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Service Oriented Architecture (SOA) led transformation in the Global Delivery Model (GDM)

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Agenda

-  Drawing parallels
-  Setting the context
-  Real life examples
-  The dramatic change in economy in the mid 90s
-  SOA in the global delivery model

This session is not intended as a primer on SOA / Web Services, EA or GDM.

The dabbawalla(supply chain excellence)

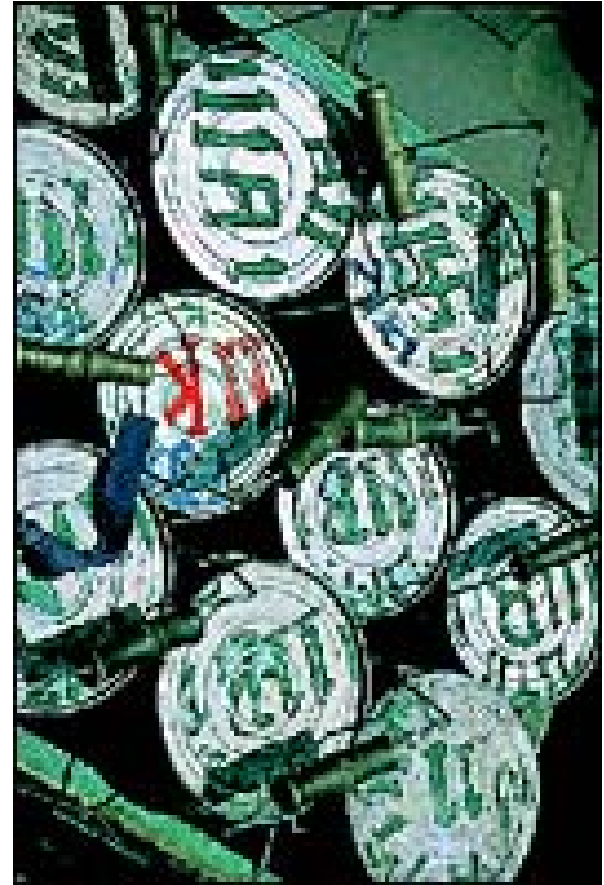
- Mumbai (Bombay) has a density of 19K-25K people per square km.
- What symbolizes Mumbai - Gateway of India, Gothic Victoria Terminus or the dabbawalla?
- Why the dabbawalla?



*Studied by CMU, NITIE, Univ. of Pittsburg, CMM, amongst many others
Editorials in the Washington Post, NY times, regular in Indian news*

Learning from the dabbawalla

- **Granularity:**
 - Each container size is the same, but contents are individually prepared and tagged
- **Standardization:**
 - All the containers are the identical size, but have unique markings for routing, switching and traceability and delivery that can be easily read by all the 4000+ co-workers
- **Integration and service assurance:**
 - Each of the 4000+ co-workers are not employed, but work independently as franchises! But guarantee their service. The association is a binding force.

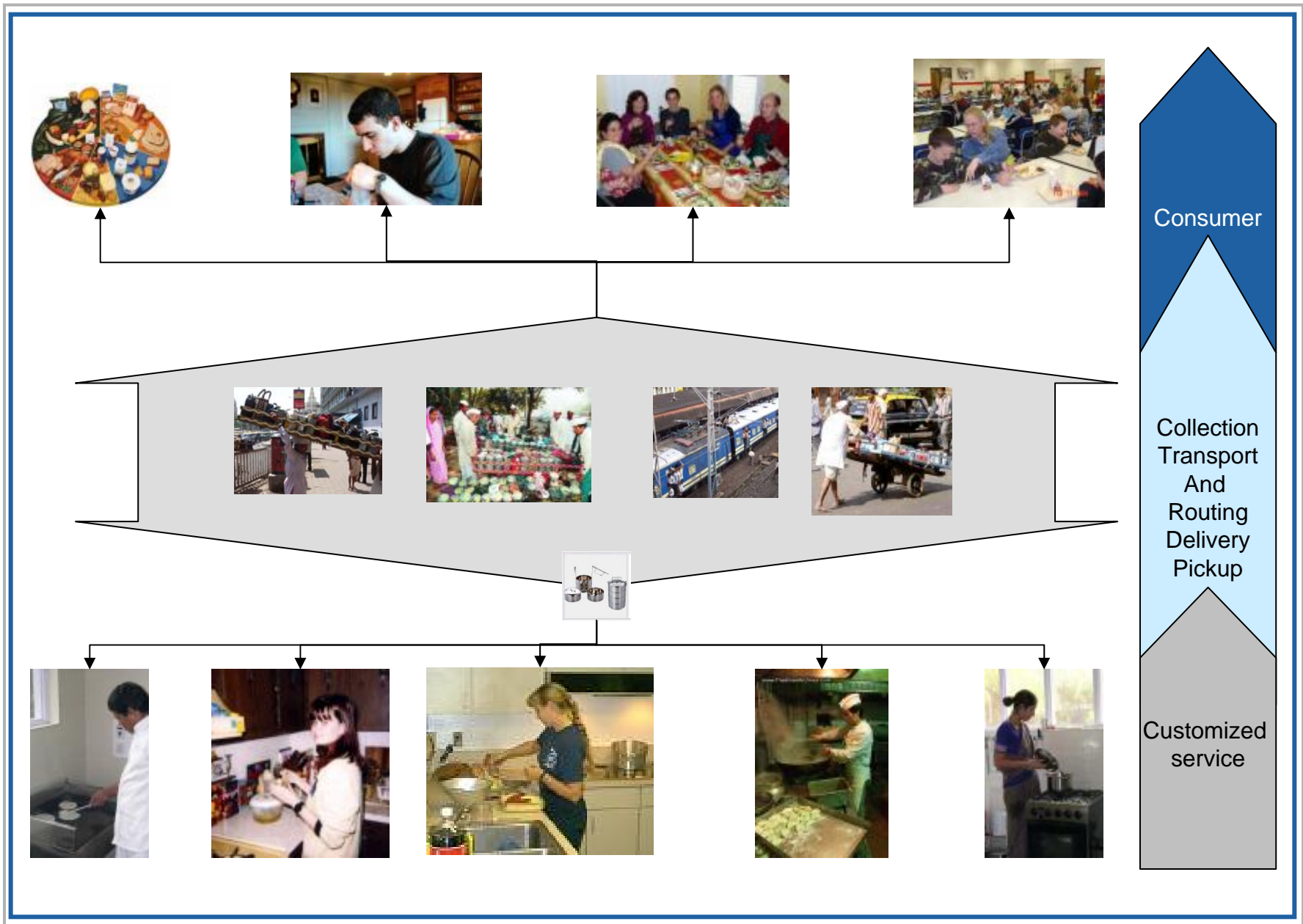


Continued..

- **Performance and speed:** They pick up from homes and distribute the 200,000 plus boxes by hand before lunch time. They make an average of 4 change of hands and 3 modes of transport (bus, train, bicycle).



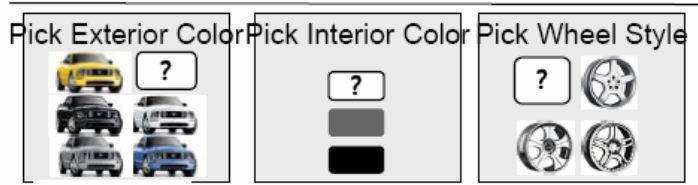
- **Reliability:** Approx 5 boxes are mixed up in delivery and an equal amount lost. Error rate: 0.005%
- **Redundancy** built in.
- **Flexibility and scalability** to add new customers and locations



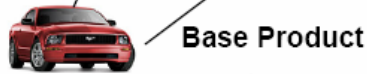
Drawing a parallel

Specialized Solutions

On Demand Assembly

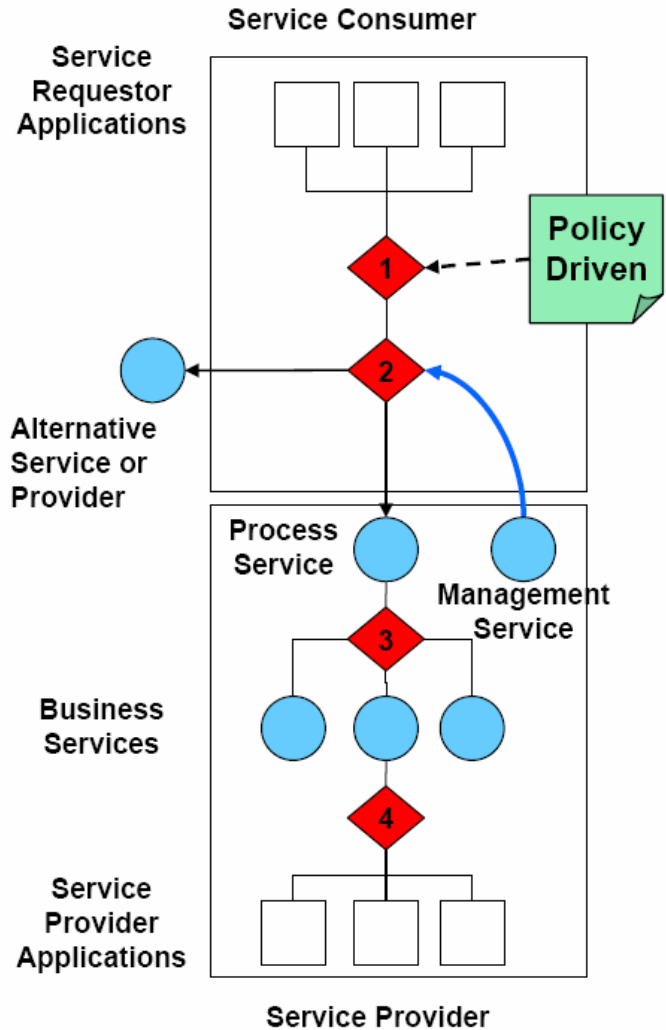


Policy Driven



Commoditized Services

Planning and Design



And there is Dell, Amazon, and many others

Business Agility – the need of the hour

*An enterprise needs to thrive in a continuously changing business environment by responding at **optimal cost and speed** to business stimuli*

