SOA Comes of Age

Introducing the SOA Source Book
29 April 2009

THE *Open* GROUP

Dr Christopher J Harding
Forum Director

Tel +44 774 063 1520 (mobile)

c.harding@opengroup.org

Thames Tower
37-45 Station Road
Reading
RG1 1LX
UK

www.opengroup.org

THE *Open* GROUP
Making standards work®

The Open Group

□ Open Systems

□ Interoperability

□ Boundaryless Information Flow

THE *Open* GROUP
Making standards work®

Agenda

- SOA In Perspective
  - Why SOA is important
  - Why SOA will continue to be important

- The Source Book
  - What it contains
  - How it will help you use SOA
  - What it contributes to SOA

- Future Developments
  - For SOA
  - For the book

THE Open GROUP

Making standards work®

SOA In Perspective

Customer Presentations and Case Studies: Houston, 2005 Q4

Using SOA In An Information Management Product Infrastructure

Jamie Cruise
Halliburton Digital Consulting Solutions/Landmark

United States Air Force

Integrity - Service - Excellence

Beyond SOA: What's Next?

Global Combat Support System (GCSS)
U.S. Air Force
Chris R. Adams, MITRE Corporation

Service Orientation Architecture – E&P Information Management

Ravi Nudurumati

17 Oct 2005

Schlumberger

Example Case for SOA on Upstream Oil & Gas

Rusty Foreman – **BP**
Solutions Architecture
E&P Digital & Communications Technology

THE *Open* GROUP

Making standards work®

Customer Presentations and Case Studies: 2006

SOA implementation in Financial sector – a case of one bank in North America

Abstract:
This presentation discusses a case of an SOA implementation in one of the banks in North America. An overview of the problem being addressed using SOA and the approach being used are given. The associated architecture pattern is presented in order to share some of the learning. Current achievements and target architecture and roadmap is also discussed.

By: Awel Dico, PhD
Enterprise Architect

Road to SOA:

Case studies in Travel Industry

Kamran Ozair

July 18, 2006

SOA – A New Paradigm

Erik Haahr
Director
IT Architecture & Integration
DSB

Customer Presentations and Case Studies: 2007 - 1

GM

Developing a Corporate Vision and Roadmap for SOA

The Open Group
Enterprise Architecture Practitioners
Conference
January 30, 2007

Hong Zhang
Director & Chief Architect
Emerging Technologies
Chief Systems and Technology Office (CSTO)
General Motors

Marriott

Service Oriented Maturity Models
Comparative Analysis

Enterprise Architecture Practitioners Conference
The Open Group
San Diego January 29-Febuary 2, 2007

Steve Wolf, Senior Enterprise Architect
Enterprise Architecture Group
Information Resources

Maximizing ROI of Service-Oriented Architecture (SOA) Implementation Through Application Management

Mitchell International Case Study

Eli Rosner, CIO, Sr. Vice President and
General Manager International Operations

January 29, 2007

**Moving from Systems to Services —
How the U.S. Navy is Transforming to SOA**

Brad Mercer
Principal Architect
The MITRE Corporation
San Diego, California

THE Open GROUP

Making standards work®

Customer Presentations and Case Studies: 2007 - 2

Business Value and Challenges of SOA

Enterprise Architecture Practitioners Conference
Spotlight on SOA

San Diego, January 29, 2007

John Whitridge, VP Enterprise Architecture
Enterprise Architecture Group
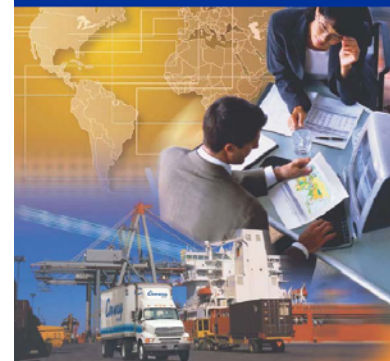Information Resources, Marriott International

Direction of Global Enterprise Architecture

Takashi Kawakami
General Manager
Enterprise Architecture
Nissan Motor

SOA – What vs. How
A Travel Industry Perspective

Madhusudhan KM

31 Jan 2007

The Sky is the Limit – SOA Built on a Solid Foundation

Maja Tibbling
Lead Enterprise Architect
Con-way Enterprise Services

THE Open GROUP
Making standards work®

Customer Presentations and Case Studies: 2007 - 3

Intuit's SOA Journey

Robert Roth
Director, Integration Architecture Solutions

Intuit
Integration Architecture Solutions

SOA and the Agile War Fighter: DoD NCES Program

The Open Group Enterprise Architecture Practitioners
January 29, 2007

David P Butler
Vice President and SOA Evangelist

MERCURY

Issues of Global e-commerce and NEC's NGN (Next Generation Network) vision

January 29, 2007

Toshiro Kawamura
Executive Advisor, NEC Corporation &
Chair of Global Business Dialogue (GBDe)

