connectivity/ESB Enablement**
  - ESB environment that needs to manage services across the ESB needs to be secure and reliable
  - Moved to SOA but still not seeing the SOA promise of value of lowering development costs and creating new business apps faster
Start Developing your Governance Solution Today

- Visit our website to learn more about IBM’s governance capabilities
- Try out IBM solutions in the SOA sandbox
- WhitePaper: Speed SOA development and time to value with IBM WebSphere Enterprise Service Bus Registry Edition
- Leverage a great book “SOA Governance: Achieving and Sustaining Business and IT Agility” to guide you on your journey
- Contact your IBM representative to learn about QuickStart offerings that and accelerate your implementation
Thank You