

Service Oriented Enterprise Architecture and Service Oriented Enterprise

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Content Summary

- **The current state and trend in SOA practice**
- **Enterprise architecture, service oriented architecture, and service oriented enterprise architecture**
- **How service oriented enterprise architecture relates to enterprise architecture**
- **Concept of service oriented enterprise**
- **Service oriented domain in service oriented enterprise**
- **Relationship of service oriented enterprise with SOA**
- **From service oriented enterprise architecture to service oriented enterprise**
- **The impact of service orientation to an enterprise**
- **Cloud computing continues the evolution towards service-orientation enterprise**

The Current State and Trend for SOA Practice

■ Current State

- More emphasis on applications and systems, weak in business involvement regarding
 - Enterprise Planning: business model, service model, cost model, etc.
 - Enterprise Management and Operation: service portfolio, lifecycle and governance, etc.
- Started making progress in infrastructure to support service orientation
 - Cloud computing (promoted by Federal CIO, facilitated by industries)
 - Service oriented infrastructure (or infrastructure as a service, in addition to cloud computing support)
- Lack of clarity about where SOA applies and where it doesn't

■ Future Directions

- Apply the service oriented approach across the full enterprise IT planning and operation lifecycle
- Make progress in SOA applicable areas (e.g. cloud computing currently), and better handle their natural dependencies
- SOA is a means for achieving goals, not a goal by itself

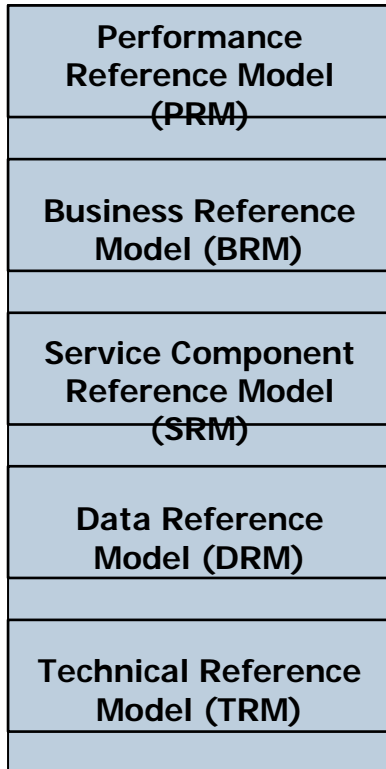
EA, SOA, and SOEA

- **EA** is an established discipline that deals with architectures in enterprise scope. It's a subject domain that is independent of approaches and methodologies for its development and presentation
- **SOA** is an architecture style and approach that emphasizes well-defined, loosely coupled, and sharable services
- EA provides SOA with an enterprise view; SOA brings new agility to EA by delivering tangible results, which helps EA get broader acceptance and increased usability
- **SOEA: EA modeling with service-oriented style and approach**
 - SOEA uses SOA as a practical modeling approach for appropriate part of EA development.
 - SOEA bridges EA with solution architecture and implementation by layered service components across business, application, and technology.
 - SOEA links enterprise model with service model that enables a better implementation from business strategies to IT capabilities.