Requirements

1. **Flexibility:** The ease of addition of new business models, services, functionalities in response to changing market conditions, competition etc. with minimal disruption & change in existing IT implementation
 2. **Ubiquitous Context Sensitivity:** The availability of context-sensitive information to all stakeholders at any location, irrespective of the channel or medium of interaction.
 3. **Virtualization and Standardization:** Standards based IT systems with virtual IT resources to provide abstraction from specialized hardware and software
-

Why do this?

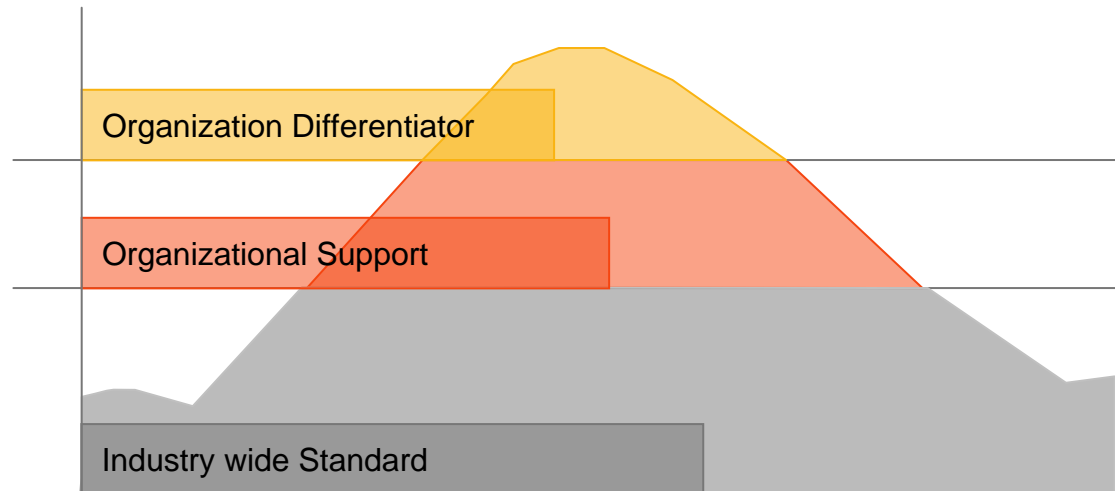
Ability to leverage on assets . . . and IP

The value of intangibles

Company	Market cap.	Total assets	Ratio
Amazon	13.99B	3.25B	4.3
GM	17.65B	448.5B	0.04
MSFT	273.13B	92.3B	2.9
UPS	80.8B	33.0B	2.6

Source: Company reports and Forrester Research

Typical application footprint for a business.

