

# Repurpose, Compose, Profit— Next Generation SOA Infrastructure



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## Agenda

- **SOA and Service Orientation**
- Optimization
- Optimization Enablers
- Example
- Conclusions, Questions
- References



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## What is SOA?

- “**Service Oriented Architecture (SOA)** is a paradigm for organizing and utilizing distributed **capabilities** that may be under the control of different ownership domains.” [OASIS SOA RM]
- Practical application is more concrete
  - Binding, assembly, policy, deployment
- You don’t buy SOA, you *do* SOA
  - approach to problems



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## Service Orientation

- Services and composition are not new
  - Services architectures decades old
- Service composition hasn’t solved all our problems
- Hard problems in factoring and composition
  - Granularity suited to problem and implementation



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## Value from SOA

- Cost of design for repurpose/reuse << Business value for repurpose/reuse
- Pace of business innovation faster
- Coarse-grained services easier to assemble
  - Fewer XML/web interfaces required
  - Easier to repurpose/reuse
  - May be harder to adapt



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## SOA in the Enterprise 1

*After Anne Thomas Manes, Burton Group*

- SOA Today:
  - Using SOA Technologies for integration
  - Standardizing on runtime infrastructure
  - Adopting enterprise architecture perspective, planning, governance



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# SOA in the Enterprise 2

- Future of SOA
  - Delivering strategic value
    - Flexible and adaptive systems
    - Supplanting current systems
    - Accelerated innovation
  - Self-optimizing systems
    - Improved business value
    - Simpler management



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## Optimize *Business Value*

- Best of Breed / Best Value
  - Business people in design and deployment
- Runtime management and monitoring
- Early detection of problems
- Business criteria for optimization
- Enhance business agility
  - “presentation of capabilities through creative composites”—Eisenstein, GE Money



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## Optimization 1

- Self-optimizing can mean many things
  - Increased efficiency
  - Improving performance and agility
  - Continuous business process improvement
- Configuration and optimization to increase business value
  - Policy and assembly instead of coding
  - Innovations are coming in automated improvement
  - Craft components to allow optimization



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## Optimization 2

- Optimization of
  - Software (assembled components)
  - Reassembly for improved *business* performance
  - Business Quality of Service
  - Business issues, technical solutions
- Dynamic improvement *vs.* static configuration
  - Runtime behavior (long and short term) as input
  - Enable self-optimization
- A new way of improving business apps



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## Three Approaches

- Compose by selecting Service Components at deployment
- Modify existing deployment
  - Incremental change
- Modify business process (and deployment)
  - Too many degrees of freedom?
  - Automation and/or workbench support feasible



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# Optimization Enablers

- SOA architectural approach
- Business metrics and description
- Determine the business value of a deployment
  - Competition for components more likely
- Business process models, execution, choreography



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## Technology Requirements 1

- Model
- Terminology
- Services and service components
  - Compose and reconfigure for business value
  - Definition
  - Deployment
  - Assembly
  - Policy



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## Technology Requirements 2

- Business Quality of Service [BQoS]
  - Quantify value related to *your* business
  - Reliability and third party evaluation issues
- Reliability and rating of services' BQoS
  - Validate, estimate
- Business Service Level Agreements
- To be addressed by OASIS EERP Technical Committee (in formation process)



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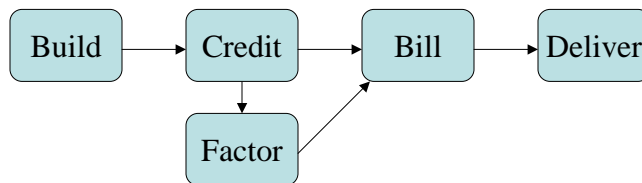
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## A Simple Example 1

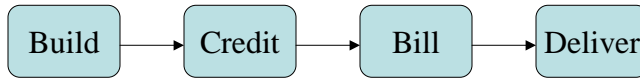


- Compose by selection
  - Select service providers using BQoS
  - Criteria? Evaluation of solution?
- Modify existing deployment
  - Replace failed services and/or improve by replacement



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## A Simple Example 2



- Improve Business Process
  - Estimate value of possible changes
  - Use EERP approach with BQoS to evaluate changes
  - Optimize proposed process service discovery *before* selection
- Best value from process change
- New products faster
  - Evaluate potential product deployments
  - GE Money examples (see references)



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## Problems and Solutions

- Problems
  - Complex evaluation for real business processes
  - Process change is complex, more an art than a science
  - Some business metrics are specific to an industry
- Solutions
  - Incremental optimization conceptually easier
    - Improve deployment
  - Figure-of-merit evaluation guides process change
    - Improve process
  - BQoS to communicate business value for *your* business
    - Improve value



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# Conclusions

- SOA mindset enhances business value
- Next generation will enable optimization
- Service component capabilities
- Business Quality of Service
- Value from optimization
  - Build in an optimized way
  - Modify existing deployment
  - Improve business process



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# Questions

?



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# References 1

- Information, free newsletter at [www.CoxSoftwareArchitects.com](http://www.CoxSoftwareArchitects.com)
- OASIS SOA Reference Model  
[www.oasis-open.org/committees/soa-rm/](http://www.oasis-open.org/committees/soa-rm/)
- OASIS Service Component Architecture TCs  
[www.oasis-open.org](http://www.oasis-open.org), [www.oasis-opencsa.org](http://www.oasis-opencsa.org)



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## References 2

- Anne Thomas Manes, Burton Group, *SOA: Recommendations and Next Steps*, [infoworld.com/event/soa/docs/SOA\\_Next\\_Steps.pdf](http://infoworld.com/event/soa/docs/SOA_Next_Steps.pdf)
- Jon Eisenstein, GE Money, *Lifecycle Management of SOA*, [http://images.infoworld.com/event/soa/07/november/docs/Lifecycle\\_Management.pdf](http://images.infoworld.com/event/soa/07/november/docs/Lifecycle_Management.pdf)



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