THE Open GROUP
Making standards work®

Customer Presentations and Case Studies: 2007 - 4

Service Utilization

Dr. Allen S. Jones
The Boeing Company
April 24, 2007

The Value of Service Oriented Architecture

A Chevron Upstream Prospective

Building an SOA to Power the Smart Grid

Andres Carvallo, CIO
Austin Energy
July, 2007

SOA Governance – A practical approach

Hans Eric Klumpen,
Schlumberger Information Solutions
Enterprise Architecture Practitioners Conference
July 23 - 27, 2007

Schlumberger

THE Open GROUP
Making standards work®

Customer Presentations and Case Studies: 2007 - 5

SOA at Deutsche Bank

Abhijit Gupta
Enterprise Architect and SOA Programme Lead, Deutsche Bank

23 July 2007

Addressing Enterprise Business Needs through SOA and TOGAF

By: Awel Dico
Enterprise Architect
Awel.dico@bmo.com

July 2007

IBM

Applying Patterns, Platform Intelligence and Products to ESB Deployments

A Lightweight Approach to Service Design Specifications

The Open Group Enterprise Architecture Practitioners Conference
July 2007

Dan Hughes
Principal Consultant, Systems Flow, Inc

Graham Williams
Manager - Integration Architecture & Design Team, Vice President, Citizens Bank Financial Group

SYSTEMS FLOW INCORPORATED

Citizens Financial Group, Inc.™

- Case Studies:
  - Company X - Insurance company
  - Company Y - Health Care Provider

From SOAP to Nuts

Case Study: SOA and the Electricity Reliability Council of Texas

THE **Open** GROUP
Making standards work®

Customer Presentations and Case Studies: 2008 - 1

Delivering SOA with TOGAF

By: Awel Dico, PhD
Enterprise Architect

Contents

Enterprise-architecture and the service-oriented enterprise

Tom Graves, Tetradian Consulting
TOGAF Glasgow, April 2008

Legacy SOA

Bringing SOA Into the Real World

SOA Governance in Practice

A Case Study at BP

Josh Street
Treasury & Payments Services Technology Strategy & Architecture
Bank of America
Charlotte, NC

THE **Open** GROUP
Making standards work®

Customer Presentations and Case Studies: 2008 - 2

SOA Role in Enterprise Architecture and Architecture Framework

Martin Hromek, DHL IT Services, Prague, April 22, 2008

18th Enterprise Architecture Practitioners Conference in Glasgow

Presenting eSOA to IT Management

Tamas Szirtes (tamas.szirtes@intenzz.nl)

Pinaki Ghosh, Lead Architect Specialist

The Dow Chemical Company

Developing Enterprise

Business Object Libraries

to support SOA

THE *Open* GROUP

Making standards work®

Customer Presentations and Case Studies: 2009

Direct Energy.

SOA, Hard Times & Hockey

Presented by : Bruce Miner

Service Oriented Business Applications: Road towards Agile Enterprise

Date: 29/04/2009
Tarmo Ploom

THE Open GROUP
Making standards work®

SOA Is

- An architectural style that supports *service orientation*
  - A way of thinking in terms of **services** . .

THE *Open* GROUP
Making standards work®

As Opposed To

- ❑ A way of thinking in terms of **applications** . .
  - ▪ What IT architecture was 5 years ago
- ❑ A way of thinking in terms of **objects** . .
  - ▪ Object orientation is the architectural basis of many software programs today
- ❑ A way of thinking in terms of **resources** . .
  - ▪ The basis of REST and WOA
- ❑ A way of thinking in terms of . .

THE *Open* GROUP
Making standards work®

A Service

- ❑ Has a clear description
- ❑ Has a provider
- ❑ Delivers value to its consumers
- ❑ Is the subject of a contract between provider and consumer