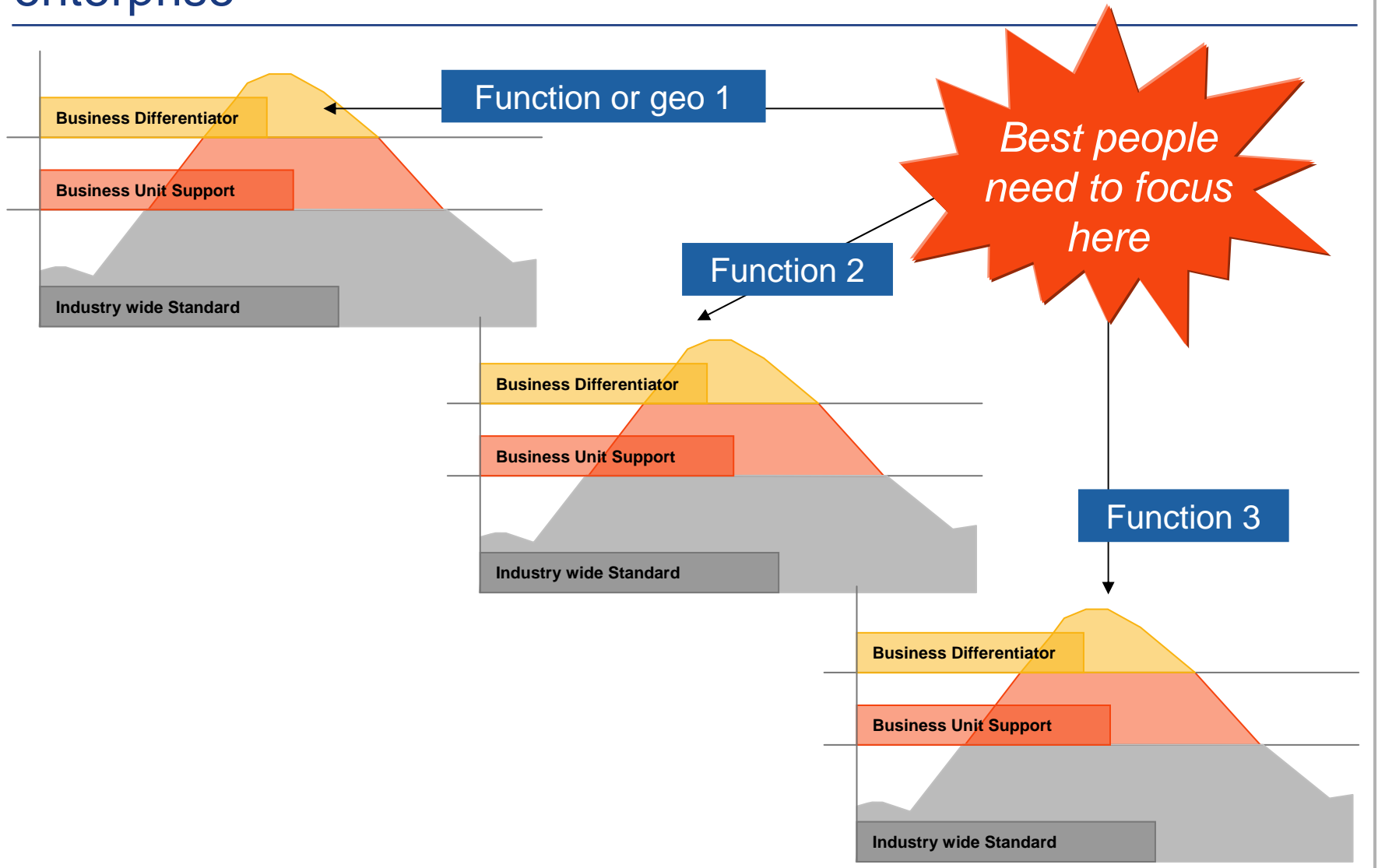


Application Portfolio

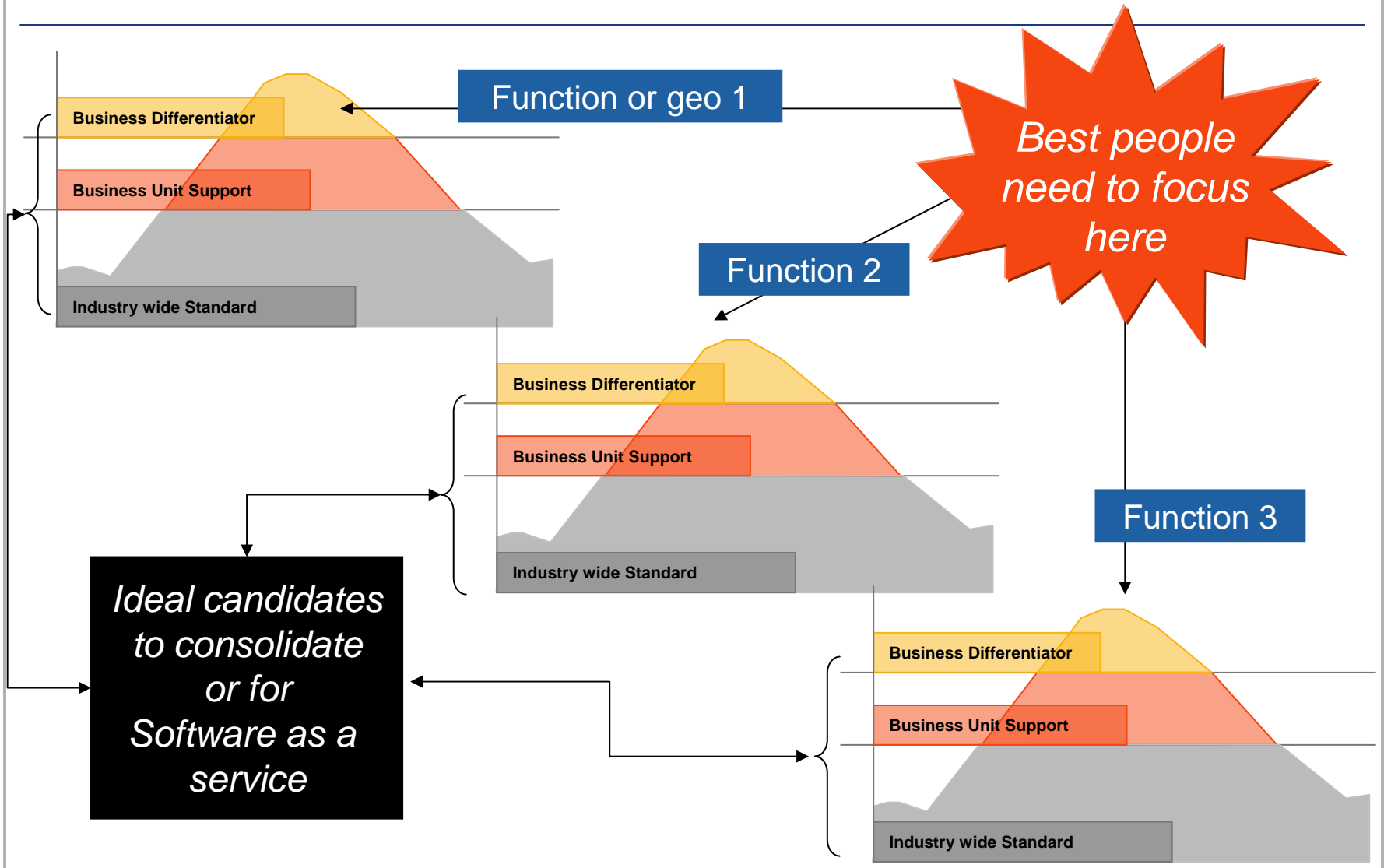
Typically the application portfolio in any organization is found to comprise of

- 40% - 50%: Industry wide standards
- 20% - 25%: Organizational support
- 10% - 15%: Environmental requirements
- 20% - 30%: Organization differentiator

Typical application and infrastructure footprint for a enterprise



Where Software as a service and “packages” fit in



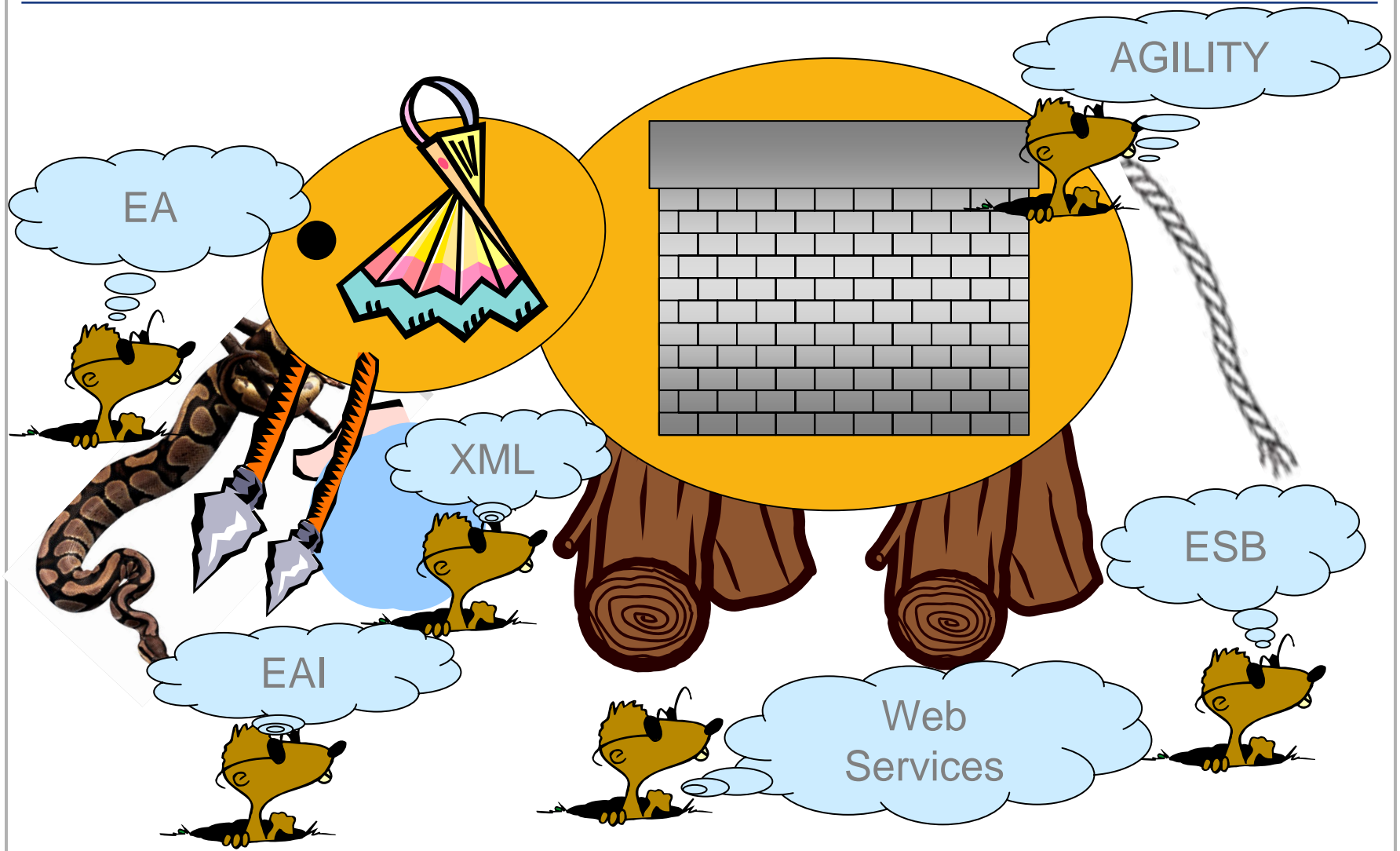
How can SOA help?

- Driving standards. Similar to the http force that made the web usable, XML, WS security and UDDI are enabling discovery, profiling and binding
- Reduced fixed costs by service rationalization
- Increased transactional capability by virtualization
- Increased flexibility to switch interfaces. More contact based than asset based.
- Reduced time to market by leveraging on existing applications esp. in the Software as a Service mode
- Synergizes IT and business
- Creates opportunities to work on strategy and communication inside the organization

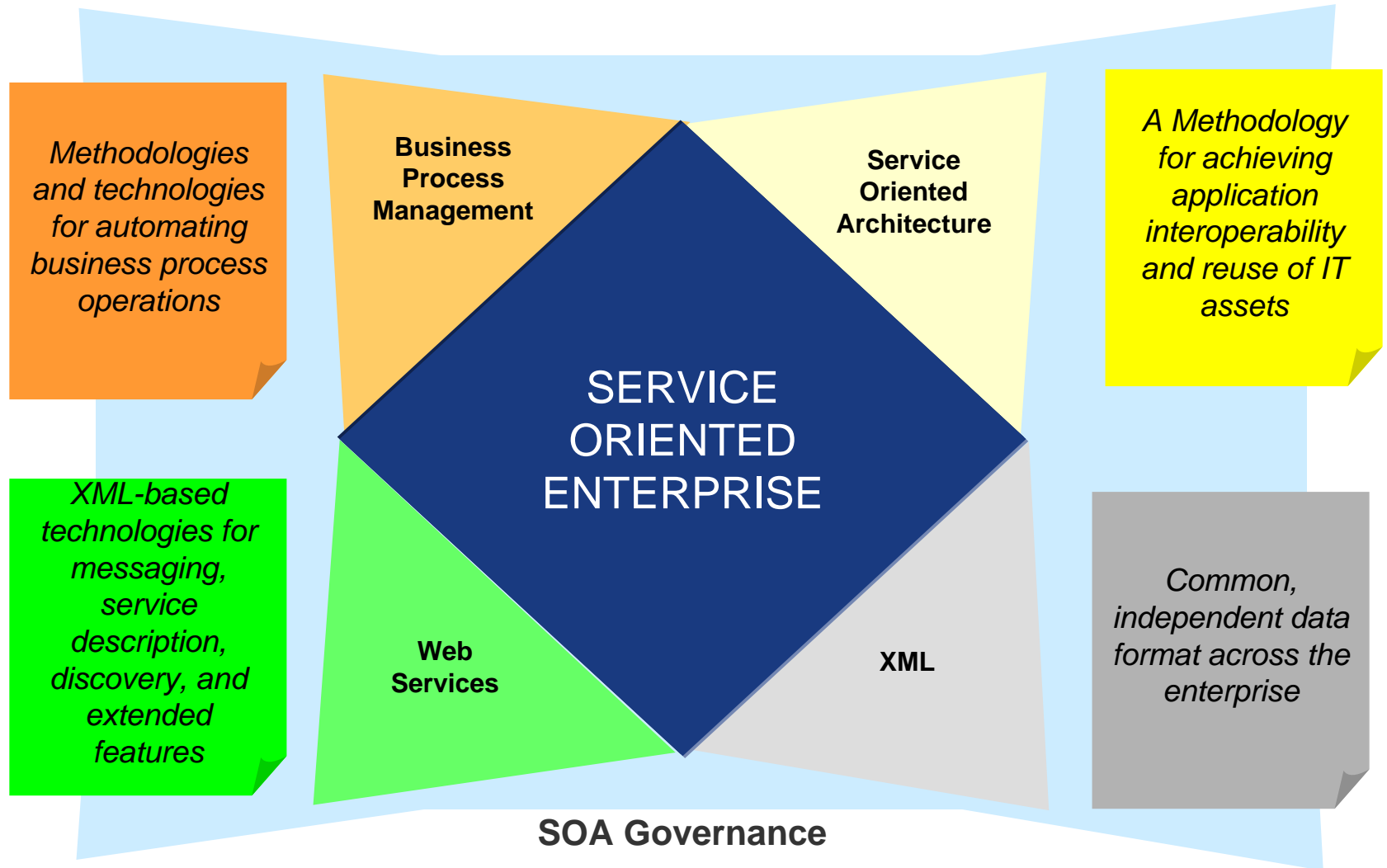
Discovering the organizational assets reminds one of The Blind Men and the Elephant



