TOGAF™ : A Comprehensive Overview

THE Open GROUP

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Agenda

- Open Group *Fast Facts* and Vision

- Background on TOGAF™

- TOGAF™ Version 9

- TOGAF™ 9 Certification

- Q&A

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The Open Group: Fast Facts

- Consortium > 25 years
- Over 7,800 participants from 350 member enterprises

- Vendor neutral   *1 member – 1 vote*
- Technology neutral

- A trusted partnership between end user enterprises (Customers) and suppliers of IT products and services (Suppliers)
- Driven by what members want to work on

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The Open Group Members – Sample
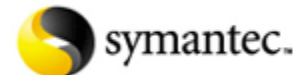
Open Group Vision

- ❑ ***Boundaryless Information Flow™*** achieved through global interoperability in a secure, reliable and timely manner

- ❑ ***Enterprise Architecture*** is a critical element for making the vision a reality

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What is TOGAF™?

- **TOGAF™ is a framework for delivering Enterprise Architecture**
    - A customer initiative rooted in best practices
    - 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)

TOGAF 9

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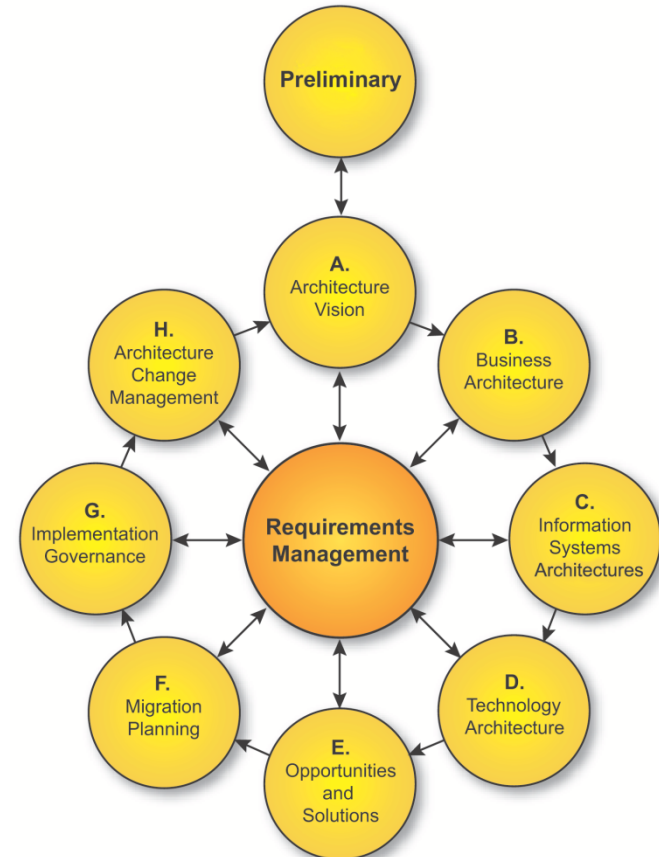
Member (End User) Driven

- Customer members demand architecture standards …
  - Customer members select TAFIM as preferred starting point…
  - DoD Information Systems Agency (DISA) donate TAFIM as base
  - TOGAF first published

TOGAF 7 – Technical Edition

'93 '94 '96 '01 '02 '03 '06 '09

TOGAF 9
Enterprise Edition

TOGAF 8.1.1

- The Interoperable Enterprise Business Scenario first published

TOGAF 8 – Enterprise Edition
First TOGAF Certification Program Launched

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Why TOGAF?