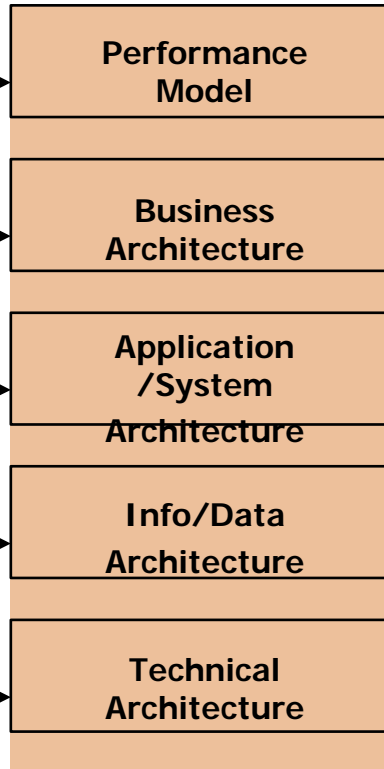
How SOEA Relates to EA

- Progression from FEA to EA to SOEA

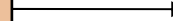
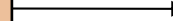
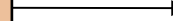
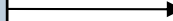
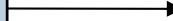
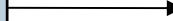
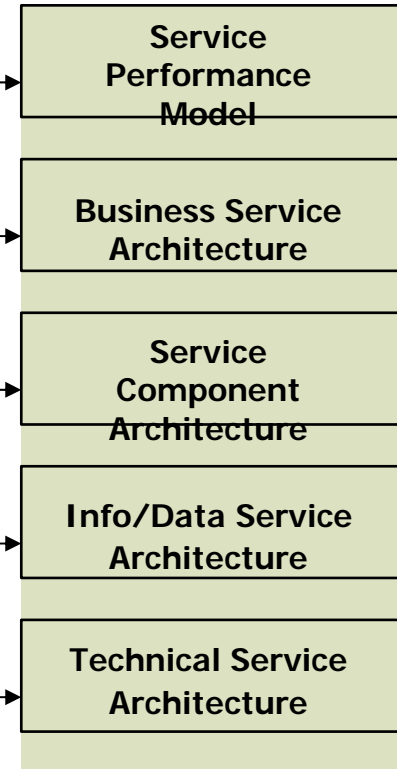
Reference Architecture (FEA)