SOA: The Services Elephant?



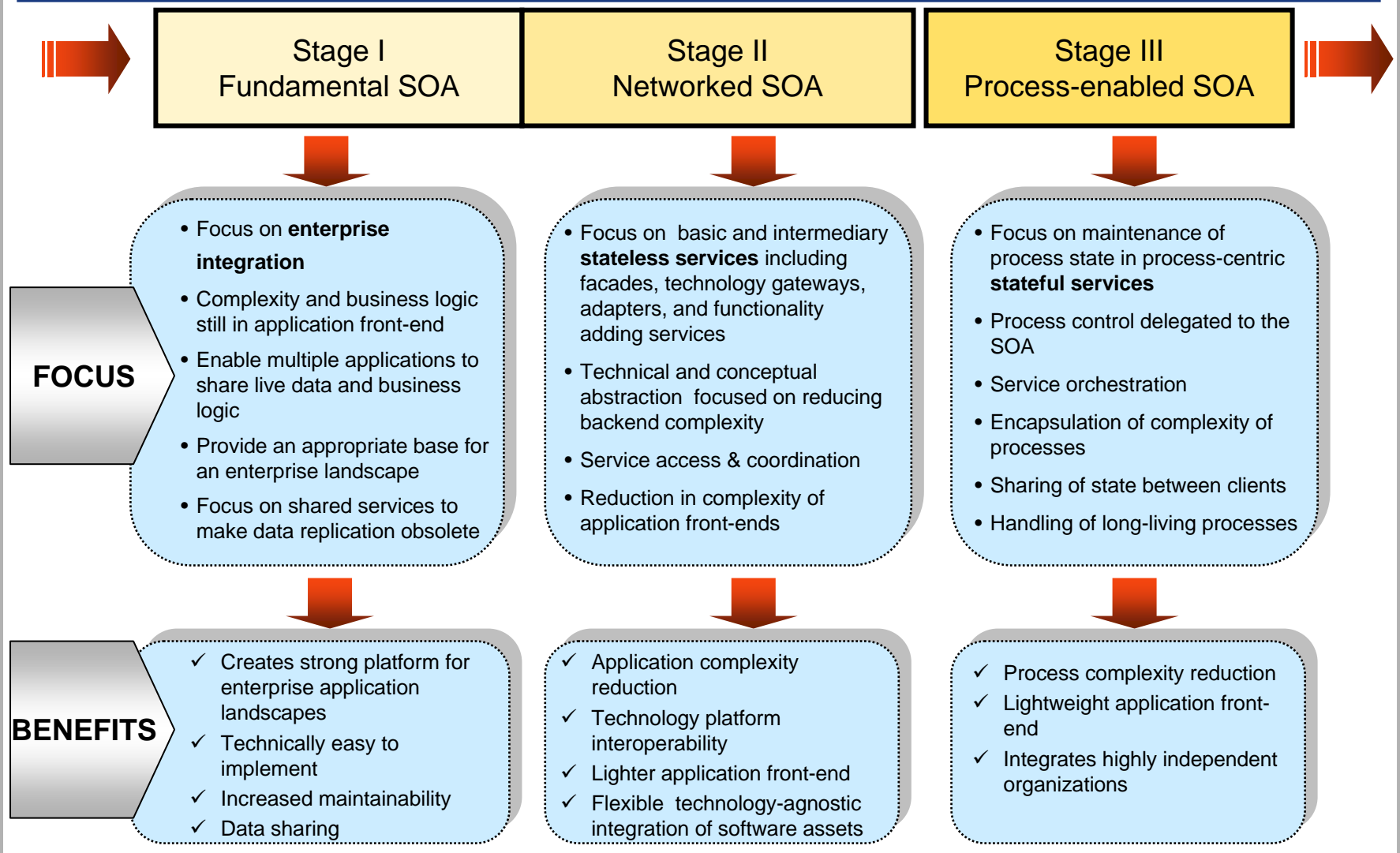
The Service-Oriented Enterprise



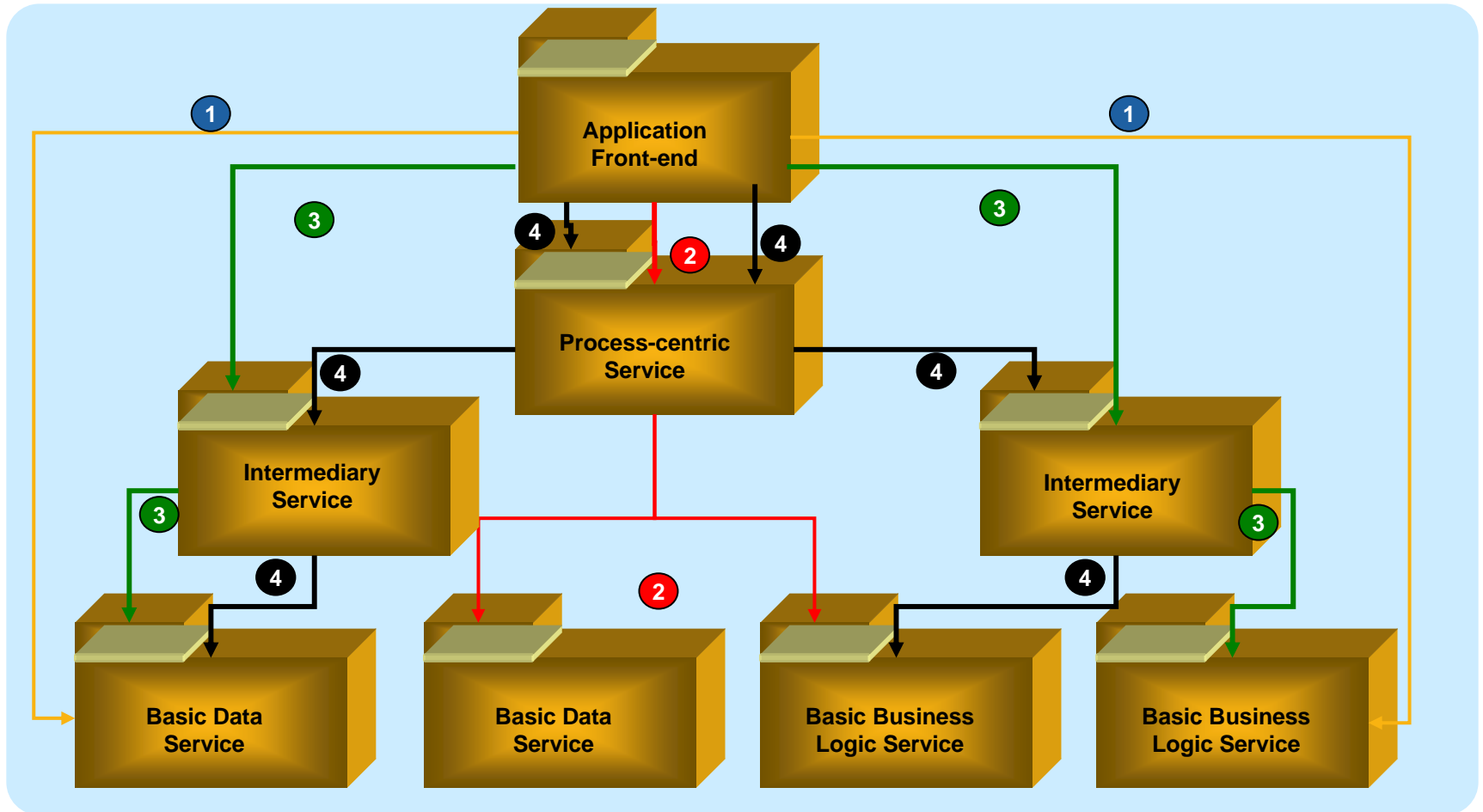
SOA - Perspectives

	Focus	Interest
SOA is a Management Framework	<ul style="list-style-type: none"> • Business and IT Resource Optimization • Business/IT Convergence • IT Process for SOA? • Provider/Consumer Supply Chain? 	<ul style="list-style-type: none"> • Strategy and Roadmap • Organization and culture • IT Process Governance • Provisioning and Sourcing Policies
SOA is an Architectural Framework	<ul style="list-style-type: none"> • Federated Service Architectures • Service Identification and Specification • Service Lifecycle 	<ul style="list-style-type: none"> • Enterprise Architecture Context • Architectural Constructs for SOA • Architectural Governance • Architectural and Design Policies
SOA is a Deployment Framework	<ul style="list-style-type: none"> • Run-time deployment of Services and Resources • Operational Infrastructure • Service Management 	<ul style="list-style-type: none"> • Standards • Service Technology • Run-time Governance • Operational Policies