A comprehensive general method

Complementary to, not competing with, other frameworks

Widely adopted in the market

Tailorable to meet an organization and industry needs

Available under a free perpetual license

Vendor, tool and technology neutral open standard

Avoids re-inventing the wheel

Business IT alignment

Based in best practices

Possible to participate in the evolution of the framework

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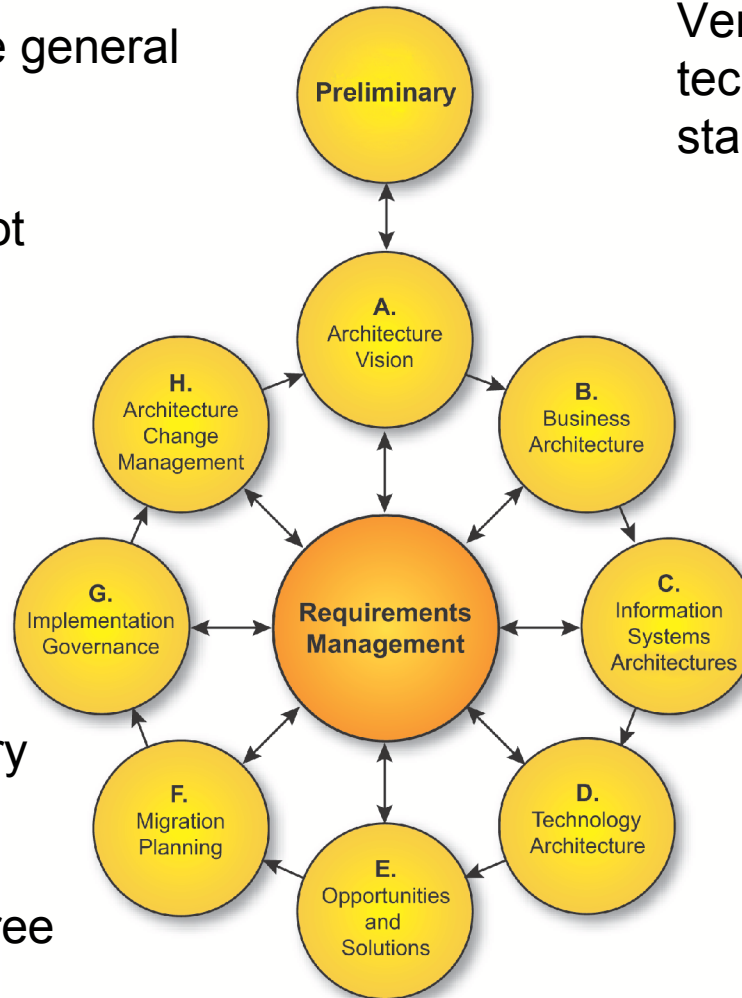
TOGAF™ Momentum

