

#### Module Objectives

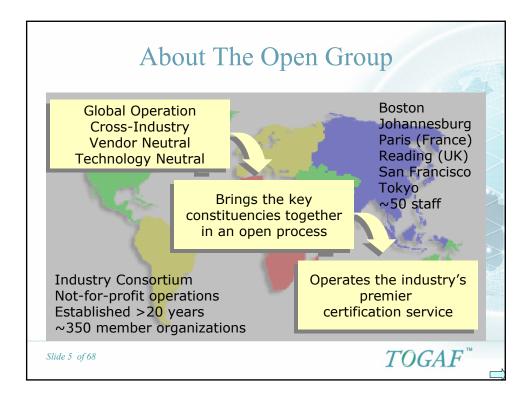
- To provide a management overview of TOGAF 9
  - The Open Group
  - The Architecture Forum
  - Why enterprise architecture
  - Why a framework
  - TOGAF 9
  - TOGAF 9 Certification
  - Summary

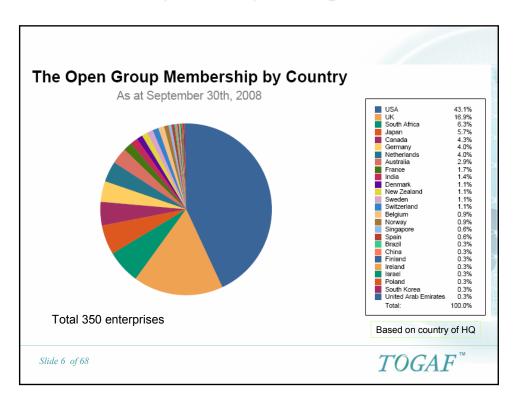
Slide 3 of 68

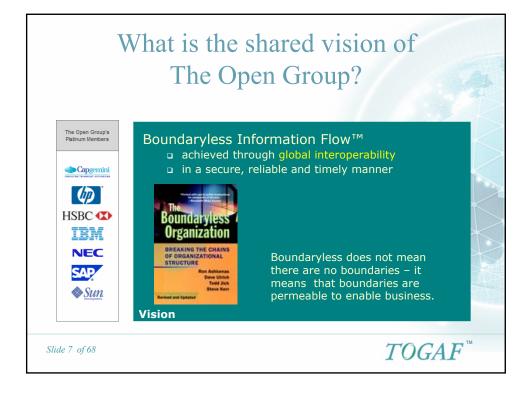
**TOGAF** 

#### © 2009 The Open Group, All Rights Reserved

# Outline • The Open Group • The Architecture Forum • Why Enterprise Architecture • Why a Framework • TOGAF 9 • TOGAF 9 Certification • Summary







#### © 2009 The Open Group, All Rights Reserved

# How Important... • Not having Boundaryless Information Flow where systems interoperate, i.e. easily exchange information and use that information to improve operations, is causing organizations real pain \* - 100s of millions in lost opportunities - Billions spent to make systems interoperate or to recover from mistakes - The risks are not only financial but deal with lost lives • Hospitals, 911/999 systems, Critical infrastructure, Air Traffic Control... \* respondents to survey taken at conference

#### What is The Open Group's role?

#### Customers

- Articulate current and emerging requirements, establish policies, and share best practices
- Provide feedback on deliverables

#### Suppliers

 Develop consensus to evolve and integrate specifications and open source technologies and deliver open standards

#### · Other consortia and standards bodies

 Collaborate openly when it is in the best interest of their and our members or the industry generally, and share information freely

#### Staff

- Support the work of the members
- Offer a comprehensive set of services to enhance the operational efficiency of other consortia; and
- Develop and operate the industry's premier certification service and encouraging the market adoption of certified products and people

Slide 9 of 68

TOGAF"

#### © 2009 The Open Group, All Rights Reserved

#### Activities

- · Board work groups
  - IT Architect Certification
  - IT Specialist Certification
- Councils
  - Customer Council, Supplier Council
- · Member Forums
  - Architecture ArchiMate®
  - Enterprise Management,
  - Real Time & Embedded,
  - Security and Identity Management, "Jericho" (de-perimiterisation)
- Work Groups
  - Business Architecture
  - Semantic Interoperability, including
    - Universal Data Element Framework (UDEF)
  - Service Oriented Architecture (SOA)
- Technical Working Groups
  - Platform, Base Working Group