Repeatability   Reliability   Value

- ❑ Essential for business operation

THE *Open* GROUP
Making standards work®

A Good Service

- ❑ Provides encapsulation
- ❑ Is loosely-coupled
- ❑ Can be re-used

Just like a good object or resource
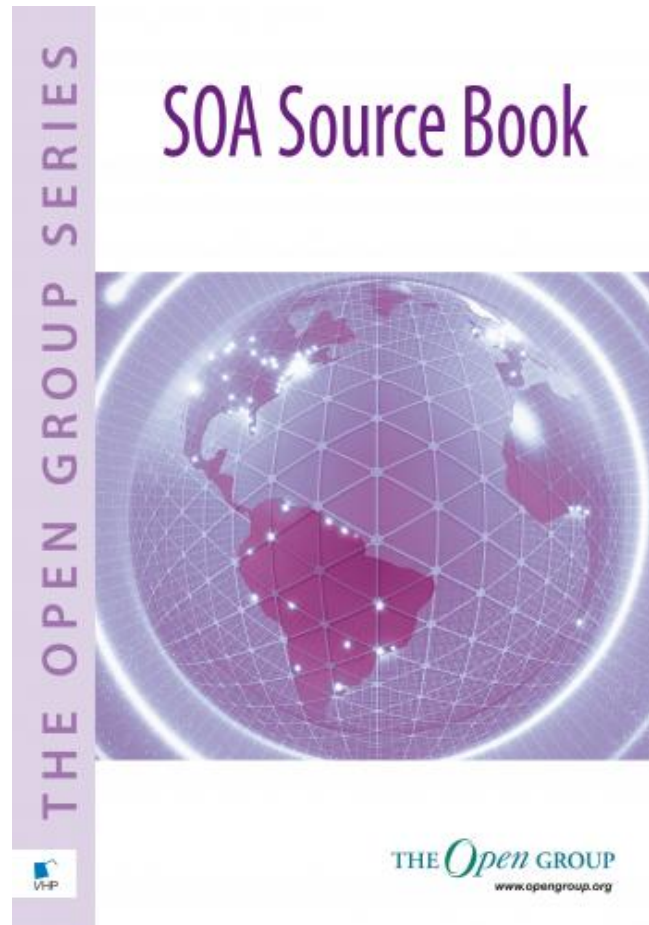
THE *Open* GROUP
Making standards work®

Service-Oriented Enterprise Architecture

Benefits of SOA

❑ Improved information flow

❑ Ability to expose internal functionality

❑ Organizational flexibility

❑ Lower software development and management costs

❑ Configuration flexibility

❑ Ability to optimize performance, functionality, and cost

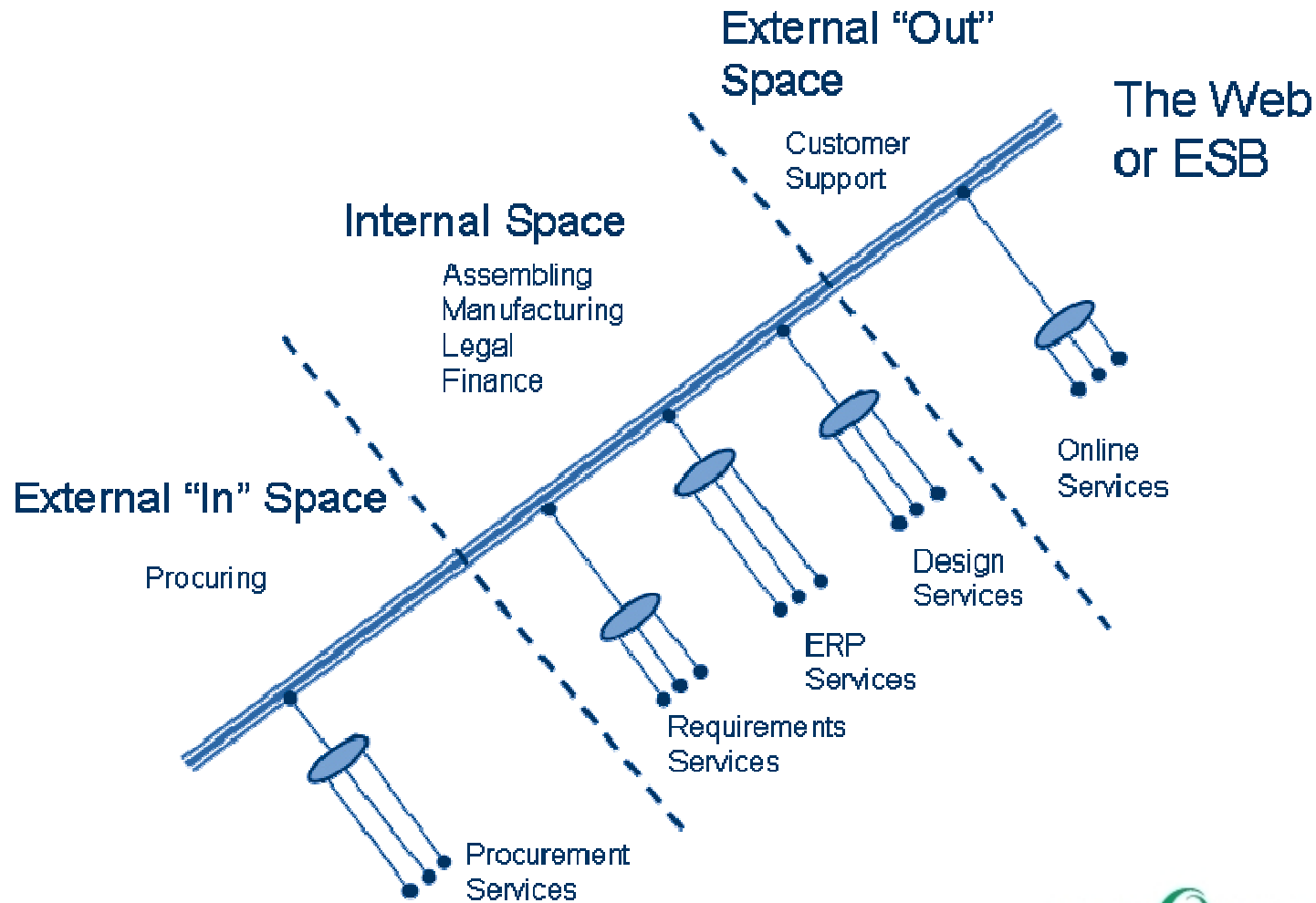❑ Easier introduction of system upgrades

❑ . . .

