



***Implementing a
Successful SOA Pilot
Program***

February 2nd, 2006

About Us

MomentumSI

Provides systems integration and consulting in service oriented architecture, integration, and application development for the enterprise. The firm designs and implements solutions that dramatically improve our clients ability to drive business.

- World-class integration expertise
- Leader in Java and .NET application development
- SOA core competencies that cover client requirements from inception to integration

Actional

Provides enterprise-class SOA management and Run-time governance solutions to address the critical challenges of securing, governing and managing SOA environments. Leveraging leading technology and services, customers achieve the end-to-end transaction visibility required for performance, web services management and SLA adherence.

- Founded in 1998
- Acquired by Progress Software in 2006
- Now Headquartered in Bedford, MA



Agenda

- Determining Overall Goals of an SOA Initiative
- Criteria for a SOA Pilot
- Case Study of Successful Pilot Program
- Next Steps to an Enterprise SOA

SOA Pilots in Context

- A Pilot Program is part of overall SOA Initiative
- Pilots should be preceded by a SOA Strategy Phase that includes
 - Trainings
 - Needs and Tools Assessment
 - Workshops
 - Roadmap Creation

Ask the hard questions first

- What are your primary reasons for using SOA?
 - To reduce costs? Achieve better flexibility? Faster delivery? Improve customer satisfaction?
- What is driving your near-term use of SOA?
 - Connecting your core applications? Integrating your partners? Providing a single view for customers and/or users? Getting real time metrics? Regulatory compliance?
- What is the long-term potential for SOA in your organization?
 - Faster product introductions? Flexible outsourcing? Business process flexibility? Stricter governance? Support M&A? Other?

SOA Goals Drive SOA Pilots

- By documenting precise goals for an enterprise SOA, teams involved in the initiative can more effectively choose the right projects, manage the projects (e.g., avoid “scope creep”), make sure the overall results are not derailed and manage the expectations of surrounding stakeholders.

Your pilot should give you something...

- Create a highly reusable service (low-hanging fruit)
- Provide a showcase of successful SOA implementation to clearly illustrate the benefits of reuse and consolidation
- Understand the tasks involved in getting services into production and the tasks required to manage SOA once it is production
- Demonstrate ability to service-orient legacy systems
- Confirm ability to achieve process agility
- Validate support for non-functional requirements including security, manageability, performance, tools
- Assess organizational readiness and gaps such as in the areas of skills, governance, and methodology
- Multiple pilots may be in order

The SOA Pilot Worksheet

What are you piloting?

Goals

- Reduced Dev. Time
- Compliance
- Reuse - producer
- Reuse - consumer
- Offshore Construction
- Extended Reach of Data

Process

- EA Involvement
- SOA CoE
- BPM Involvement
- Data Center
- SDLC Personnel
- Project Mgmt.
- App. Architecture
- Data Integration
- Design
- Development
- Testing
- Configuration Mgmt.

Architecture

- Web Services
- Discovery Pattern
- Authenticate
- Client Service Pattern
- Ref. Security Arch.
- Ref. Application Arch.
- Technical Service Library
- Process Driven
- Event Driven

Infrastructure

- Registry
- Process Server
- Service Security
- Reliable Messaging
- Governance Policies
- Endpoint Container
- Composition Tool
- Run Time Mediation
- Invocation Libraries
- Testing Tools
- Mgmt. & Monitoring
- Legacy Service Enablement

Picking Teams

- You need Line of Business, Ops, Dev, Security, Architects, other key stakeholders and influencers.
- They need to make a commitment to the projects
- They should be leaders for their departments who are able to play politics or completely stay out of them
- Share failure, success, and lessons learned
- Communication will not happen automatically
- Accelerate learning with use of outside experts

Selecting the right project for your pilot

- Low visibility
 - Less critical if the implementation is having difficulty
 - Lets the team work out bugs and optimize without constant scrutiny
- High visibility
 - May have many people involved that can complicate a project with unnecessary politics and too many concerned parties
 - Will provide more benefits earlier to the organization
 - Important if SOA needs a “highly visible win” to gain traction