Slide 10 of 68

## Forums/Work Areas of The Open Group

- · Meeting points for Suppliers and Buyers
- Each Forum is effectively an autonomous consortium operating within The Open Group
  - Direction determined by members
  - Outputs approved by members
  - Must obey some rules to respect anti-trust legislation
- Forums initiate new areas of work, often in partnership with other Forums
  - ...leading to industry standards
  - ...leading to certification programs based on those standards

Slide 11 of 68

TOGAF

#### © 2009 The Open Group, All Rights Reserved

#### How members work

- Mostly virtual
  - E-mail, teleconference, web conference
- Collaboration infrastructure
  - Track activities for projects, forums etc
- Quarterly Global Member Meetings
- · Local Member Meetings

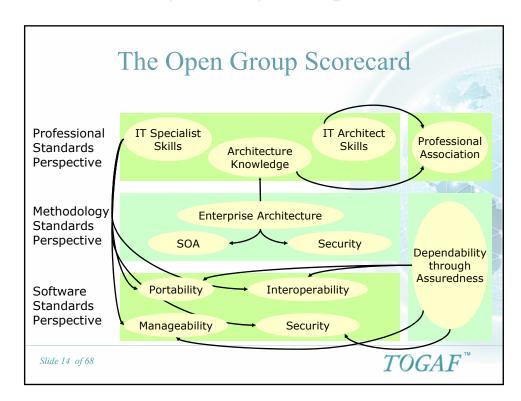
Key Deliverables

- Open Standards
  - Professional
  - Process and methodology
  - Software, technical
- Certification of conformance to standards
- Conferences and events global and local

Slide 12 of 68

 $TOGAF^{^{\mathsf{m}}}$ 





Slide 15 of 68

## Outline The Open Group The Architecture Forum Why Enterprise Architecture Why a Framework TOGAF 9 TOGAF 9 Certification Summary

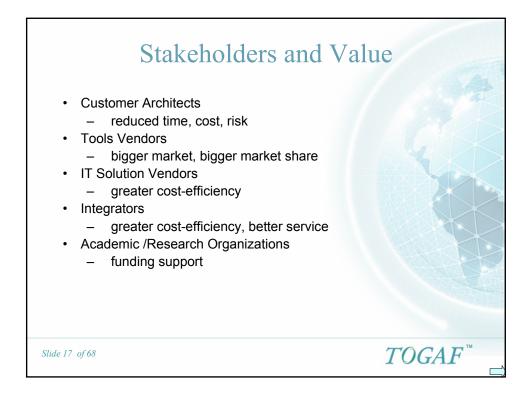
#### © 2009 The Open Group, All Rights Reserved

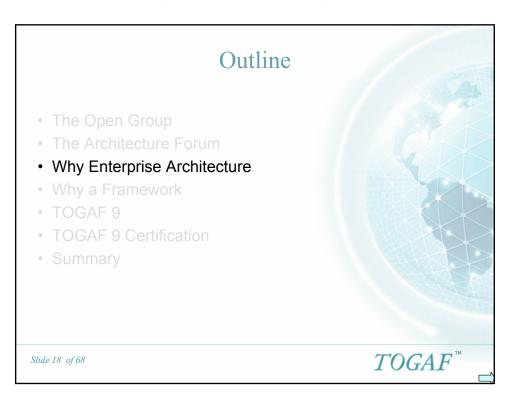
#### Architecture Forum – Vision

- · An effective open framework and method for architecture
- · Architecture as a professional discipline
- Adequate "Commercial Off-The-Shelf" architecture tools

Slide 16 of 68 TOGAF

**TOGAF** 





#### What is an Enterprise?

- Collection of organizations that share a common set of goals
  - Government agency
  - Part of a corporation
  - Corporation
- Large corporations may comprise multiple enterprises
- May be an "extended enterprise" including partners, suppliers and customers