Stages of SOA Adoption using GDM (Global Delivery Model)



Distributing Services for GDM



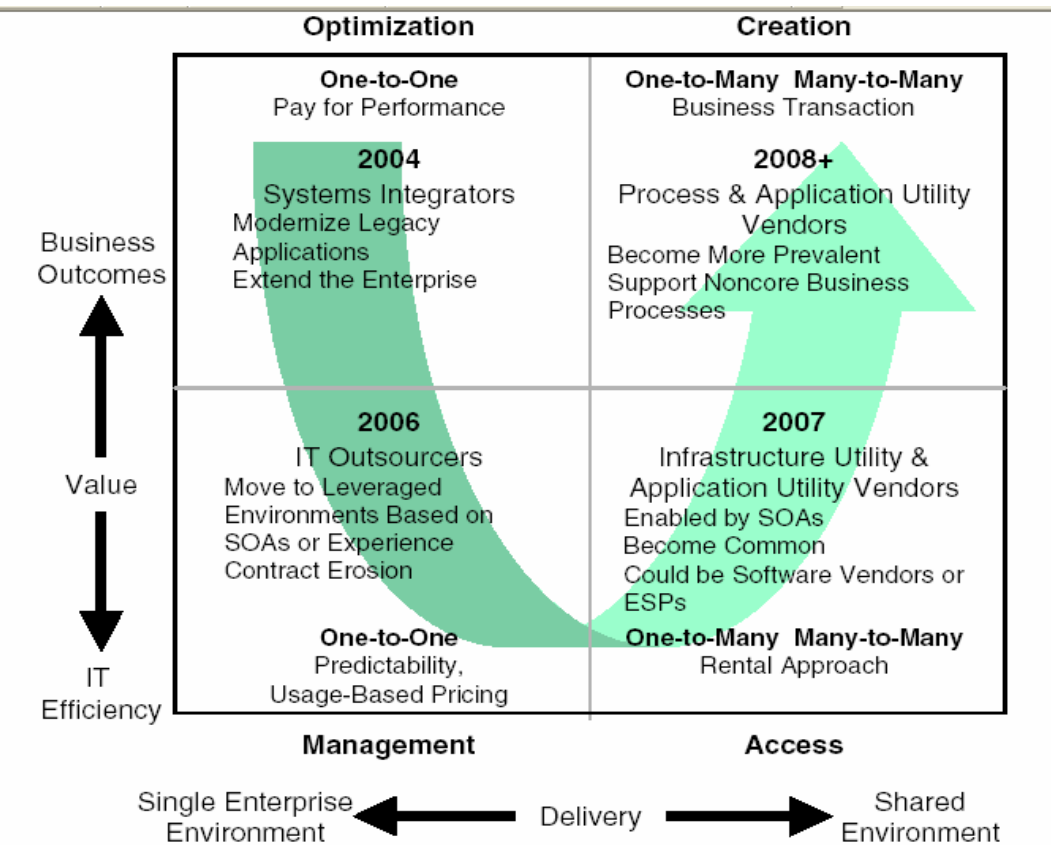
1 Front-end calls basic services directly

3 Front-end used intermediary service to get to basic services

2 Process-centric service coordinates basic service calls

4 Process-centric service uses intermediary service to get to basic services

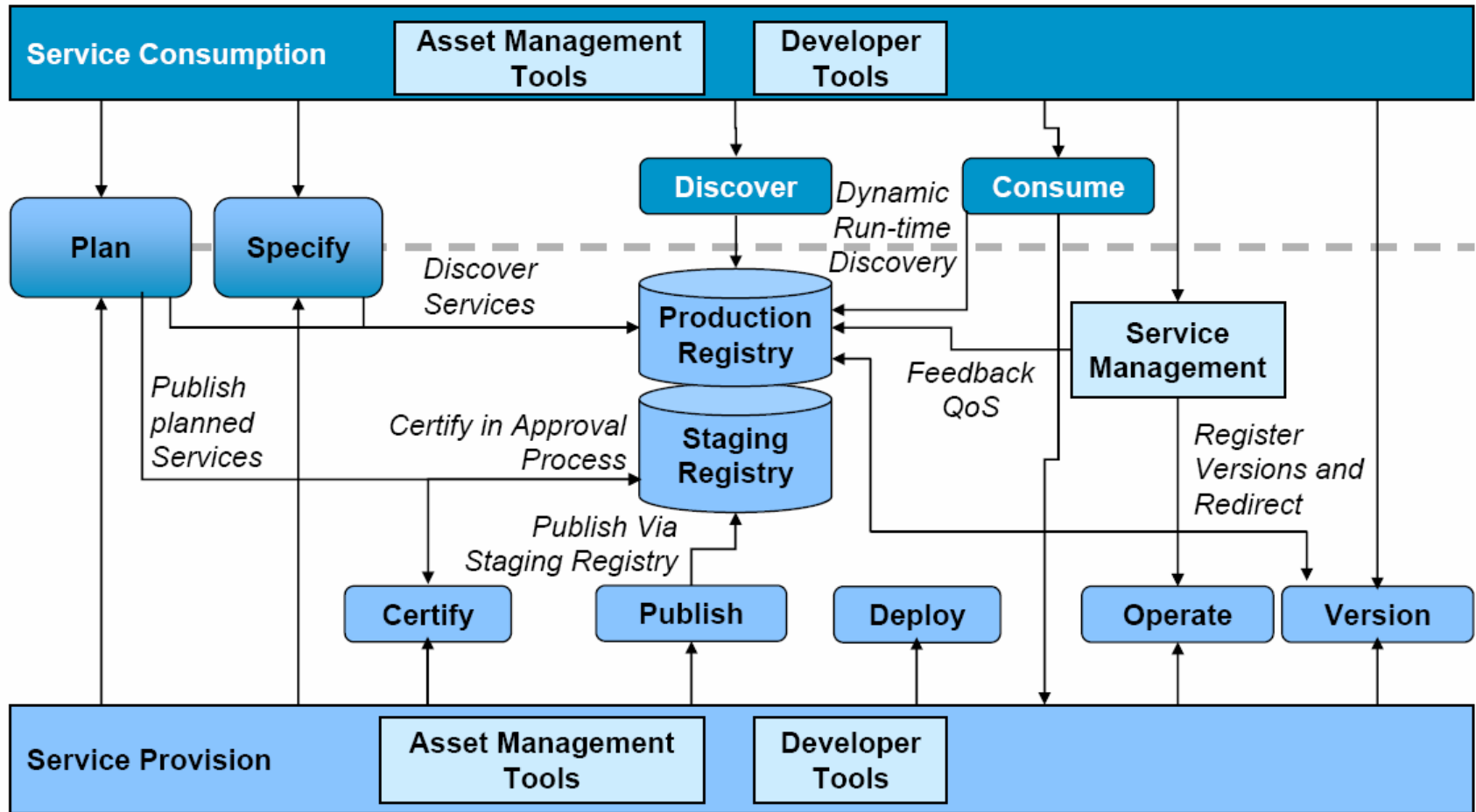
SOA adoption for SOEs leveraging ESPs



Source: Gartner Research (April 2004)

Source: Gartner - "SOAs cause Evolutionary Disruption in IT Services Market," Michele Cantara, 2004

Role of registry in a service lifecycle



Registry becomes "System of Record" for Service Lifecycle

Sample governance compliance checks

Compliance Check	Type of Check and Standards Relevance
WS-Protocol	Enforce and Validate usage of various WS protocols. Products may ship with ready made profiles for WS-I, WSDL, WS-Security Ensure that consumed Services comply with policies for usage of various WS protocols.
WS-I profile	Check compliance with WS-I profiles to ensure interoperability
WS-Security	Enforce and validate Security policies
Schema	Validate XML Schemas, validate that Services use the correct schema
Classification	Validate classification of Services. Registries provide classification mechanisms
Architecture	Proper assignment to layer, compliance with dependency policies
Design Policies	User defined methodology conformance to best practices.
Service Specification	Completeness of specification according to user defined methodology
Approved Provider	Inspect endpoint references against known and approved providers. For example
Service Consumption	Ensure that only Services published in catalog are consumed. For example
SLA	Monitor compliance with SLA policies SLA definitions and hence compliance checks are likely be proprietary to the WSM/SOAM/ESB product
Business Policy Compliance	Inspect Service Requests and Responses to ensure business rule compliance, and/or transform Service Requests and Responses based on business rules Business Rules Engine defines compliance tests WSM/SOAM/ESB can enforce business-based mediation rules (routing, transformation, etc)
Regulatory or Auditing Compliance	Inspect Service Requests and Responses to ensure regulatory compliance, and auditing requirements. Use WSM/SOAM/ESB Typically user defined. Some products may have pre-defined templates.