- More than 90,000 downloads

- Over 9,000 certified practitioners
  - 529% growth since October 2006

- More than 200 corporate members of The Open Group Architecture Forum

- Over 23,000 TOGAF™ series books shipped

- Association of Open Group Enterprise Architects membership at more that 8,500

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TOGAF Certified Status
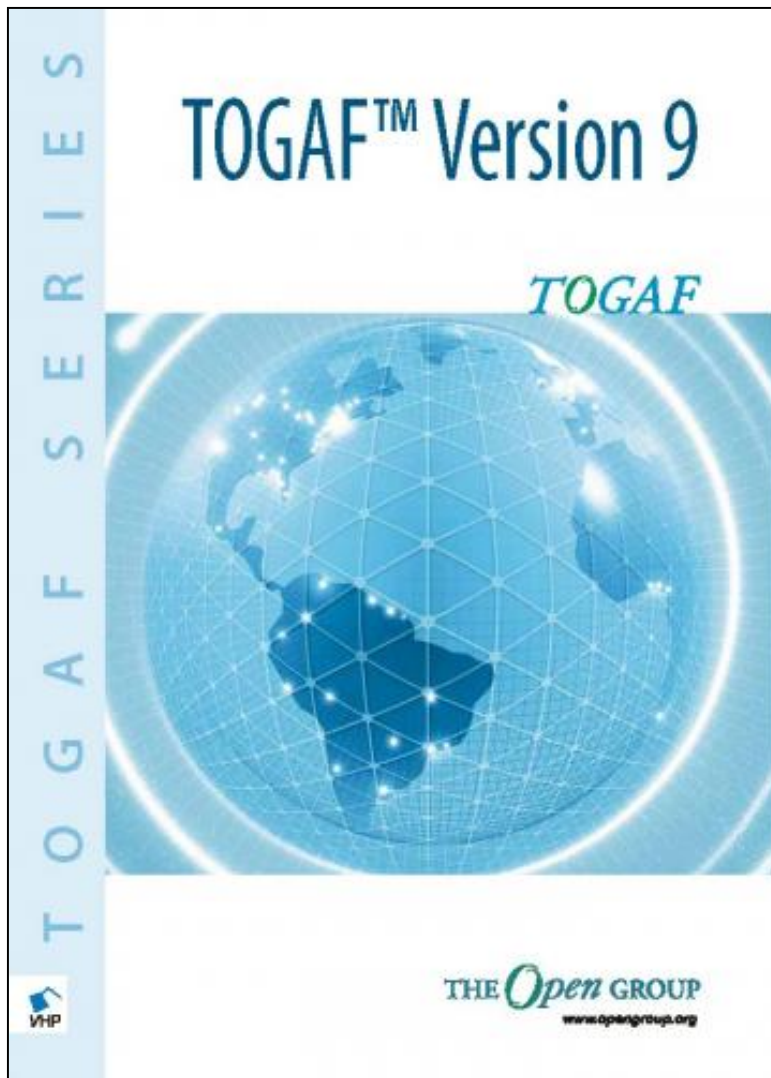
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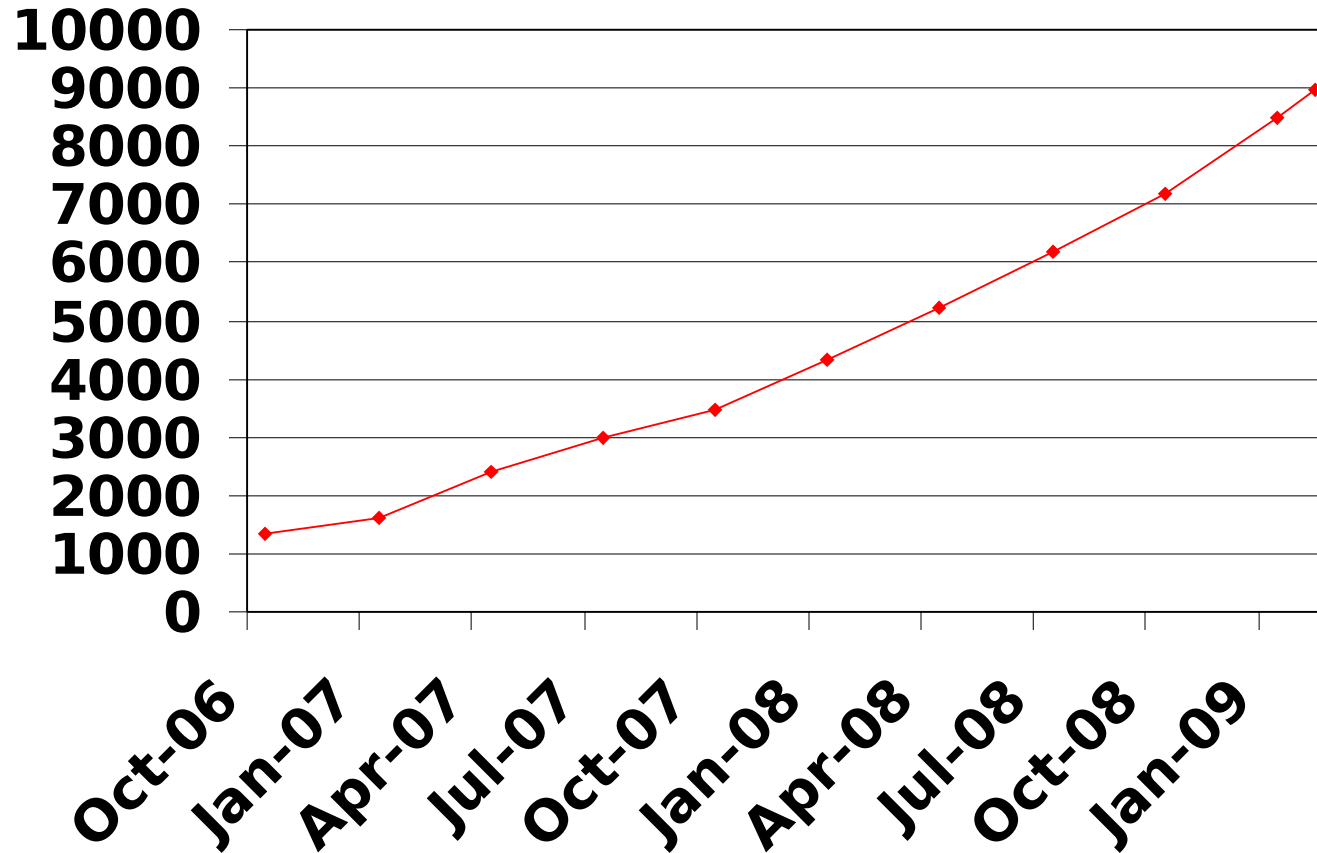
TOGAF™ 9 Market Drivers