Slide 19 of 68

TOGAF

#### © 2009 The Open Group, All Rights Reserved

#### What is an Architecture?

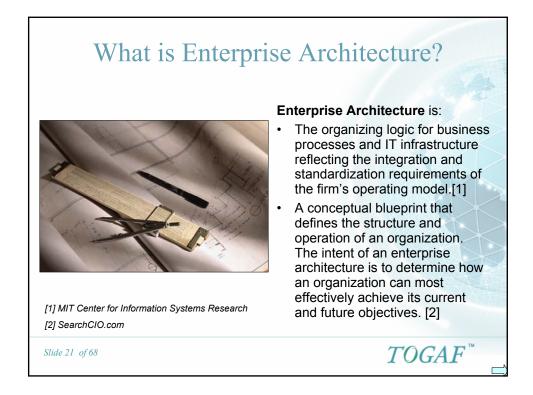


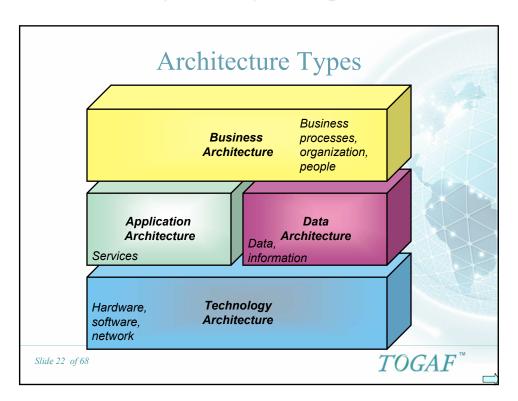
- An Architecture is the fundamental organization of something, embodied in:
  - its components,
  - their relationships to each other and the environment,
  - and the principles governing its design and evolution.

Adapted from ANSI/IEEE Standard 1471-2000

Slide 20 of 68

 $TOGAF^{\mathsf{m}}$ 





#### Why Enterprise Architecture?

- Effective management and exploitation of information through IT is key to business success
- Good information management = competitive advantage
- Current IT systems do not really meet the needs of business
  - Fragmented, duplicated
  - Poorly understood
  - Not responsive to change
- Investment in Information Technology
  - Focussed on system maintenance
  - Tactical developments rather than a strategic plan

Slide 23 of 68

TOGAF

#### © 2009 The Open Group, All Rights Reserved

#### Why Enterprise Architecture?

- Two key reasons why you need an enterprise architecture:
  - Critical to business survival and success
  - Enables managed innovation within the enterprise

Slide 24 of 68

TOGAF"

### Pressure to develop Enterprise Architecture

- · Laws and regulations
  - Clinger-Cohen Act (US Information Technology Management Reform Act 1996)
  - EU Directives on the Award of Public Contracts
  - Sarbanes-Oxley
- · More extended enterprises
- More co-operative IT operations
- · Greater publicity to failures
- · Increase in litigation
- · Audit requirements

Slide 25 of 68

TOGAF

#### © 2009 The Open Group, All Rights Reserved

## Business Benefits of Enterprise Architecture

- It helps an organization achieve its business strategy
- Faster time to market for new innovations and capabilities
- More consistent business processes and information across business units
- More reliability and security, less risk

Source: "Why Enterprise Architecture Matters?", The Open Group White Paper, W076

Slide 26 of 68

 $TOGAF^{\mathsf{m}}$ 

#### IT Benefits of Enterprise Architecture

- · Better traceability of IT costs
- Lower IT costs design, buy, operate, support, change
- · Faster design and development
- Less complexity
- · Less IT risk

Source: "Why Enterprise Architecture Matters?". The Open Group White Paper, W076

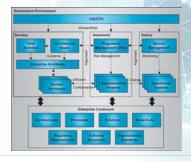
Slide 27 of 68

**TOGAF** 

#### © 2009 The Open Group, All Rights Reserved

#### The Importance of Governance

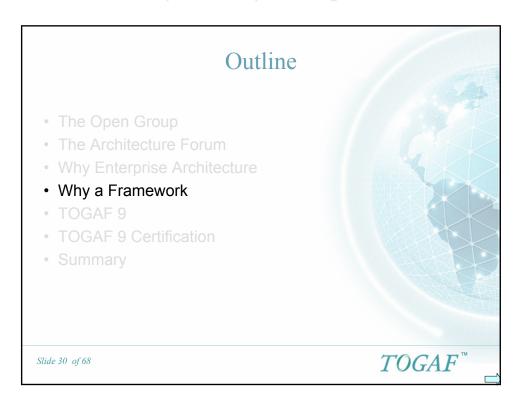
- An Enterprise Architecture is only as good as the decision making framework that is established around it → "governance" framework
- The Governance Framework depends on
  - Clear authority structure
  - The right participants



Slide 28 of 68

TOGAF"

# What do we mean by Governance? The way in which decisions are made Who is responsible? Who is involved? Who is accountable?



#### What is an Architecture Framework?

- An architecture framework is a toolkit which can be used for developing a broad range of different architectures.
- It should describe a method for designing an information system in terms of a set of building blocks, and for showing how the building blocks fit together.
- It should contain a set of tools and provide a common vocabulary.
- It should also include a list of recommended standards and compliant products that can be used to implement the building blocks.