Infosys sessions at WWW2006

Infosys & e-skills U.K Workshop

The Partnership

- e-skills U.K is developing a new diploma programme to impart IT education at the pre-college level to boost the talent pipeline
- Infosys is hosting a workshop to bring together top IT employers and gain insights to help e-skills develop the programme

Workshop Goals

- To validate the e-skills 14-19 diploma blueprint
- To gain insights into the key areas of the 14-19 diploma
- To seek employers' commitment areas for 14-19 diploma programme

Event Details

- Date: Thursday 25 May 2006
- Time: 5:45pm to 7:30pm
- Location: Galloway Suite - Level 1

e-skills uk

Infosys Poster - *Live URLs: Breathing life into URLs*

- Date: Wednesday 24 May 2006
- Location: Strathblane Hall, Level 0
- Poster Id: 156
- Poster No.: 28

Improve your odds with Infosys Predictability



Thanks



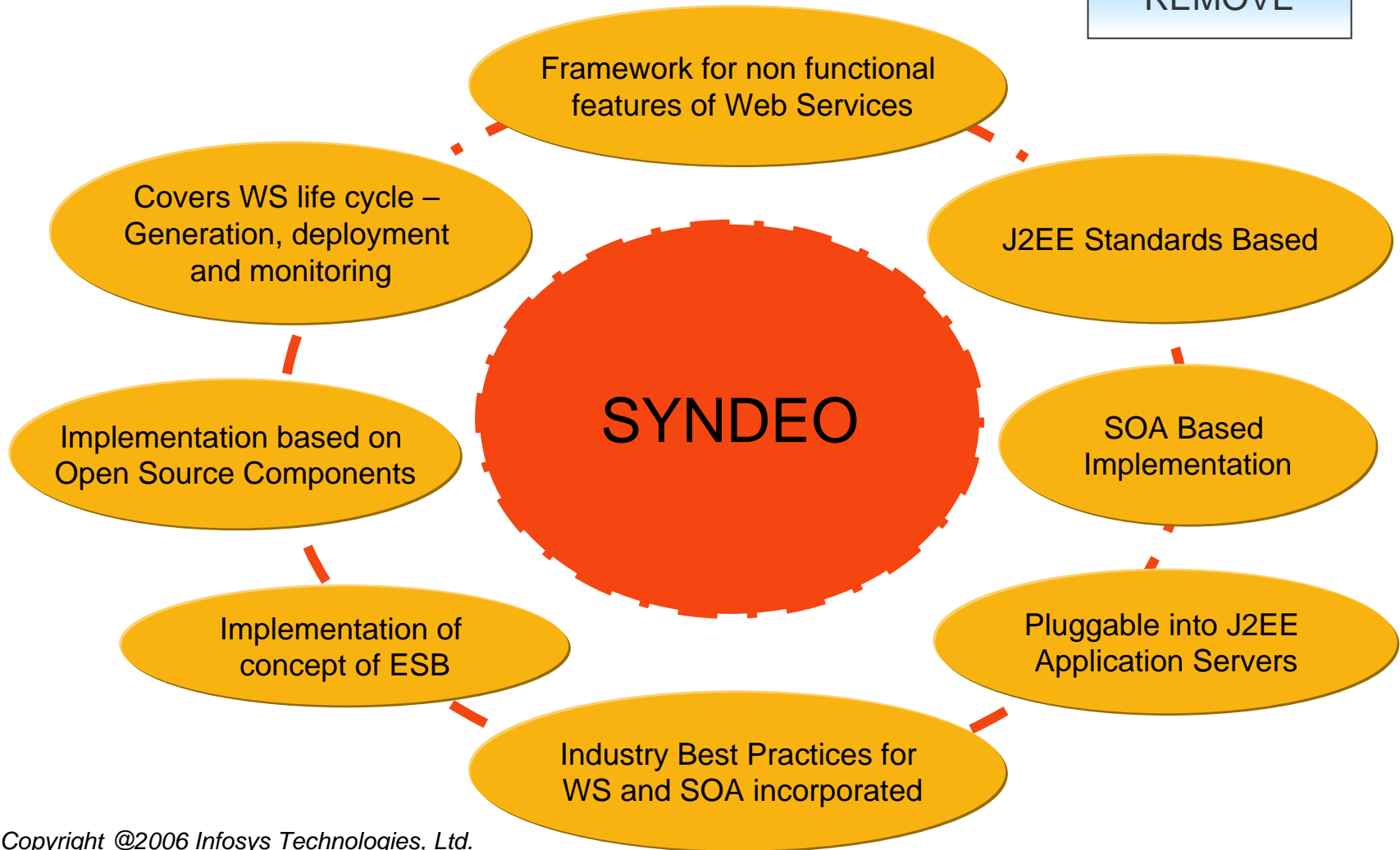
The Agile Elephant

sohrab_kakalia@infosys.com

The end!

Syndeo – Web Services Bootstrap Framework

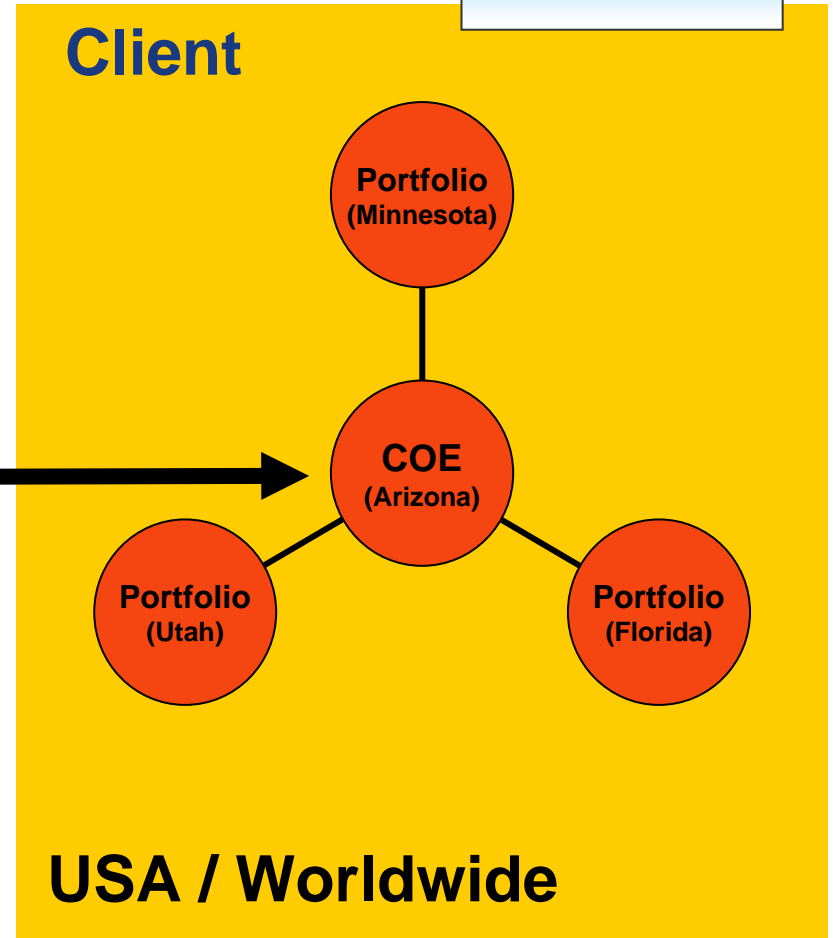
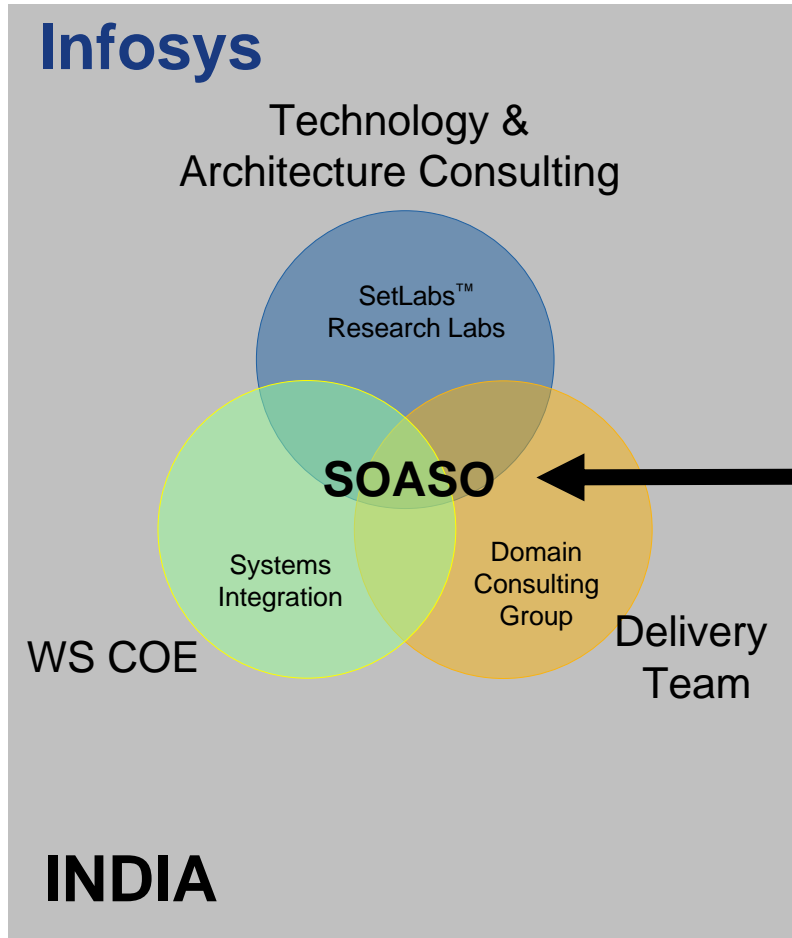
REMOVE



