Service Oriented Architecture

Impact on Information Quality

John Walsh - Personal

GROUP 1 software

Service Oriented Architecture (SOA)

Key Concepts

Software functionality is a re-usable service that can be discovered and accessed

Re-usable software services are "loosely coupled"

- Published interface with defined I/O that can be easily accessed and utilized by software that adheres to the interface

How does SOA differ?

Previous approaches to integration of applications and information quality projects and programs were:

1. Local
2. ETL & EAI
3. DCOM & CORBA

Local Integrations

Data quality tools, applications, and data are all on the same server

Data quality tools are "tightly integrated" into applications using code

– Tight integration: interface, communication layer and business logic all integrated

Not practical for enterprise deployments

No sharing of investments and expertise

Limited to capabilities of one data quality tool

Traditional Middleware

Extract, Transform & Load (ETL) & Enterprise Application Integration (EAI)

Files and transactions are sent to single server(s) where processes are designed, tested and implemented using suite of vendor's products

Limited to capabilities of "tightly" integrated data quality tools
Not designed to leverage use of other investments

DCOM, CORBA

Distributed, heterogeneous application integration:
- Distributed Common Object Model (DCOM)
- Common Object Request Broker Architecture (CORBA)

Data can be sent to data quality applications on different servers

Applications had to be "tightly" integrated

- **Lots of coding, specific skill levels, difficult to modify**

Peer-to-peer, not process oriented
Not designed for re-use (hard wired)

Comparison of Integration Approaches

	Local	Middleware	DCOM	CORBA
Type of Coupling	Tight	Tight	Tight	Tight
Integration Constraints	Language/Server Custom Adapters	Location of Products Custom Adapters	Windows Custom Adapters	IDL Custom Adapters
Resources: Skills & Knowledge •**Application** •**Platform** •**Languages**	High High High	High Moderate Moderate	High High High	High High High
Types of Integration	Direct	Centralized	Peer-to-Peer	Peer-to-Peer
Processing Overhead	Minimal	Minimal to High	Minimal	Minimal
Cross Integration Efforts	Not Available	Stand Alone	High	High
Change Management	High	Moderate	High	High
Product (s)	One	Suite of Software	Windows + 1 - N	IDL, OMG + 1 - N
Training	High	High to Moderate	High	High

Comparison of Integration Approaches

	Middleware	**DCOM**	**CORBA**	**SOA –Web Services**
Type of Coupling	Tight	Tight	Tight	Loose
Integration Constraints	Proprietary Software Custom Adapters	Windows Custom Adapters	IDL Custom Adapters	SOAP/HTTP/XML Standard Adapters
Resources: Skills & Knowledge •**Application** •**Platform** •**Languages**	Moderate Moderate Moderate	High High High	High High High	Minimal Minimal Moderate
Type of Integration	Process Oriented – Centralized	Peer-to-Peer	Peer-to Peer	Process Oriented – Distributed
Processing Overhead	High to Minimal	Minimal	Minimal	**High**
Cross Integration Efforts	High – Stand Alone	High	High	Moderate
Change Management	Moderate	High	High	Moderate
Product (s)	Suite of Software – One Vendor	Windows + 1-N	IDL,OMG + 1-N	**5-20 WS + 1-N**
Training	High to Moderate	High	High	High

Generic Benefits to SOA

- Faster integrations – Higher Productivity

- Faster projects – Greater Business Agility

- Operational efficiencies

  - Avoid duplication of effort, software licenses

Specific SOA Benefits for IQ

Build a corporate library of shared software functionality and processes

- Track, monitor and report on results
    - Feedback loop for best practices
- IQ domain experts to collaborate
- Balance between departmental needs and corporate standards

Why is SOA Important?

Provides for departmental and enterprise information quality utilizing all of the diverse vendor and in-house technologies

Optimized Service Oriented Architecture (OSOA™)

- Address the weaknesses in SOA-WS
  - High Processing Overhead
  - High Total Ownership Costs
    - Large number of products
    - Acquisition Costs
    - Training
    - Maintenance
  - Standards Only Approach
    - Not applicable for all integration

Comparison of SOA & OSOA™

DQS GLOBAL
One World . One Technology

	SOA – Web Services	OSOA™ - ROME®
Type of Coupling	Loose	Loose
Integration Constraints	SOAP/HTTP/XML Standard Adapters	**None - Open**
Resources: Skills & Knowledge •Application •Platform •Languages	Minimal Minimal Moderate	Minimal Minimal **Minimal**
Type of Integration	Process Oriented	Process Oriented
Processing Overhead	High	**Minimal**
Cross Integration Efforts	Moderate	**Minimal**
Change Management	Moderate	**Minimal**
Product (s)	5 -20 WS + 1-N	**One + 1-N**
Training	High	**Minimal**

Summary

SOA has many advantages over previous approaches integration of applications and information quality projects and programs.

OSOA™ offers even more!

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3:30 – 5 PM	**Session 4E Product Demonstration**	**E51-385**

Moderator: Lisa Dodson, Vendor Exhibit Chair
1. Susan Eckenberger, Informatica
2. Robert Klein, BackOffice Associates, Inc.