- Ongoing quest for Boundaryless Information Flow™
- In a survey of members, the three most prominent views:
  - The need for closer alignment with the business
  - The desire for simple implementation, greater usability
  - The next version of TOGAF should be an evolution rather than a revolution
- Consideration for different architectural styles, e.g. SOA
- Security is an increasing concern for CIOs and Enterprise Architects due to disappearance of traditional boundaries
- Need for greater detail on Architecture Development Method (ADM)

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Introducing TOGAF™ 9

- Developed, reviewed and approved by a collaborative of 300 members from some of the world's leading IT customers and vendors

- An evolution from TOGAF 8.1.1 that preserves existing investments
  - The core Architecture Development Method
  - Existing investment in people - knowledge and skills
  - Existing investment in tools

- Expanded detail and clarification of existing proof points

- Restructured for better usability

- More focused on holistic enterprise change

- Clear links between business and IT objects

- Increased consistency of output

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TOGAF™ Version 9

TOGAF SERIES

TOGAF

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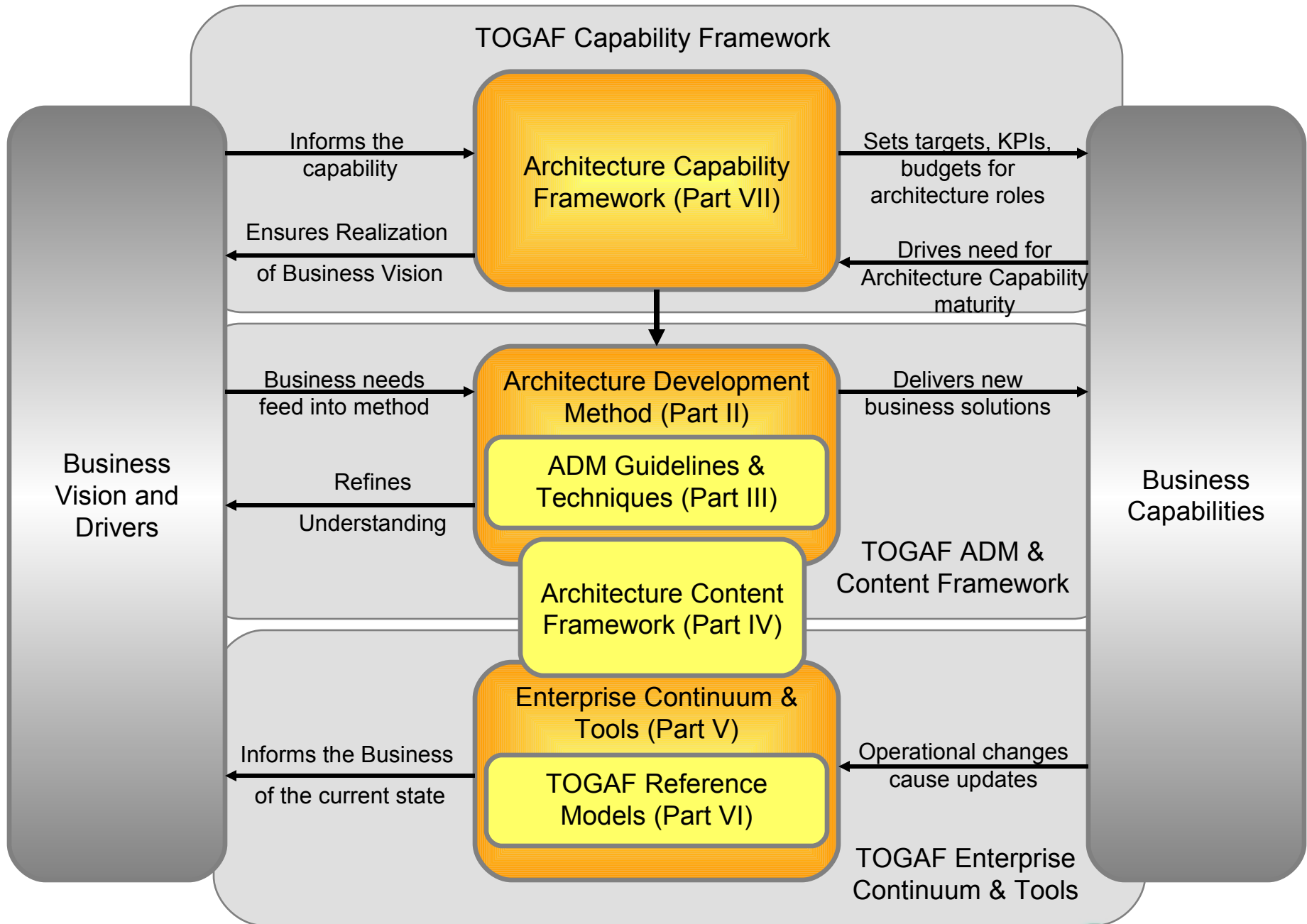| Part I - Introduction |
|---|
| Preface, Executive Overview, Core Concepts, Definitions and Release Notes |
| **Part II – Architecture Development Method** |
| Introduction to ADM |
| ADM Phase Narratives |
| **Part III – ADM Guidelines and Techniques** |
| Guidelines for Adapting the ADM Process |
| Techniques for Architecture Development |
| **Part IV – Architecture Content Framework** |
| Content Metamodel |