Selecting the right project for your pilot

- Back-end
 - e.g. internal data synchronization
 - There are lots of technologies for synchronization
 - May be important but no one can see it in action
- User-facing
 - Self service portal or website is most common
 - Whether customers interacting with the service or employees interacting with internal systems
 - Web service technology is well suited to this environment
 - Results are tangible
 - People can see and interact with it

Selecting the right project for your pilot

- Internal facing
 - Lower risk, but often lower value to the organization
 - Example (human resources): a service to retrieve employee information (name, contact details, manager, direct reports, etc.) used by a corporate intranet portal
- External facing
 - Higher risk, but often higher value to the organization
 - Example (financial services): a currency exchange service, used to retrieve exchange rates and fees associated with exchanges
- Revenue based
 - Highest risk, but highest reward
 - May requires more technologies to be leveraged (e.g. reliable delivery and higher levels of security)
 - Example (travel services): Itinerary service to optimize cost of overall itinerary (flight, car, hotel).

Selecting the right project for your pilot

- Query-oriented
 - Query-oriented services are used primarily for making data that already exists available for other uses.
 - *Example (healthcare):* a service to retrieve lab results
- Transaction-oriented
 - Transaction-oriented services create new information records, or trigger business processes.
 - *Example (government):* a service which is used to register a new automobile.
 - Inherently more risky, since problems can lead to data loss
 - Requires more technologies to be leveraged (e.g. reliable delivery and higher levels of security)

Quantifying SOA

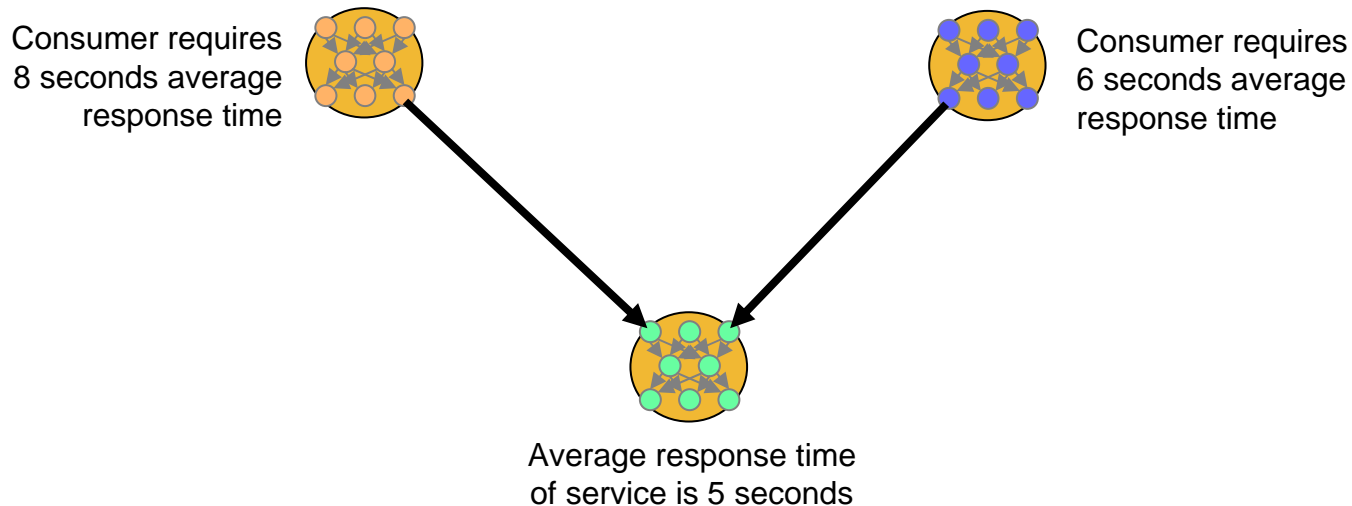
Ground Rules

- Your organization should serve the same number of business needs whether you adopt SOA or not
 - Number of “consumers” same
- End Users can not suffer for sake of SOA
 - Measure the experience
- It should be better than previous solution, that is what you told them isn't it?
 - Track transaction completion
 - Is it more robust? -availability, reliability up?