The SOA Source Book

What's In The Book

❑ **SOA**
  ▪ What is SOA? – SOA and EA – SOA and Boundaryless Information Flow – SOA Features and Benefits – Maturity Model

❑ **The SOA Reference Architecture**
  ▪ Conceptual Building Blocks – High-Level Perspective – Detailed Building Blocks – SOA Infrastructure

❑ **Service-Oriented Infrastructure**
  ▪ Overview – SOI Reference Model – Infrastructure Services – Virtualized Services

❑ **SOA and TOGAF**
  ▪ TOGAF for Enterprise SOA – TOGAF for SOA Solutions – Stakeholder Concerns in SOA – Information Architecture for SOA

❑ **SOA Governance**
  ▪ Introduction – SOA Governance Reference Model – SOA Governance Vitality Method

THE *Open* GROUP

Making standards work®

What's In The Book

- ☐ SOA
  - ▪ What is SOA? – SOA and EA – SOA and Boundaryless Information Flow – SOA Features and Benefits – Maturity Model
- ☐ The SOA Reference Architecture
  - ▪ Conceptual Building Blocks – High-Level Perspective – Detailed Building Blocks – SOA Infrastructure
- ☐ Service-Oriented Infrastructure
  - ▪ Overview – SOI Reference Model – Infrastructure Services – Virtualized Services
- ☐ SOA and TOGAF
  - ▪ TOGAF for Enterprise SOA – TOGAF for SOA Solutions – Stakeholder Concerns in SOA – Information Architecture for SOA
- ☐ SOA Governance
  - ▪ Introduction – SOA Governance Reference Model – SOA Governance Vitality Method

THE Open GROUP

Making standards work®

SOA and Boundaryless Information Flow

(C) The Open Group 2009

THE Open GROUP
Making standards work®

Features and Benefits

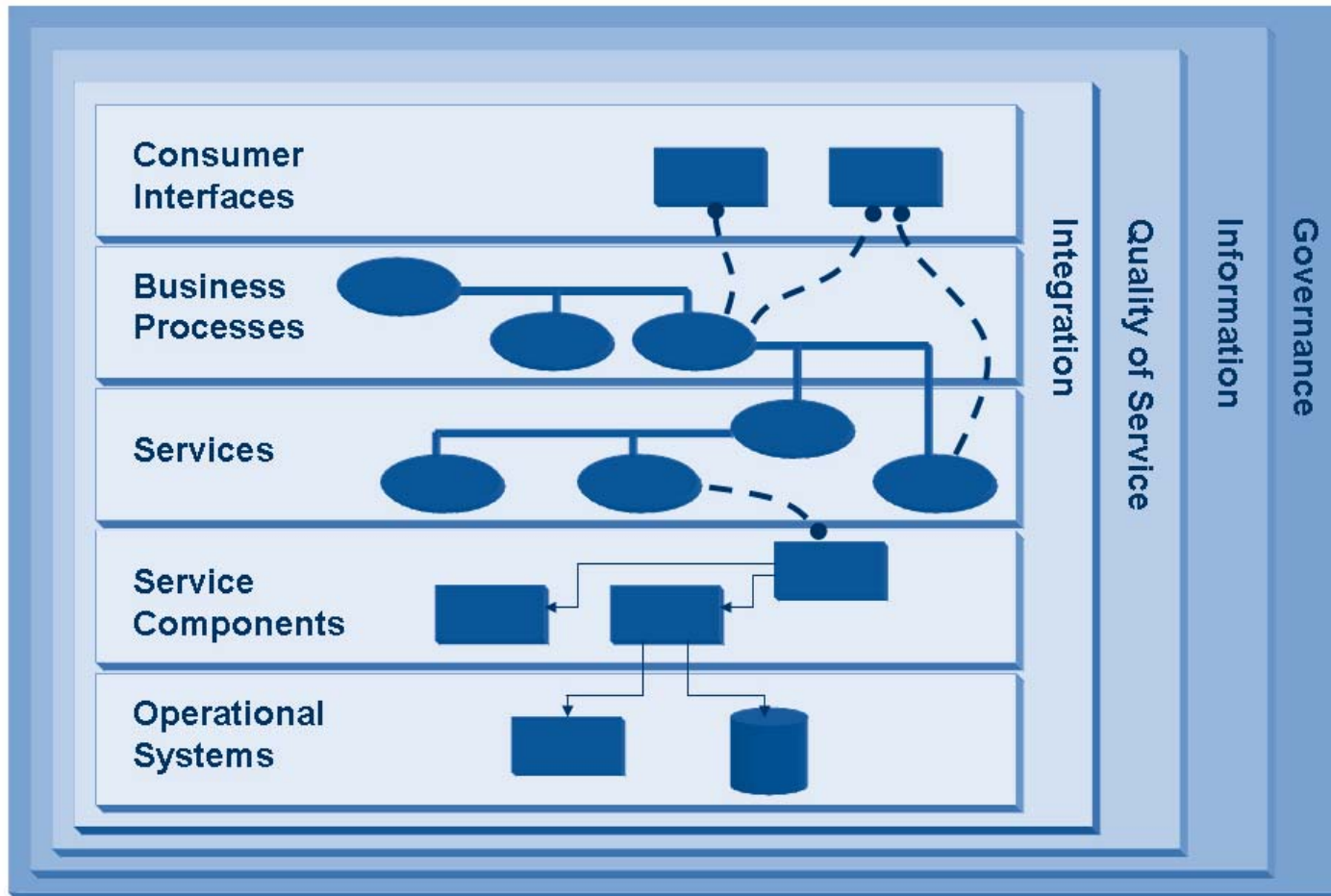| Feature	Benefits	Supporting Infrastructure
Service	Improved information flow Ability to expose internal functionality Organizational flexibility	
Service Re-use	Lower software development and management costs	Service repository
Messaging	Configuration flexibility	Messaging service
Message Monitoring	Business intelligence Performance measurement Security attack detection	Activity monitor