Slide 31 of 68

TOGAF"

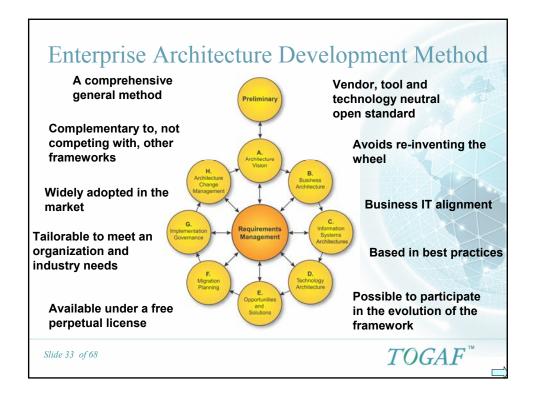
#### © 2009 The Open Group, All Rights Reserved

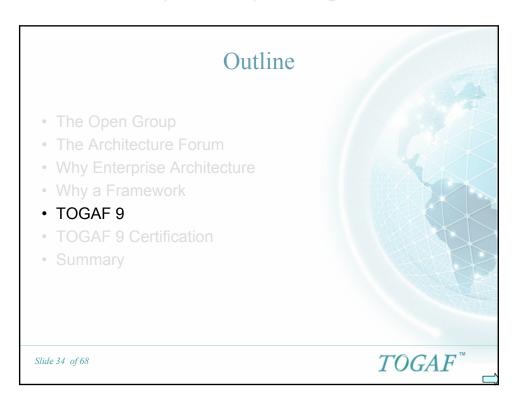
#### The Value of a Framework

- Provides a practical starting point for an Architecture Project
  - Avoids the initial panic when the scale of the task becomes apparent
  - Systematic "Codified common sense"
  - Captures what others have found to work in real life
  - Contains a Baseline set of resources for reuse

*Slide 32 of 68* 

TOGAF™





#### **TOGAF Origins**

- A customer initiative
- · A framework, not an architecture
  - A generic framework for developing architectures to meet different business needs
  - Not a "one-size-fits-all" architecture
- Originally based on TAFIM (U.S. DoD)

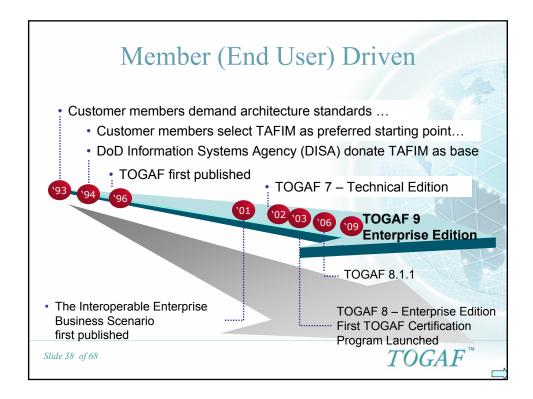
Slide 35 of 68

**TOGAF** 

#### © 2009 The Open Group, All Rights Reserved

#### **TOGAF** Development 1994 Requirement Proof of need 1995 **TOGAF Version 1** Proof of concept **TOGAF Version 2** Proof of application 1996 1997 **TOGAF Version 3** Relevance to practical architectures (building blocks) 1998 **TOGAF Version 4** Enterprise Continuum (TOGAF in context) 1999 **TOGAF Version 5** Business Scenarios (architecture requirements) TOGAFSlide 36 of 68

	TOGAF	Development
2000	TOGAF Version 6	Architecture Views (IEEE Std 1471)
2001	TOGAF Version 7	Architecture Principles; Compliance Reviews
2002	TOGAF Version 8	Extension to Enterprise Architecture
2003	TOGAF Version 8.1	Requirements Management; Governance; Maturity Models; Skills Framework
2006	TOGAF Version 8.1.1	Technical Corrigendum 1 applied
2009	TOGAF Version 9	Evolutionary restructure; Architecture Content Framework
lide 37 of 68		TOGAF



#### **TOGAF Scope**

- TOGAF emphasizes business goals as architecture drivers, and provides a repository of best practice, including:
  - TOGAF Architecture Development Method (ADM)
  - ADM Guidelines & Techniques
  - TOGAF Architecture Content Framework
  - Enterprise Continuum
  - TOGAF Reference Models
  - TOGAF Capability Framework