| Architectural Artifacts |
| Architecture Deliverables |
| Building Blocks |
| **Part V – Enterprise Continuum and Tools** |
| Enterprise Continuum |
| Architecture Partitioning |
| Architecture Repository |
| Tools for Architecture Development |
| **Part VI – TOGAF Reference Models** |
| Foundation Architecture: Technical Reference Model |
| Integrated Information Infrastructure Reference Model |
| **Part VII – Architecture Capability Framework** |
| Architecture Board |
| Architecture Compliance |
| Architecture Contracts |
| Architecture Governance |
| Architecture Maturity Models |
| Architecture Skills Framework |

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TOGAF Capability Framework

Architecture Capability Framework (Part VII)

Informs the capability →
Sets targets, KPIs, budgets for architecture roles →
← Ensures Realization of Business Vision
← Drives need for Architecture Capability maturity

Business Vision and Drivers

Business Capabilities

Architecture Development Method (Part II)

Business needs feed into method →
Delivers new business solutions →
← Refines Understanding

ADM Guidelines & Techniques (Part III)

Architecture Content Framework (Part IV)

TOGAF ADM & Content Framework

Enterprise Continuum & Tools (Part V)

TOGAF Reference Models (Part VI)

← Informs the Business of the current state
← Operational changes cause updates

TOGAF Enterprise Continuum & Tools

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Modular Structure

- ❑ Logically segmented structure

- ❑ Promotes greater usability

- ❑ Encourages incremental adoption

- ❑ Supports evolutionary release management for TOGAF

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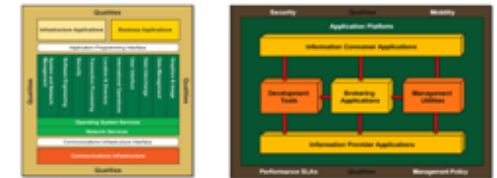*Making standards work*®