THE *Open* GROUP

Making standards work®

Maturity Model

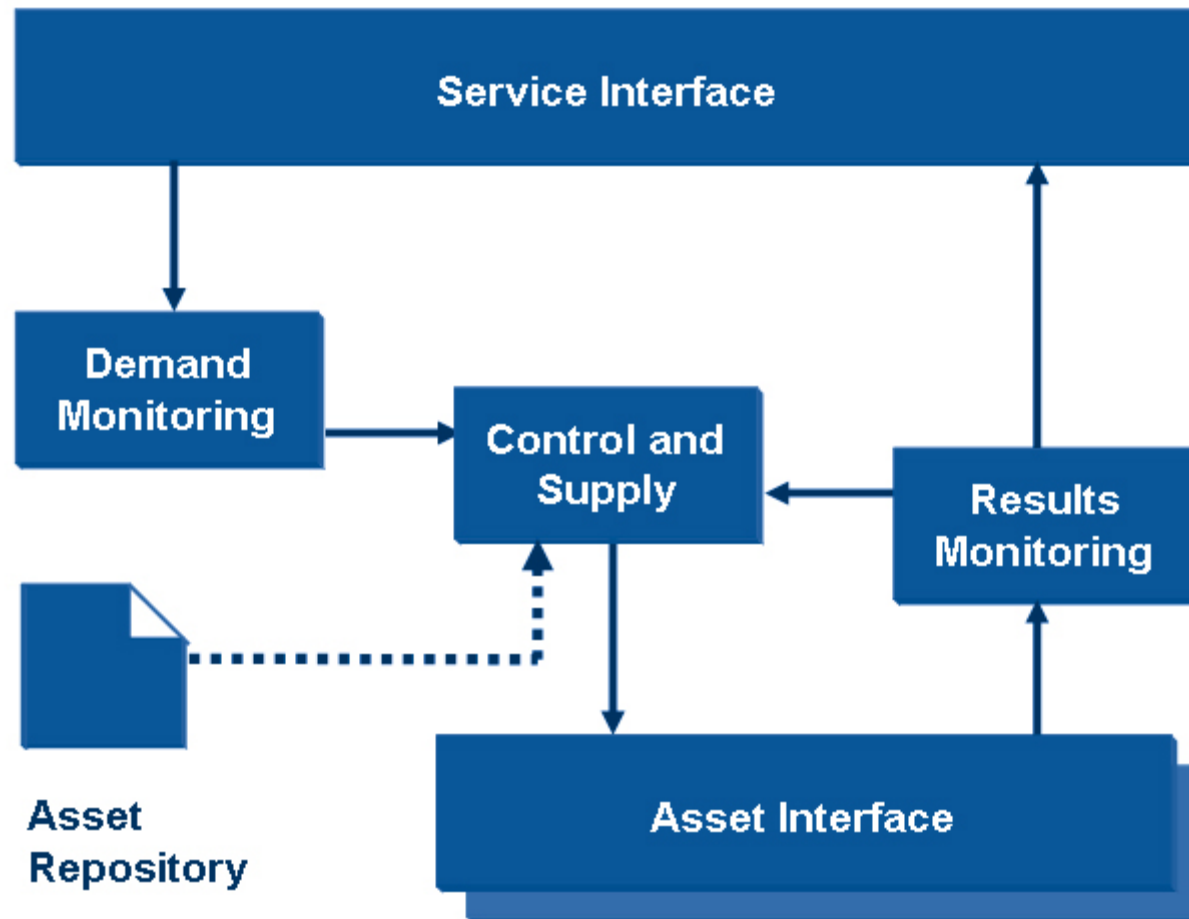|	Silo	Integrated	Componentized	Services	Composite Services	Virtualized Services	Dynamically Re-configurable Services
Business	Isolated Business Line-driven	Business Process Integration	Componentized Business	Componentized Business Offers Services	Processes through Service Composition	Geographical-independent Service Centers	Mix-and-match Business and Context-aware Capabilities
Organization	*Ad hoc* LOB IT Strategy & Governance	*Ad hoc* Enterprise IT Strategy & Governance	Common Governance Processes	Emerging SOA Governance	SOA and IT Governance Alignment	SOA and IT Infrastructure Governance Alignment	Governance through Policy
Methods	Structured Analysis & Design	Object-oriented Modeling	Component-based Development	Service-oriented Modeling	Service-oriented Modeling	Service-oriented Modeling for Infra (CDSP)	Business Grammar-oriented Modeling
Applications	Modules	Objects	Components	Services	Process Integration via Services	Process Integration via Services	Dynamic Assembly; Context-aware Invocation
Architecture	Monolithic Architecture	Layered Architecture	Component Architecture	Emerging SOA	SOA	Grid-enabled SOA	Dynamically Re-configurable Architecture
Information	Application-specific	LOB or Enterprise-specific	Canonical Models	Information as a Service	Enterprise Business Data Dictionary and Repository	Virtualized Data Services	Semantic Data Vocabularies
Infrastructure	LOB Platform-specific	Enterprise Standards	Common Re-usable Infrastructure	Project-based SOA Environment	Common SOA Environment	Virtual SOA Environment; S&R	Dynamic Sense, Decide & Respond
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7