Slide 39 of 68

TOGAF

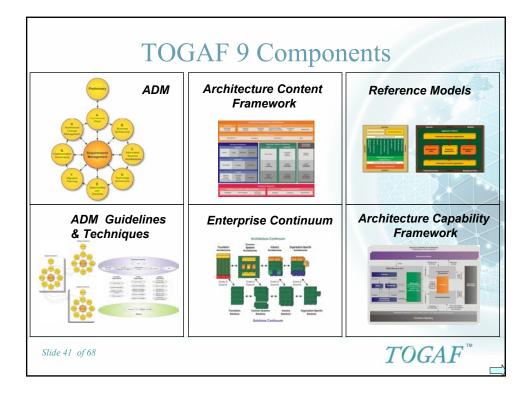
#### © 2009 The Open Group, All Rights Reserved

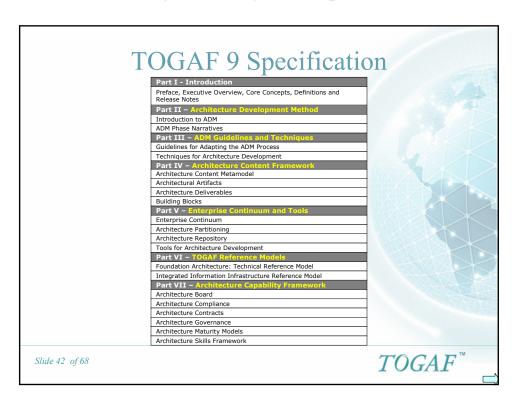
#### TOGAF 9 Goals

- Long-term:
  - An industry standard, generic enterprise architecture method....
  - ....usable on its own or in conjunction with frameworks having products relevant/specific to particular sectors.
    - · Several frameworks have mind share:
      - Zachman, Spewak, DoD Framework, FEAF, TEAF, ...
    - · Almost all focus on products, not method
    - TOGAF and.... (not TOGAF or....)
- Version 9:
  - An evolution from TOGAF 8.1.1. Closer alignment with the business. Restructuring for ease of use. Overall structure and core method for enterprise architecture that can be filled out in future years.

*Slide 40 of 68* 

TOGAF





#### **TOGAF 9 Components**

- Architecture Development Method (ADM)
  - An iterative sequence of steps to develop an enterprise-wide architecture
- ADM Guidelines and Techniques
  - Guidelines and techniques to support the application of the ADM
- Architecture Content Framework
  - A detailed model of architectural work products, including deliverables, artifacts within deliverables, and the Architecture Building Blocks (ABBs) that deliverables represent.

Slide 43 of 68

TOGAF

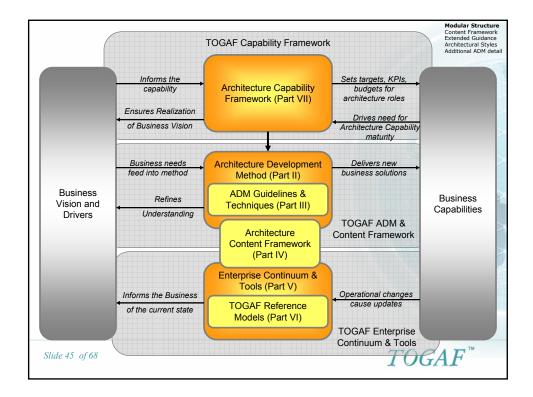
#### © 2009 The Open Group, All Rights Reserved