The TOGAF 9 Components

ADM

Architecture Content Framework

Reference Models

ADM Guidelines & Techniques

Enterprise Continuum

Architecture Capability Framework
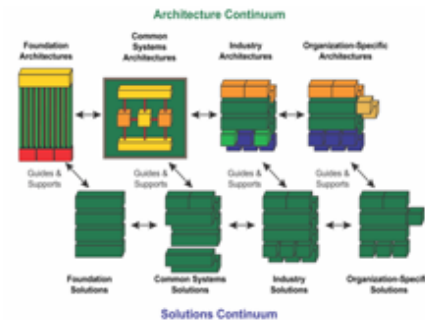
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The Architecture Development Method
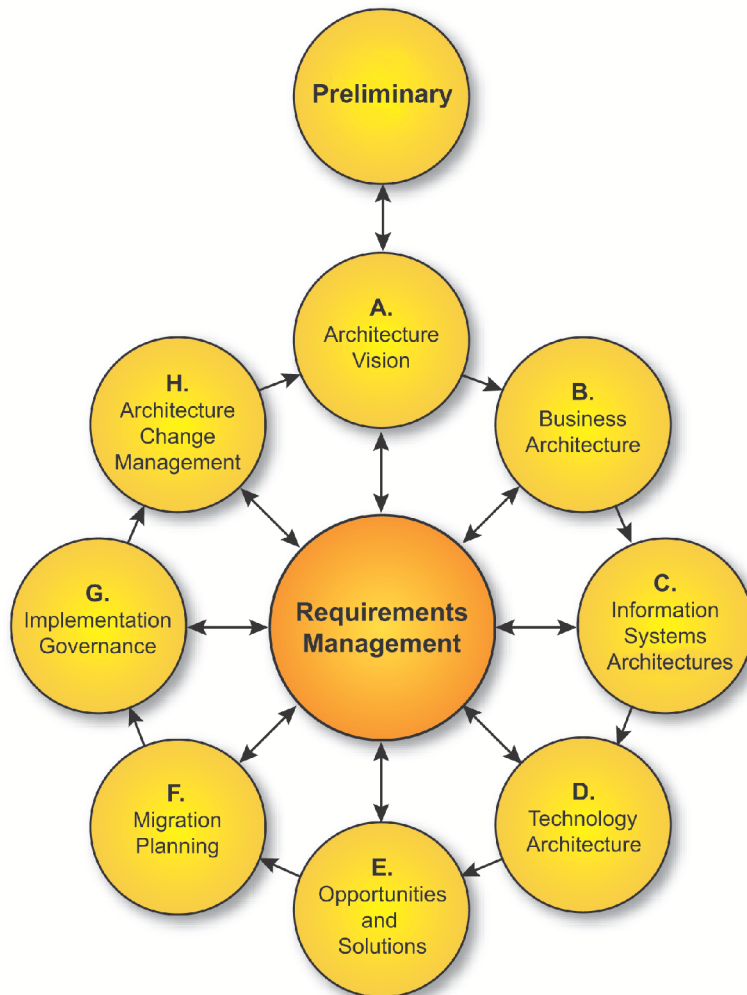
- The core of TOGAF
- A proven way of developing an architecture
- Specifically designed to address business requirements
- An iterative method
- A set of architecture views to ensure that a complex set of requirements are adequately addressed