THE *Open* GROUP
Making standards work®

What's In The Book

- □ SOA
  - What is SOA? – SOA and EA – SOA and Boundaryless Information Flow – SOA Features and Benefits – Maturity Model
- □ The SOA Reference Architecture
  - Conceptual Building Blocks – High-Level Perspective – Detailed Building Blocks – SOA Infrastructure
- □ Service-Oriented Infrastructure
  - Overview – SOI Reference Model – Infrastructure Services – Virtualized Services
- □ SOA and TOGAF
  - TOGAF for Enterprise SOA – TOGAF for SOA Solutions – Stakeholder Concerns in SOA – Information Architecture for SOA
- □ SOA Governance
  - Introduction – SOA Governance Reference Model – SOA Governance Vitality Method

THE *Open* GROUP

Making standards work ®

Reference Architecture

Detailed Model - Virtualization

THE *Open* GROUP

Making standards work ®

What's In The Book

- □ SOA
  - ▪ What is SOA? – SOA and EA – SOA and Boundaryless Information Flow – SOA Features and Benefits – Maturity Model

- □ The SOA Reference Architecture
  - ▪ Conceptual Building Blocks – High-Level Perspective – Detailed Building Blocks – SOA Infrastructure

- □ Service-Oriented Infrastructure
  - ▪ Overview – SOI Reference Model – Infrastructure Services – Virtualized Services

- □ SOA and TOGAF
  - ▪ TOGAF for Enterprise SOA – TOGAF for SOA Solutions – Stakeholder Concerns in SOA – Information Architecture for SOA

- □ SOA Governance
  - ▪ Introduction – SOA Governance Reference Model – SOA Governance Vitality Method