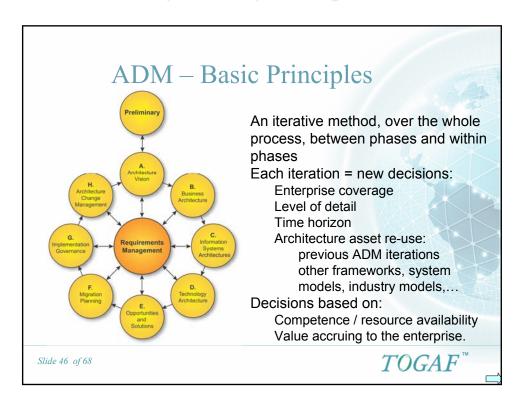
#### **TOGAF 9 Components**

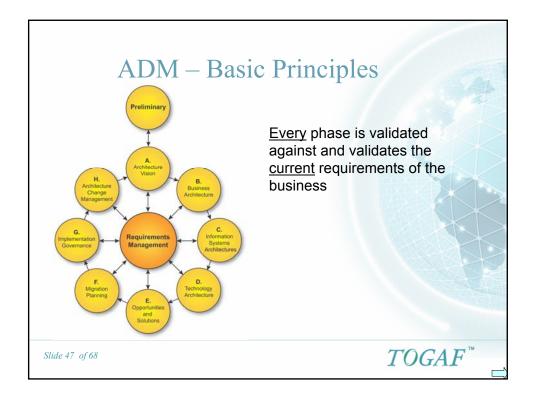
- · The Enterprise Continuum
  - A model for structuring a virtual repository and methods for classifying architecture and solution artifacts
- TOGAF Reference Models:
  - The TOGAF **Technical Reference Model** (TRM)
  - The Integrated Information Infrastructure Model (III-RM).
- The Architecture Capability Framework
  - A structured definition of the organizations, skills, roles and responsibilities to establish and operate an Enterprise Architecture.