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ADM – Basic Principles
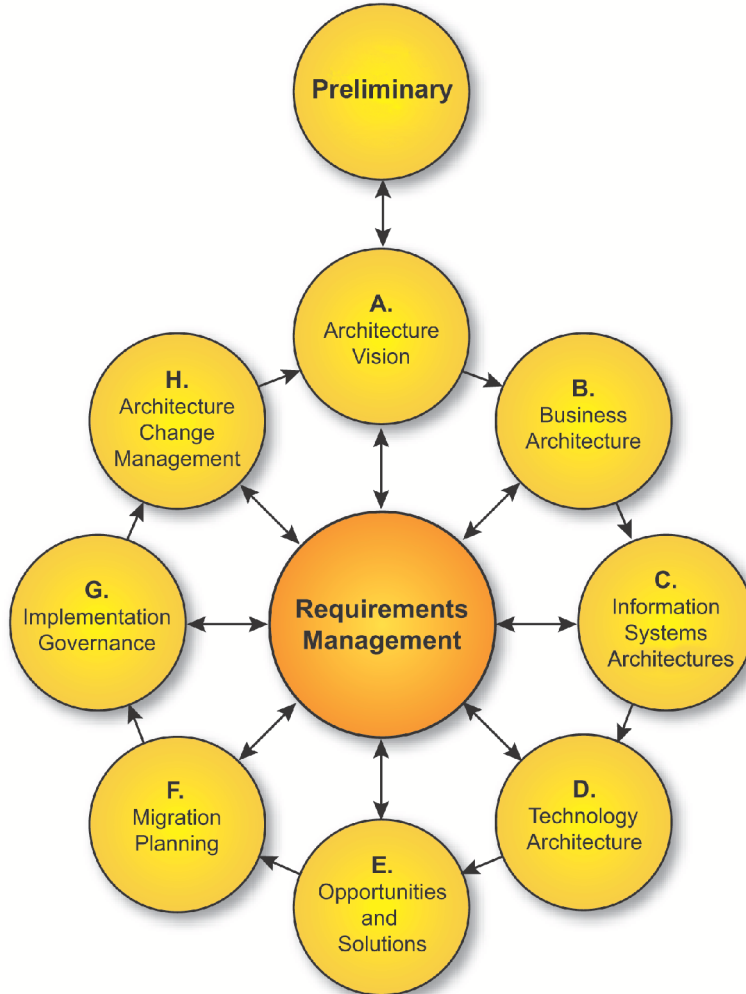
An iterative method, over the whole process, between phases and within phases

Each iteration = new decisions:

- Enterprise coverage
- Level of detail
- Time horizon
- Architecture asset re-use:
  - previous ADM iterations
  - other frameworks, system models, industry models,…

Decisions based on:

- Competence / resource availability
- Value accruing to the enterprise.

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ADM Phases

Prepare the organization for a successful architecture project

Set the scope, constraints and expectations for a TOGAF project; create the Architecture Vision; validate the business context; create the Statement of Architecture Work

Provide continual monitoring and a change management process to ensure that the architecture responds to the needs of the enterprise

Develop Business Architecture Develop baseline and target architectures and analyze the gaps

Provide architectural oversight for the implementation; ensure that the implementation project conforms to the architecture

Develop Information Systems Architectures Develop baseline and target architectures and analyze the gaps
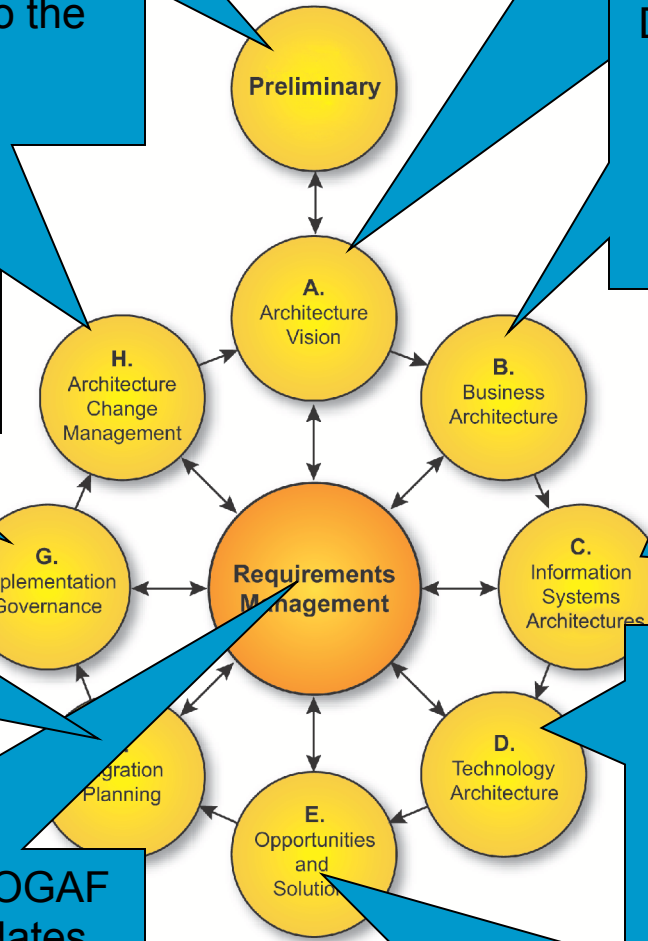
Analyze costs, benefits and risks; develop detailed Implementation and Migration Plan