THE Open GROUP
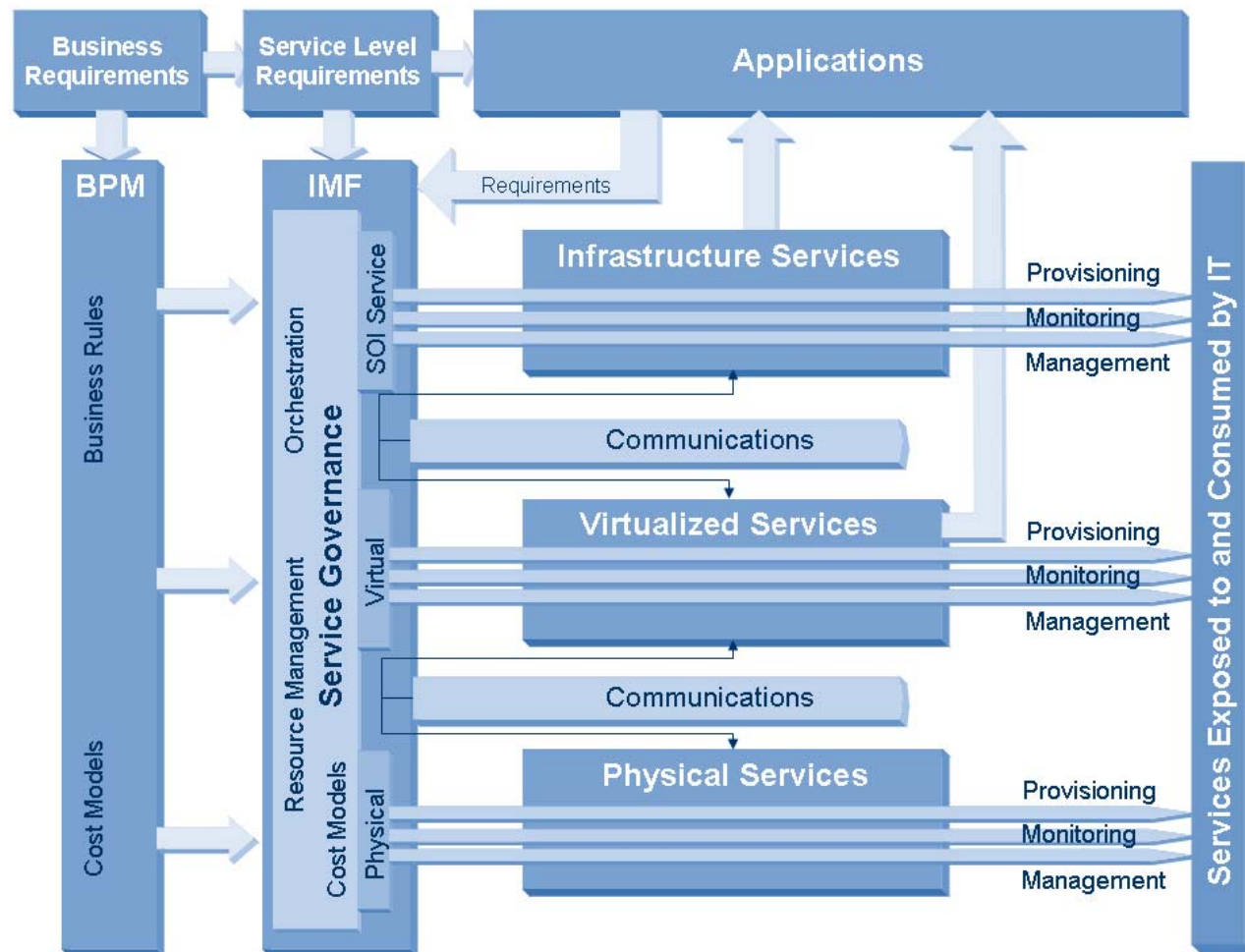*Making standards work*®

SOI Reference Model

THE Open GROUP

Making standards work®

What's In The Book

❑ SOA
- What is SOA? – SOA and EA – SOA and Boundaryless Information Flow – SOA Features and Benefits – Maturity Model

❑ The SOA Reference Architecture
- Conceptual Building Blocks – High-Level Perspective – Detailed Building Blocks – SOA Infrastructure

❑ Service-Oriented Infrastructure
- Overview – SOI Reference Model – Infrastructure Services – Virtualized Services

❑ SOA and TOGAF
- TOGAF for Enterprise SOA – TOGAF for SOA Solutions – Stakeholder Concerns in SOA – Information Architecture for SOA

❑ SOA Governance
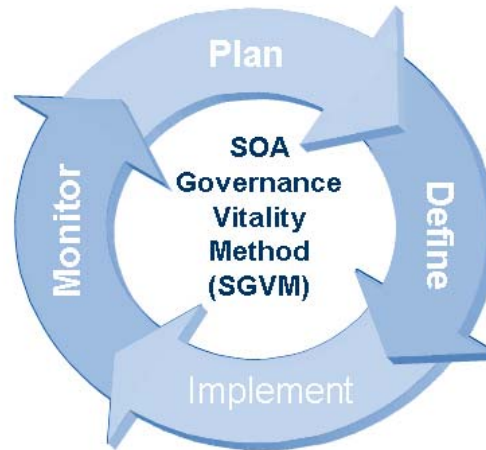- Introduction – SOA Governance Reference Model – SOA Governance Vitality Method

THE *Open* GROUP

Making standards work®

Concerns, Stakeholders and Models

Area of Concern	Stakeholders	Models and Phases	
Cost and ROI of operational systems	System Operations – Application Management	Service/Applications Matrix	C
Use of Applications	Project Organization – Product Specialists and Technical Specialists System Operations – Application Management	Service/Applications Matrix	C
Use of Infrastructure	Project Organization – Product Specialists and Technical Specialists System Operations – Infrastructure Management	Service/Technology Matrix	D
Service component functionality	Project Organization – Technical Specialists System Operations – Application Management	Service/Applications Matrix	C

THE Open GROUP
Making standards work®

What's In The Book

- SOA
  - What is SOA? – SOA and EA – SOA and Boundaryless Information Flow – SOA Features and Benefits – Maturity Model