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Example SOA distributed Service Offering Model

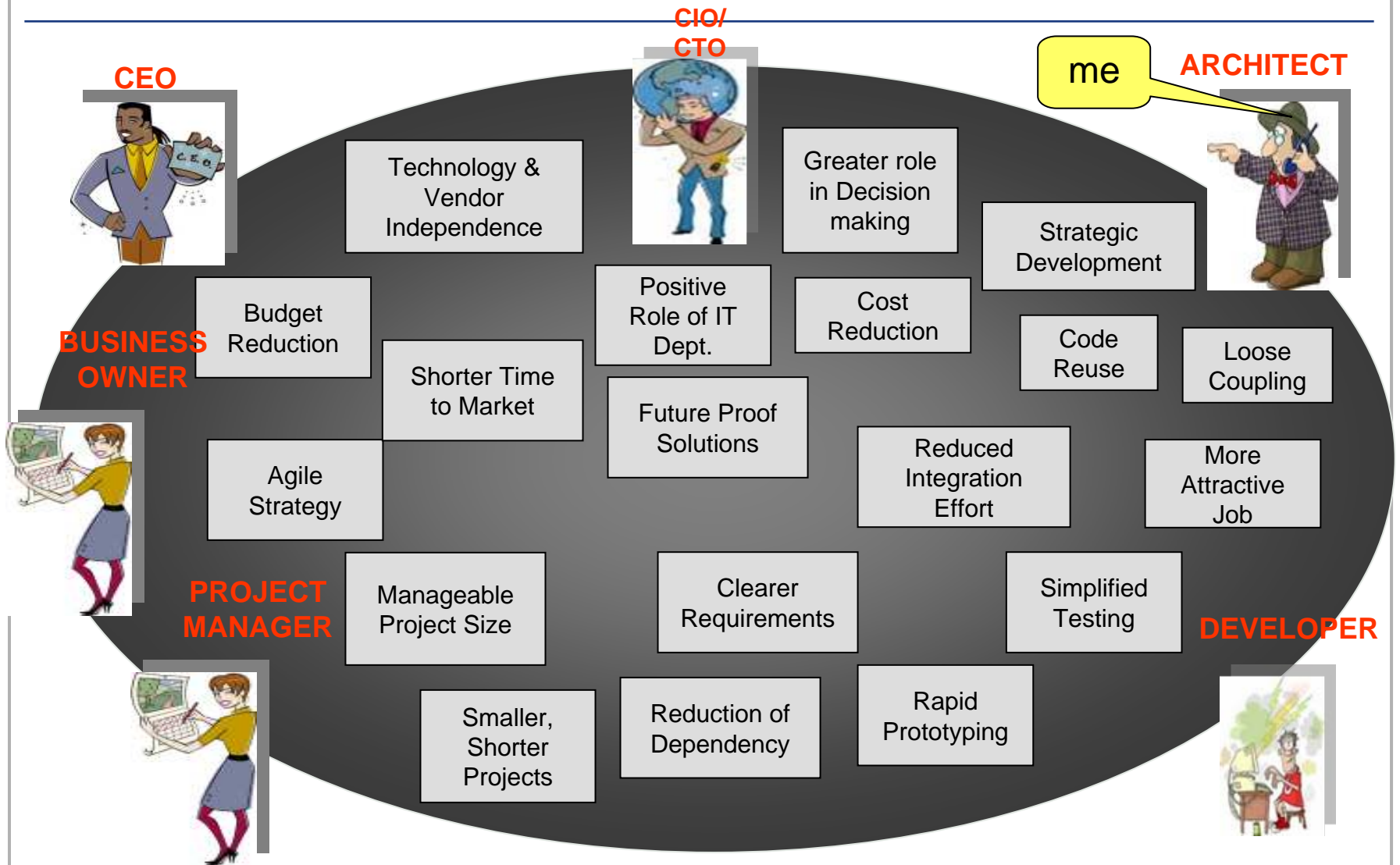
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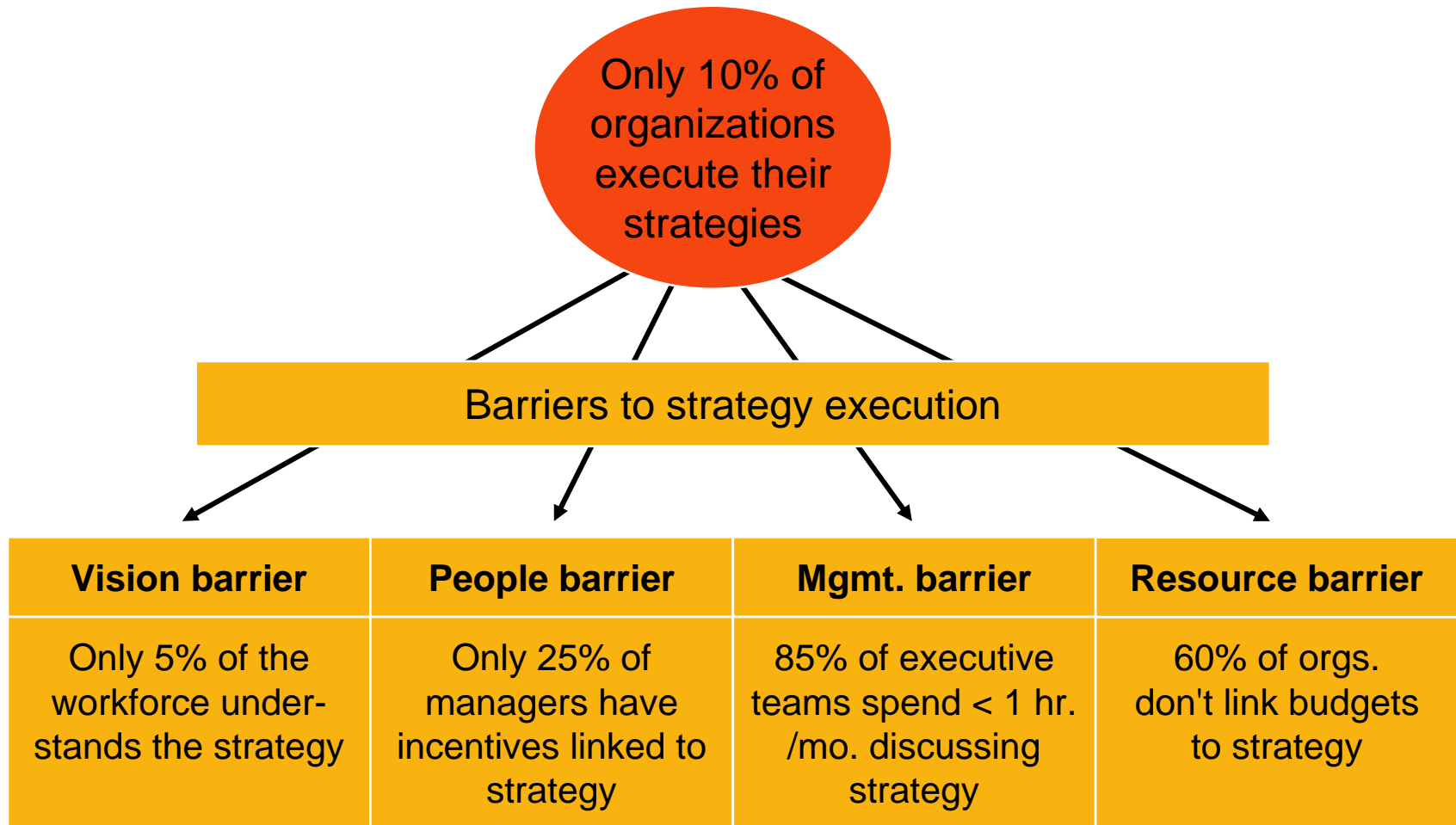
*SOAO – SOA Offering