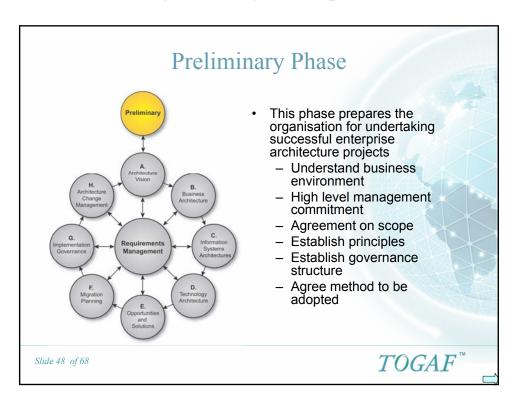
Slide 44 of 68

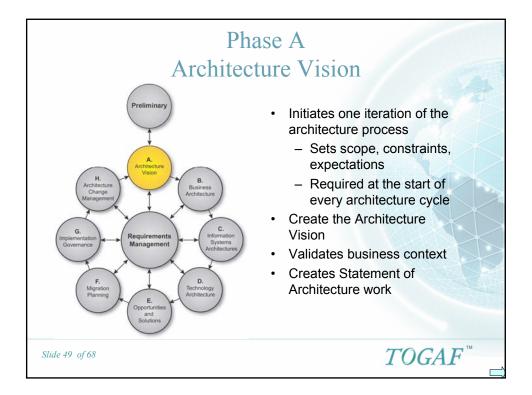
TOGAF

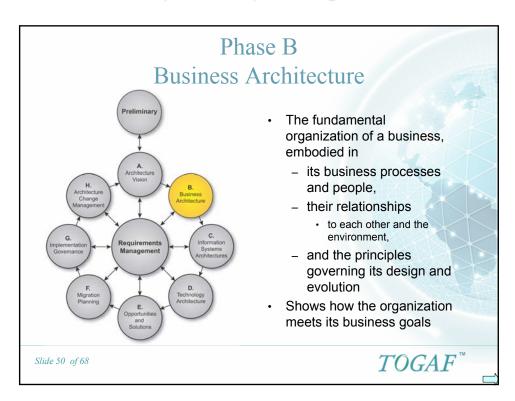


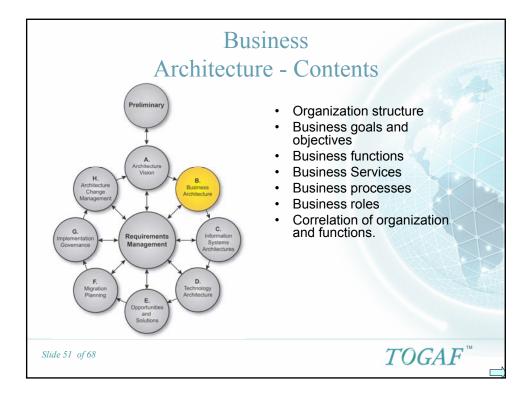


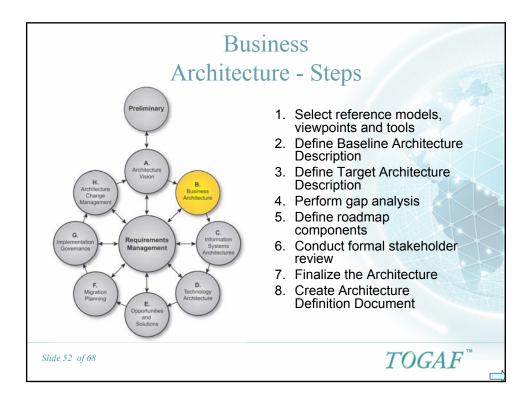


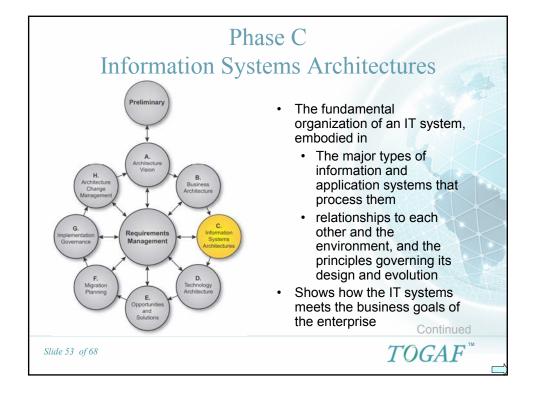


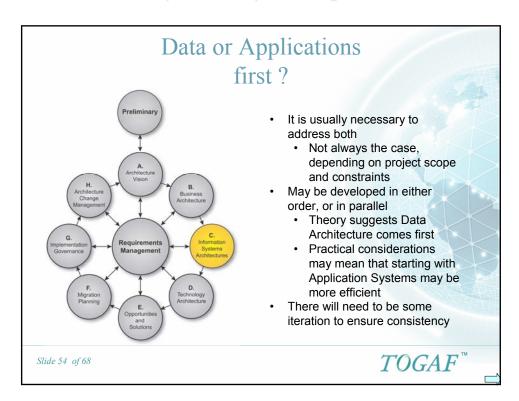


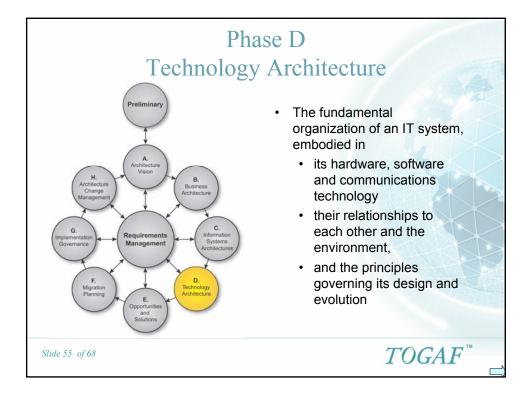


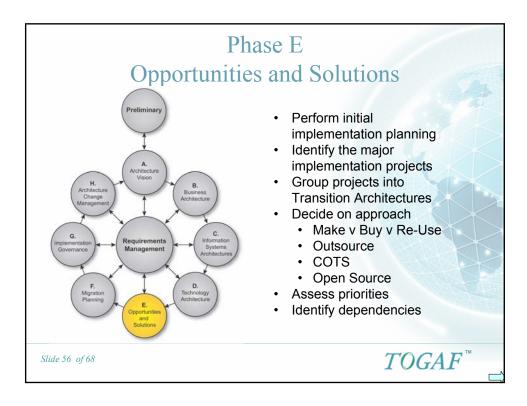


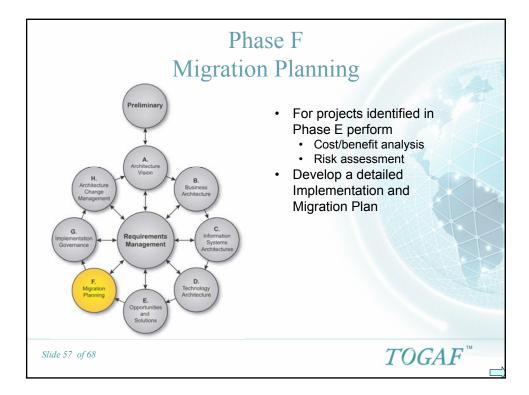


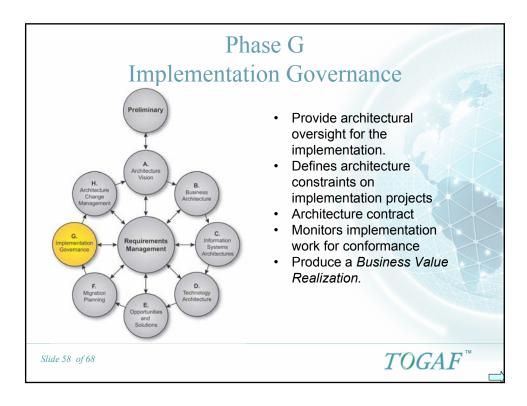


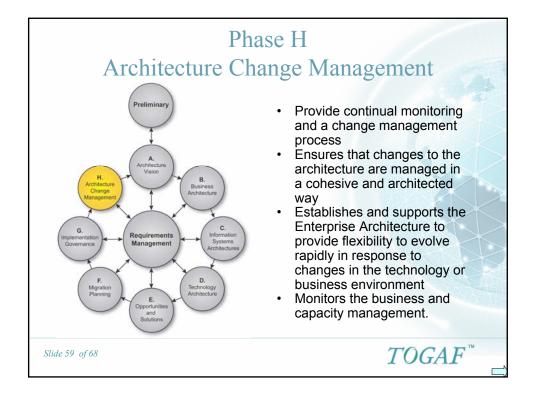


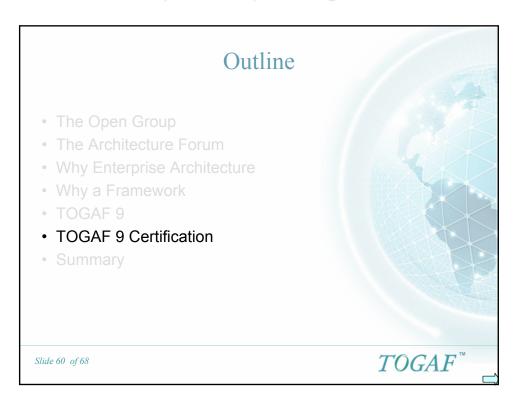












Certification Level	Purpose
TOGAF 9 Foundation	To provide validation that the candidate has gained knowledge of the terminology and basic concepts of TOGAF 9 and understands the core principles of Enterprise Architecture and TOGAF
TOGAF 9 Certified	To provide validation that in addition to knowledge and comprehension, the candidate is able to analyze and apply knowledge of TOGAF

#### © 2009 The Open Group, All Rights Reserved

## TOGAF Foundation Target Audience

- Individuals who require a basic understanding of TOGAF 9
- Professionals who are working in roles associated with an architecture project such as those responsible for planning, execution, development, delivery and operation
- Architects who are looking for a first introduction to TOGAF 9
- Architects who want to achieve Level 2 certification in a stepwise approach.

Slide 62 of 68

TOGAF"

## TOGAF Certified Target Audience

- Individuals who require a deeper understanding of TOGAF 9;
- Professionals who are working in an organization where TOGAF 9 has been adopted and who need to participate in architecture projects and initiatives;