EA for an Enterprise

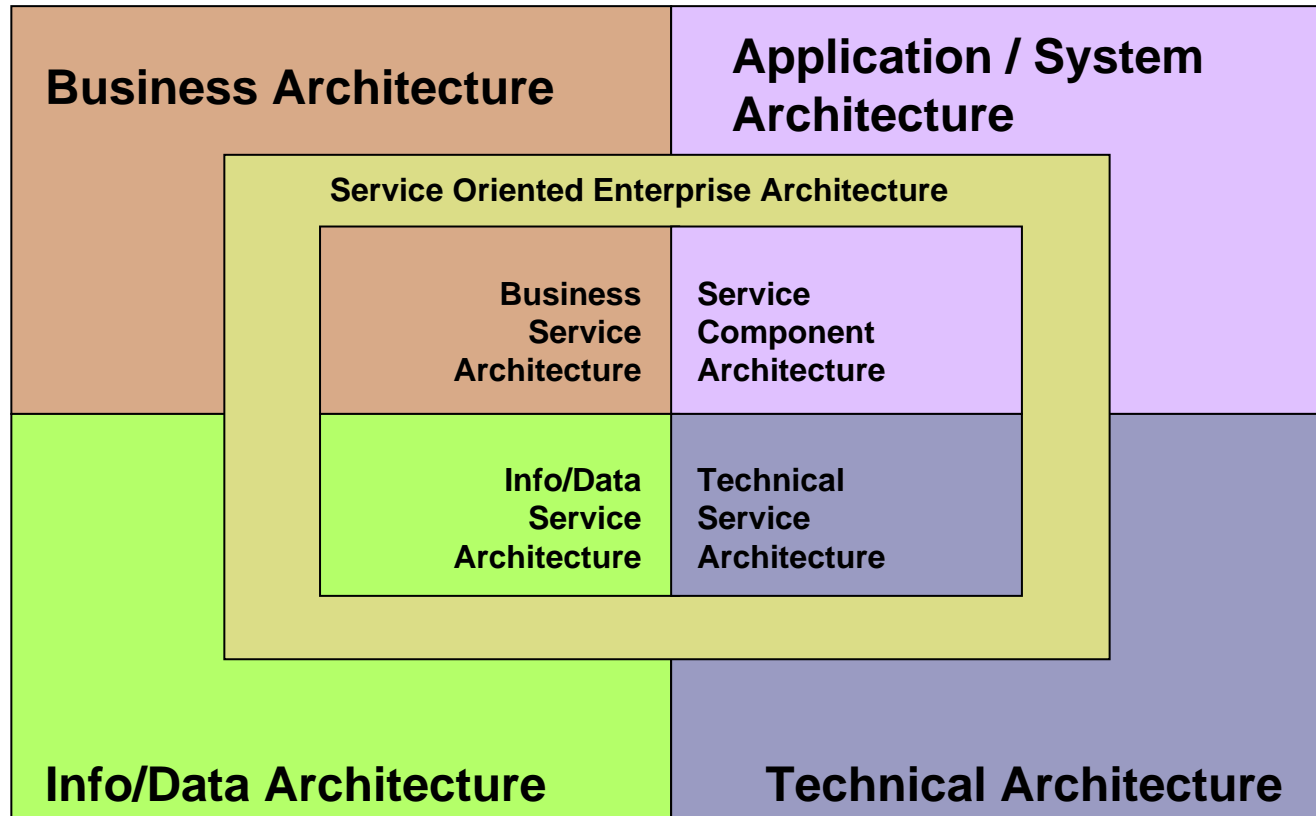


Service Oriented EA



How SOEA Relates to EA

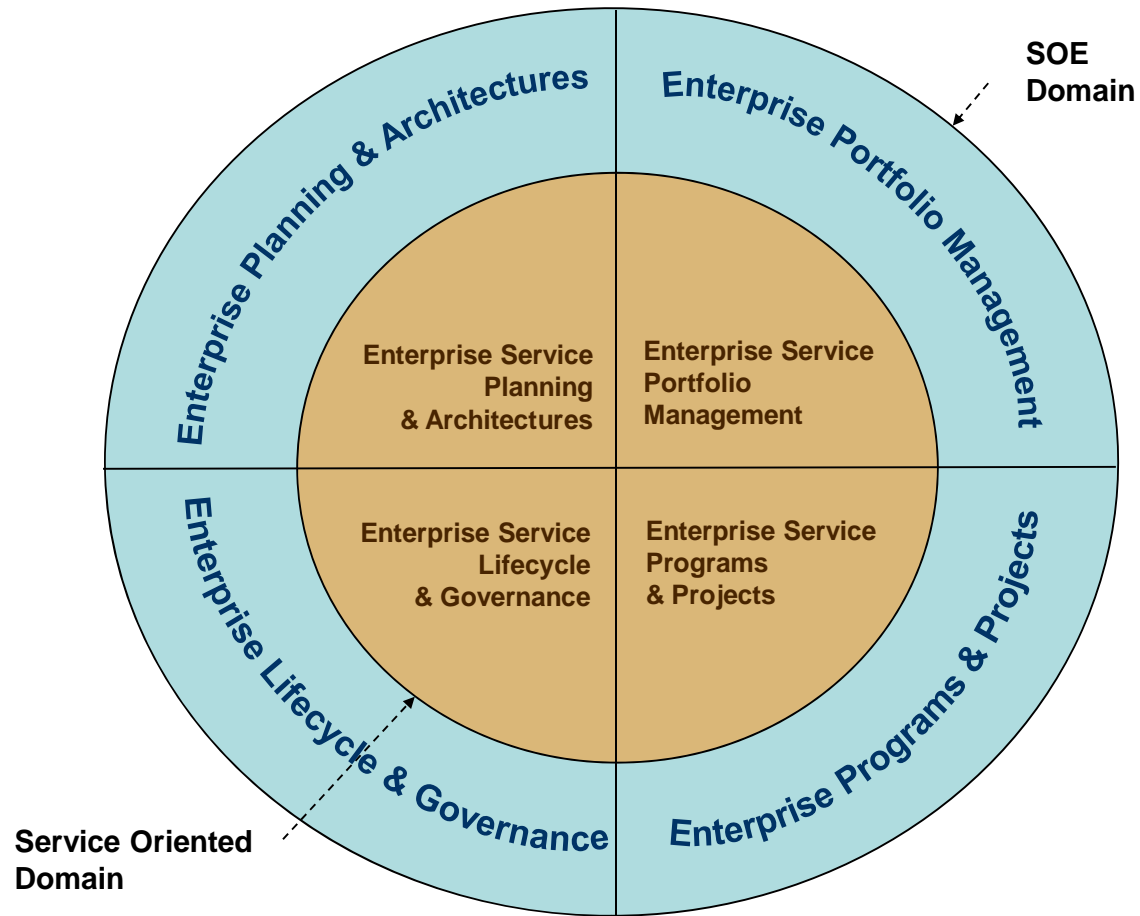
- SOEA in EA



Concept of Service Oriented Enterprise

- **Service Oriented Enterprise (SOE):** is an enterprise that applies service orientation to its full scope business management and operations where appropriate.
- **The SOE Practice**
 - takes guidance from SOEA
 - is enabled by SOA implementation in businesses, applications and systems
 - is facilitated by Service Oriented Infrastructure (SOI)

Service Oriented Domain in SOE



Relationship of SOE with SOA

- As architecture is a part of the planning phase for an enterprise, **SOA (or SOEA) is a part of the planning phase for SOE**
- As an enterprise uses service oriented approaches across their enterprise IT planning and operation lifecycle, the emergence of an **SOE will be the natural evolutionary step forward from SOA.**
- **SOE provides organizational enablement, capabilities, and readiness** in achieving the widely claimed benefits of SOA. It provides environment that enables planning and execution of shared services across organization boundaries
- **SOE ensures an end to end adoption** of service orientation and effectiveness in execution.

From SOEA to SOE

**From Service Oriented Enterprise Architecture
To
Service Oriented Enterprise**

Progressing from Planning to Execution!

SOE in Practice

Apply service orientation to

■ Business Management and Operation

- Enterprise planning and architectures
- Enterprise portfolio management
- Enterprise lifecycle and governance
- Enterprise programs and projects

■ Business Process Modeling and Management

- Layered business processes to implement layered business services
- Business process implementation by layered business and IT services

■ IT Enablement, Support, and Facilitation

- Application and system implementation and operation
- Data implementation and operation
- IT infrastructure implementation and operation

Enterprise Service Portfolio Management

- Enterprise service portfolio management should be **built into enterprise plan**, and be synchronized with strategy and governance
- The enterprise service portfolio should **take input from enterprise architecture**
- **Integrate business processes with business services** in enterprise service portfolio (layered processes and services)
- **Evolve application portfolio management to service portfolio management** with services being categorized and being described in layers
- **Manage service portfolio lifecycle:** planned services, current services, obsolete services