Service Monitoring

- Is “Monitoring the service” the same as “monitoring the service provided”?

Are the consumers happy?



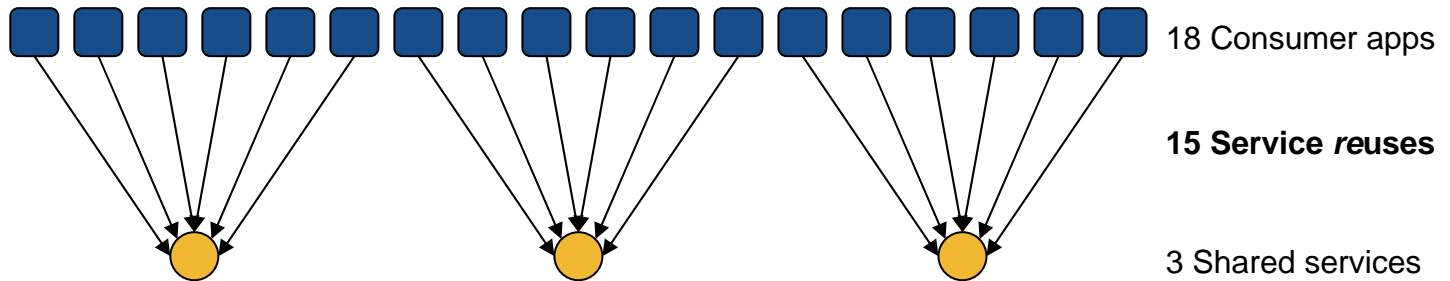
Quantifying SOA

- **Number of *reuses* of shared services** measures the effectiveness of SOA
 - Each reuse results in the cost avoidance or reduction of building, maintaining, and operating a single-purpose service
- **Number of *shared* service consumers** (relative to total consumers) measures the breadth of SOA adoption in your organization
 - Mostly a measure of how well the “cultural shift” of SOA has permeated the organization – not directly correlated with SOA business benefit
- **Number of services** measures the adoption of web services
 - Not directly meaningful from a business context

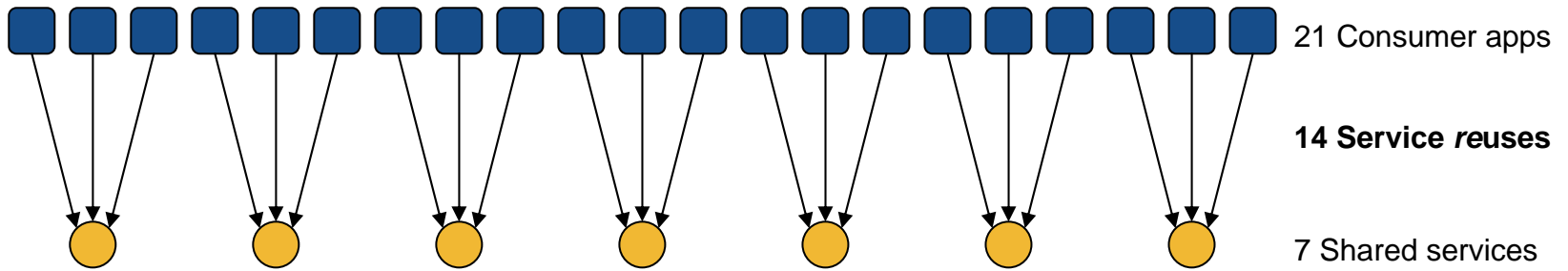
Quantifying SOA

- Which SOA initiative has been more successful?