- Architects who will be responsible for developing architecture artifacts;
- Architects who wish to introduce TOGAF 9 into an architecture practice;
- Architects who want to achieve a recognized qualification to demonstrate their detailed knowledge of TOGAF 9.

Slide 63 of 68

TOGAF

#### © 2009 The Open Group, All Rights Reserved

#### Some Figures about TOGAF

- Developed by 300+ organisations worldwide involved in its development
  - Large IT users
  - IT vendors
  - System Integrators
  - Academics
- · Used in major IT projects worldwide
  - IBM, EDS, HP, Sun, Infosys, .....
- · Community of knowledgeable TOGAF practitioners
  - More than 7500 certified
- · Supported by Architecture Tools

Slide 64 of 68

 $TOGAF^{\mathsf{m}}$ 

#### Outline

- The Open Group
- The Architecture Forum
- Why Enterprise Architecture
- Why a Framework
- TOGAF 9
- TOGAF 9 Certification
- Summary

Slide 65 of 68

TOGAF

#### © 2009 The Open Group, All Rights Reserved

#### TOGAF 9 Summary

- An effective, industry standard framework and <u>method</u> for enterprise architecture.
- Complementary to, not competing with, other enterprise frameworks
- A repository of best practice
  - "Demystifies" architecture development
- Vendor, tool, and technology neutral
- A framework and method for achieving the "Boundaryless Information Flow" vision

*Slide 66 of 68* 

TOGAF

#### For More Information . .

- · The TOGAF Web Site
  - <a href="http://www.opengroup.org/togaf/">http://www.opengroup.org/togaf/</a>
- The Architecture Forum
  - http://www.opengroup.org/architecture/
- TOGAF Version 9 on-line
  - http://www.opengroup.org/architecture/togaf9-doc/arch/
- TOGAF Version 9 licensing and downloads
  - http://www.opengroup.org/togaf/

Slide 67 of 68

TOGAF™