Enterprise Governance

Governance: policy, rules, structure, process, measurement

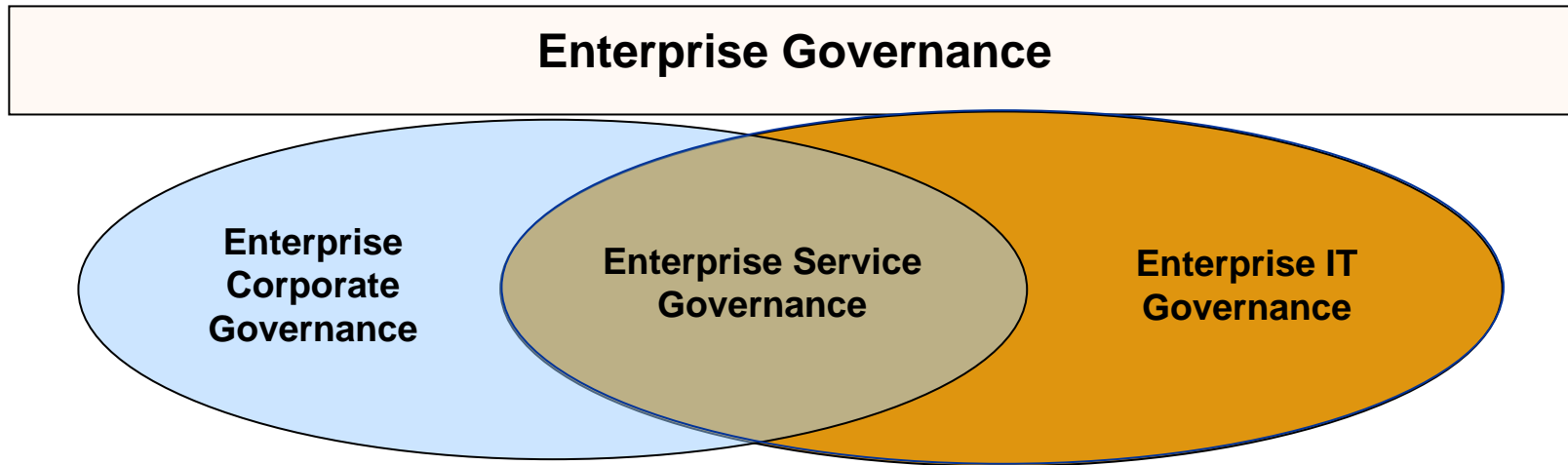
■ **Two Governance Aspects:**

- Governance of performance: for process execution and sustainable performance
- Governance of change: for determination and management of changes

■ **Two Governance Stages** (for each governance aspect):

- Governance definition (legislative): structure, process, standard, rules, policies, guidelines, etc.
- Governance enforcement (judiciary): enforcement of execution, results, and consequences

Enterprise Governance (continued)



Enterprise Corporate Governance

- Structure, roles, and responsibility
- Policies & rules
- Processes
- Measurements

Enterprise IT Governance

- Structure, roles, and responsibility
- Policies & rules
- Processes
- Measurements

Enterprise Service Governance

- Cross enterprise business and IT
- Governs service planning & architecture, development, deployment and operation

IT Infrastructure Support

- **Service Oriented Infrastructure**

- IT infrastructure as a commodity service
- IT infrastructure as a line of business
- IT infrastructure architecture as a segment architecture in EA