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Enterprise Stakeholders

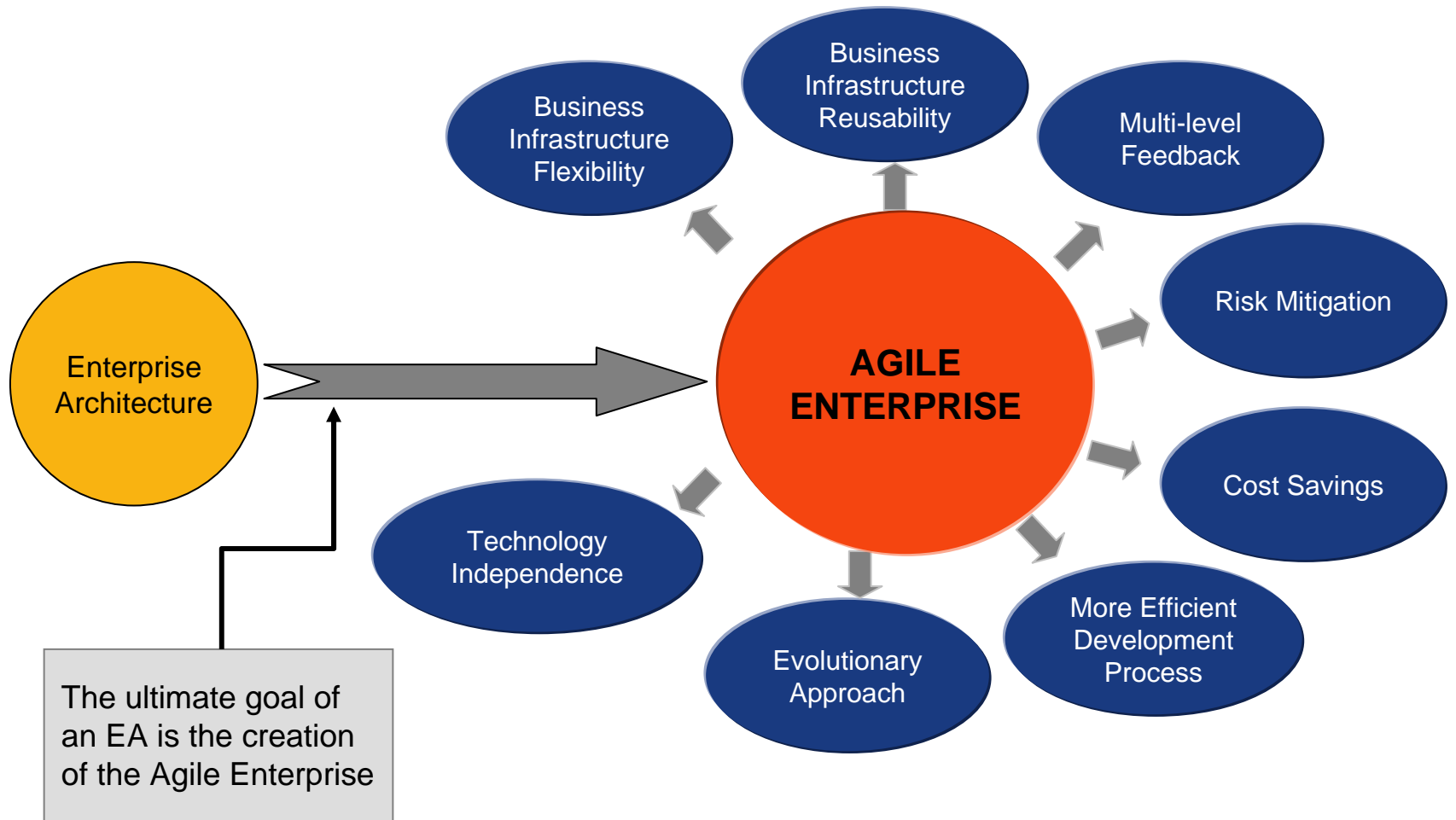


Common Barriers to strategy execution



Source: Adapted from material developed by Robert S. Kaplan and David P. Norton

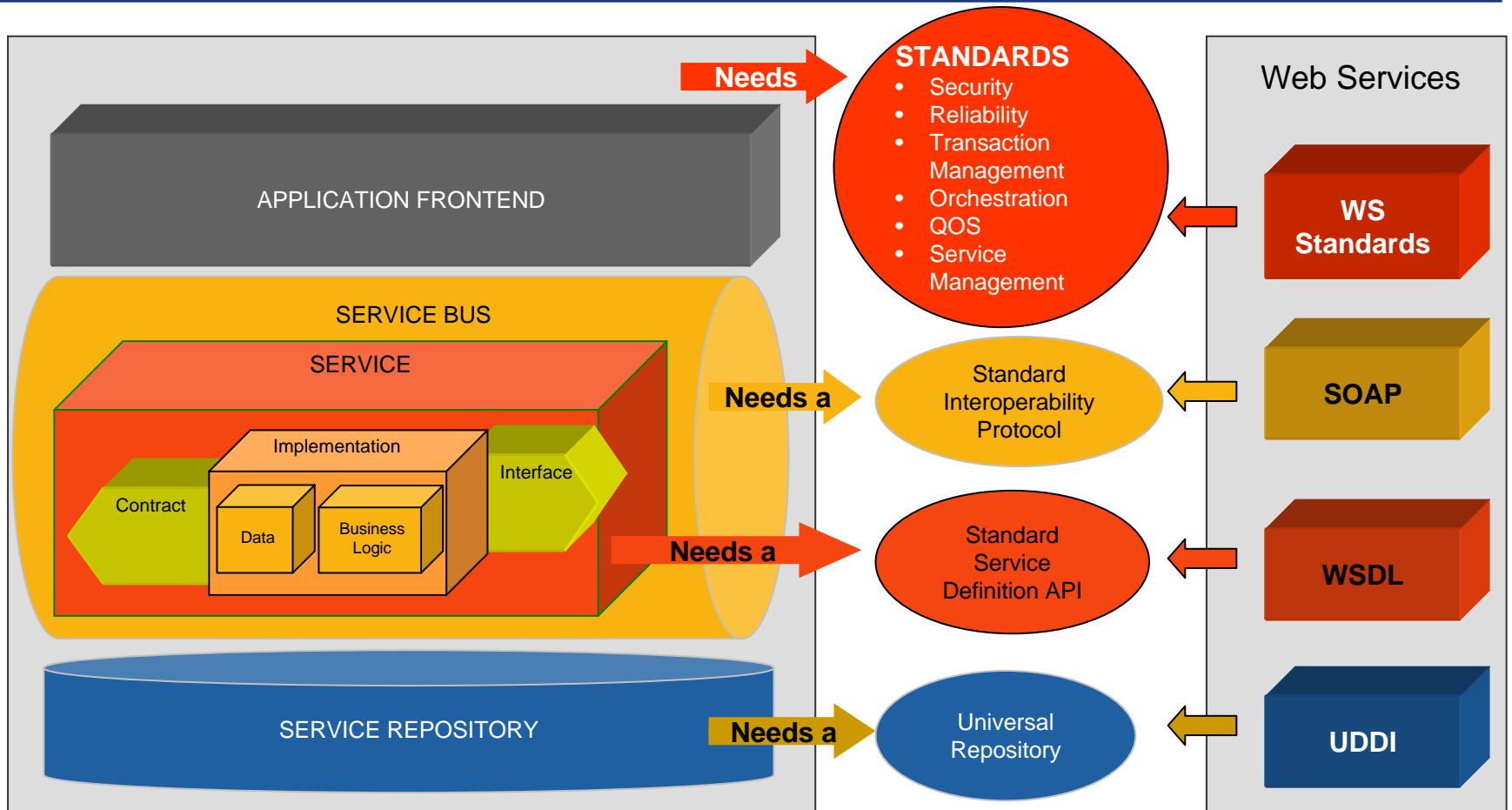
The Agile Enterprise



Some Terminology

BPO	Business Process Outsourcing
BPM	Business Process Management
ESP	Enterprise Service Provider
GDM	Global Delivery Model
SOA	Service Oriented Architecture
SODA	Service Oriented Development of Applications
SOBA	Service Oriented Business Applications
SOE	Service Oriented Enterprise
WS	Web Services

Web Services-Oriented Architecture



- Web Services offer a cross-technology standards for realizing the vision of a Service Oriented Enterprise
- Web Services-oriented Architecture is an SOA implemented using Web Services

Challenges in **delivering** the SOA for an SOE

DESIGN

DELIVER

HOST

SUSTAIN

- Economies of scale
- Complexity
- Resource crunch
- Management
- Operational Support
- Governance
- SLA management
- Maintenance
- Licensing

Versions

- Version 1 preliminary draft collection of slides
- Version 2 with inputs and aggregation for Vijay(TSR) and Ajit Sagar
- Version 3 with inputs of slide removal and take aways from Sohel, Vijay and Rajeev
- Version 4 Removing the “remove tab from the main slides to be used.
- Version 5 removal of 2 more slides, header editing and email at the end, SOA alignment has some more bullet points