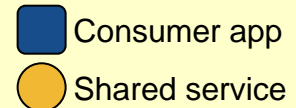
SOA Initiative #1



SOA Initiative #2



Legend



SOA Success



Solution: Looking Glass, SOAPstation

- Active Agents monitor customer-focused SLA data and fires alerts when nearing violation
- Autodiscovers new services reducing administration costs
- Centralized policy control for cost effective management
- Scalable architecture to handle the largest of SOA environments

Benefits: Customer-Focused SOA

- Saving \$2.5M per year
- Improved customer experience
 - Improved uptime and reliability results in fewer SLA penalties
- Operational cost savings
 - 93.9% → 99.9% improvement in successful transaction rate
 - Fewer resources required to admin SOA
- Compliance with EU privacy directives

"Actional SOA Command and Control addresses the toughest challenges that we've encountered in the evolution of our SOA, and presents the strongest value proposition on the market."

Christopher Crowhurst, VP and Principal Architect, Thomson Learning



Migrating to an Enterprise SOA

- Making SOA work enterprise-wide requires dedicated effort to
 - Developing architectures
 - Defining standards
 - Achieving consistency in services
 - Addressing funding issues
 - Creating and maintaining executive support
 - Execute the strategy!

Create a “To Be” Architecture

- Built to support business strategy
- Must take into account “as is” and unique aspects of business
- Requires understanding of SOA products
- Recognize the need for federated solutions
- Consider where multi-vendor interoperability is limited and address with enterprise-wide product standards or a plan for integration
- Define domain architectures

Defining Common Standards

- Address interoperability standards to allow communication without integration or adapters
- Focus initially on least common denominator requirements
- Provide guidance on preferred additional standards and practices
- Prefer well-supported, open standards that allow increased participation in the service network
- Address enterprise security architecture and standards
- Consider service management requirements
- What policies must be followed? Which can be automated?

Creating Valuable Services

Service Network Law:

“The utility of a service network equals the square of the number of valuable clients and services.”

What makes a service valuable?

I didn't know the service was available!

Locatable

The service didn't use the right protocols

Reachable

I couldn't figure out what the service did!

Well Documented

The service was too narrowly defined...

Usable

The service didn't support the policies I needed.

Policy Based

The service was too hard to change.

Adaptable

I didn't trust that the service would be working.

Managed

I had no incentive to do it as a service.

Encouraged

Achieving Consistency

- Implement Role-Specific Training
- Offload Common Concerns to Infrastructure
- Choose development tools designed for SOA
- Implement checkpoints in process to identify services that do not meet enterprise requirements (last resort)

Prioritize Infrastructure Needs

- Can a web page serve as a registry for a small number of services?
- Is mediation necessary when there are few reuses?
- Is SLA management and root cause analysis important when there are few consumers?
- Can existing security infrastructure support initial needs?
- Will processes change frequently enough to justify a process server?
- SOA related products are valuable. Choosing which to bring in first is a challenge.

SOA Funding Issues

- There are multiple challenges in funding for SOA
 - Funding for planning, education, and related EA activities
 - Funding for infrastructure selection, purchase, integration
 - Funding for initial service construction
 - Funding for service operation
- What can and should be funded as shared capabilities?
- Are there options for funds transfers between groups for service builds and operation?
- Consider compensating project teams every time their service is re-used
 - More than just to cover the cost of supporting the re-use
- Consider compensating potential consumers for re-use
- Look at what's funded, what we need to get done, and find intersection

Ensuring Executive Support

- While SOA pilots can deliver quick results, enterprise-wide SOA takes time and expectations must be managed
- Initial overhead costs may outweigh savings
- Gauge investment timelines and factor into planning to ensure ROI within required periods
- Communicate metrics frequently and consistently

Summary

- Analyze pilot requirements and scope them for early success
- Create a cross-functional team
- Choose the right pilot
- Set realistic goals
- Understand deployment considerations
- Carefully quantify the pilot from start to finish
- Put in the effort to make enterprise-wide SOA work

Next Steps and Speaker Info

Formulating and Delivery...We Can Assist:

Schedule short, interactive discussion

How to Establishing an SOA corporate culture
Determining Business drivers

Organize customized courseware/executive briefings

Extending SOA knowledge-base enterprise-wide

Adopt an SOA Pilot Program

Developing and designing a SOA environment

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