- **Cloud Computing**

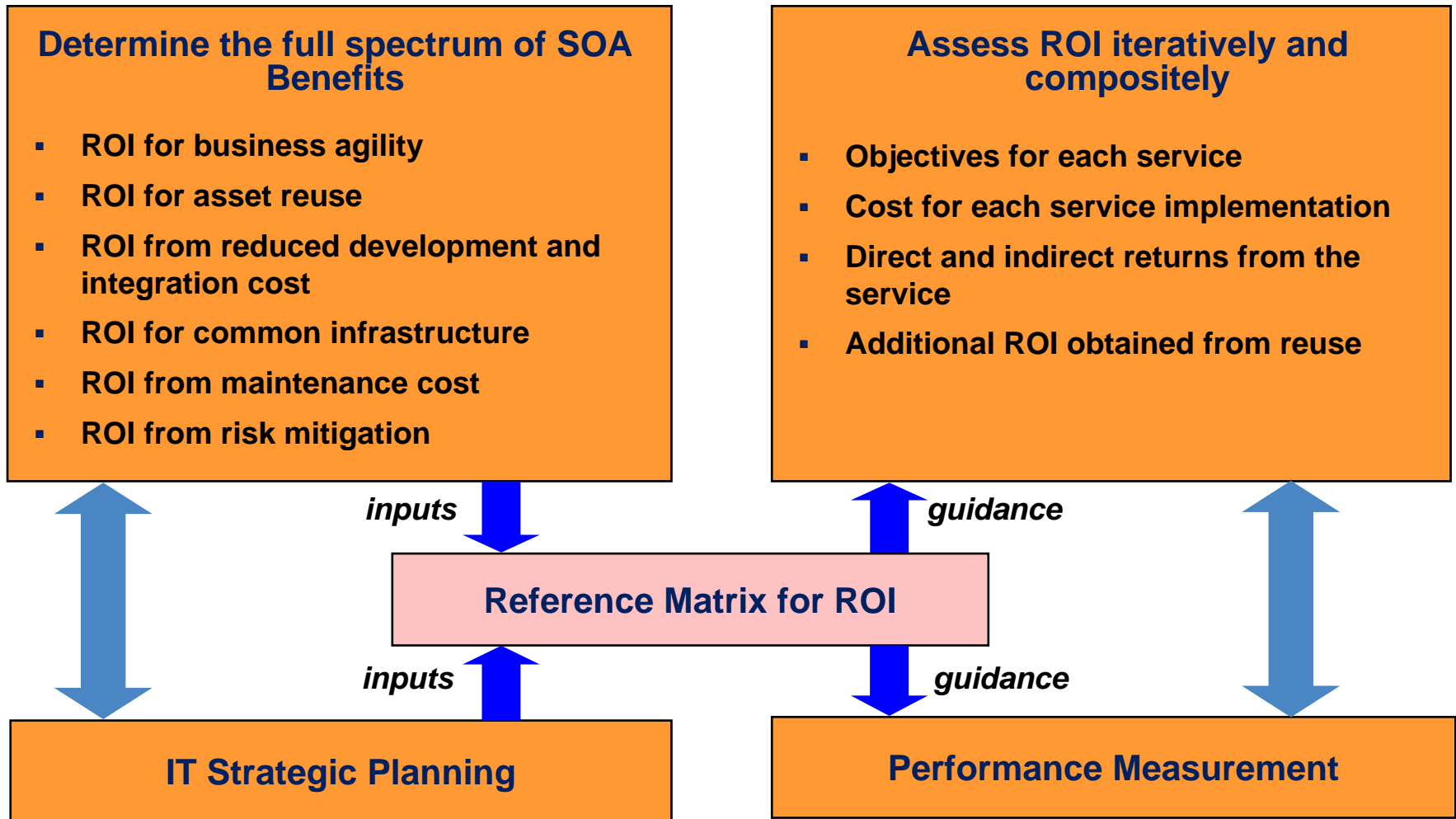
- Further **enhances service orientation** for enterprise IT infrastructure services
- It consists of:
 - Software as a service
 - Platform as a service
 - Infrastructure as a service
- It needs enablement from Service Oriented Enterprise in order to identify and apply appropriate **service model, cost model, and operation model** across organization boundaries
- It shares the common nature and benefits of service orientation
- It is started as a technology solution, but the implication is far beyond technologies

The Impact of Service Orientation to an Enterprise

- **Service Orientation introduces a paradigm shift for enterprise**
 - Manage business functions into loosely coupled services to reduce complexities and lessen the impact of changes
- **Service Orientation introduces changes to traditional organization culture and management mechanisms**
 - Loosely coupled service organizations break stove pipes and promote collaboration
 - Dynamic relationships between service providers and service consumers
 - Achieve long-term benefits instead of short-term ones
- **Service Orientation can optimize enterprise operational cost**
 - Shared services
 - Dynamic business changes supported by flexible IT service implementation
- **Service Orientation can enhance enterprise lifecycle and governance by introducing service life cycle and governance**
 - Enable better scoping for measurement and control

The Impact of Service Orientation to an Enterprise

- Establish and Assess Return On Investment (ROI)



Conclusion

- **Service Oriented Enterprise Architecture** is a sub-set of Enterprise Architecture
- **Service Oriented Domain** is a sub-set of a Service Oriented Enterprise
- **SOA should be used where it applies, *to reduce hype and confusion***
- **SOA is a means, not a goal**, during an enterprise's continuous evolution of business and IT towards increased efficiency and reduced cost
- **Cloud Computing** is a continuation of service orientation efforts in enterprise
- **There are natural dependencies** in enterprise business management and operations with respect to service sharing, which can not be solved by technologies (as mentioned in the slide: The Impact of Service Orientation to an Enterprise)