- The SOA Reference Architecture
  - Conceptual Building Blocks – High-Level Perspective – Detailed Building Blocks – SOA Infrastructure

- Service-Oriented Infrastructure
  - Overview – SOI Reference Model – Infrastructure Services – Virtualized Services

- SOA and TOGAF
  - TOGAF for Enterprise SOA – TOGAF for SOA Solutions – Stakeholder Concerns in SOA – Information Architecture for SOA

- SOA Governance
  - Introduction – SOA Governance Reference Model – SOA Governance Vitality Method

THE *Open* GROUP

Making standards work®

SOA Governance

What's In The Book

- ❑ SOA
  - ▪ What is SOA? – SOA and EA – SOA and Boundaryless Information Flow – SOA Features and Benefits – Maturity Model
- ❑ The SOA Reference Architecture
  - ▪ Conceptual Building Blocks – High-Level Perspective – Detailed Building Blocks – SOA Infrastructure
- ❑ Service-Oriented Infrastructure
  - ▪ Overview – SOI Reference Model – Infrastructure Services – Virtualized Services
- ❑ SOA and TOGAF
  - ▪ TOGAF for Enterprise SOA – TOGAF for SOA Solutions – Stakeholder Concerns in SOA – Information Architecture for SOA
- ❑ SOA Governance
  - ▪ Introduction – SOA Governance Reference Model – SOA Governance Vitality Method

THE *Open* GROUP
Making standards work®

Future Developments

THE *Open* GROUP

Making standards work®

Future Developments for SOA

- Organic enterprise architecture
- Open Services Market

THE O*pen* GROUP
Making standards work®

Organic Architecture

Using Nature as our basis for design, a building or design must grow, as Nature grows, from the inside out. Most architects design their buildings as a shell and force their way inside. Nature grows from the idea of a seed and reaches out to its surroundings. A building thus, is akin to an organism and mirrors the beauty and complexity of Nature.

http://www.organicarchitect.com/organic/

Organic Enterprise Architecture

- Architecture that treats the enterprise as a living organism
- Emphasizes the principles and guidelines governing the design of the system and its evolution over time
- Architecture and implementation projects share artifacts and develop them jointly
- Incremental rather than waterfall development
- Governance is crucial
- Development environment is crucial

SOA lends itself to an organic approach

THE *Open* GROUP

Making standards work®

Integrated Development Environment

❑ Eclipse Process Framework Plugin for TOGAF™ 9

- Contains all the content of TOGAF 9 in a structured and editable form

- www.opengroup.org/architecture/togaf9/downloads.htm

THE *Open* GROUP
Making standards work®

Cloud Computing

Open Services Market

❑ Providers compete

❑ Services improve

❑ The market grows

❑ Enterprises focus on what they do best

THE *Open* GROUP
Making standards work®

Future Developments for The SOA Source Book

- The SOA Work Group is producing standards and guides
  - Governance
  - Ontology
  - Reference Architecture
  - Practical Guide
  - Service-Oriented Infrastructure
  - . . .
- The Source Book will evolve to reflect this body of work

THE *Open* GROUP

Making standards work®

In Conclusion

THE *Open* GROUP

Making standards work®

What the Analysts Say

- **Burton Group: SOA is Dead**
  - SOA efforts have made things worse, not better: costs are higher, projects take longer, and systems are more fragile than ever.

- **Forrester: SOA is Mainstream**
  - In large measure, the truth has lived up to the hype. SOA extends the life of legacy systems, improves application flexibility, and delivers business agility.

- **Gartner: SOA Is Emerging from the Trough**
  - SOA is emerging from the Trough of Disillusionment, and it is climbing the Slope of Enlightenment. It will be inevitable for most organizations, despite some high-profile failures.

THE **Open** GROUP
Making standards work®

What The Open Group Says

- ❏ SOA has come of age.
  - ■ SOA is now a mature style of enterprise architecture.
  - ■ It is effective and delivers real benefits.
  - ■ But it is not easy to use.

The SOA Source Book

- Enterprise architecture perspective on SOA
  - TOGAF
- A practical resource to help architects do SOA
- Best practice
  - From the SOA Work Group

THE *Open* GROUP

Making standards work®

The Future

❑ The value of SOA will grow

  ▪ Organic enterprise architecture

  ▪ Open services market

❑ The Source Book will evolve

THE **O**pen GROUP

Making standards work®

Helping Enterprise Architects do SOA for Open Systems

SOA Source Book

THE OPEN GROUP SERIES

THE Open GROUP
www.opengroup.org

❑ Open Systems
❑ Interoperability
❑ Boundaryless Information Flow

Available from Van Haren Publishers and on-line at
www.opengroup.org/projects/soa-book

THE **Open** GROUP
Making standards work®

SOA Comes of Age

Thank You!

THE *Open* GROUP
Making standards work®