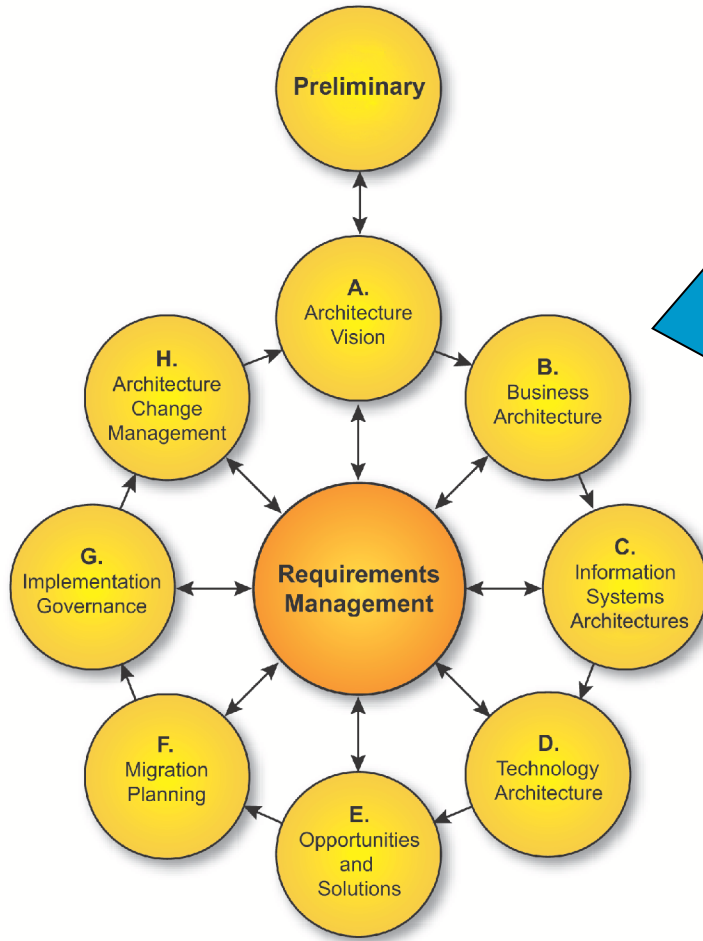**Develop Technology Architecture**

Develop baseline and target architectures and analyze the gaps

Ensure that very stage of a TOGAF project is based on and validates business requirements

Perform initial implementation planning; identify major implementation projects

Preliminary

A. Architecture Vision

B. Business Architecture

C. Information Systems Architectures

D. Technology Architecture

E. Opportunities and Solutions

H. Architecture Change Management

G. Implementation Governance

F. Migration Planning

Requirements Management

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ADM Phase Steps Example

The ADM cycle diagram:

- Preliminary
- A. Architecture Vision
- B. Business Architecture
- C. Information Systems Architectures
- D. Technology Architecture
- E. Opportunities and Solutions
- F. Migration Planning
- G. Implementation Governance
- H. Architecture Change Management
- Requirements Management (center)

ⓘ

The order of the steps should be adapted to the situation.

In particular you should determine whether it is appropriate to do the Baseline Business Architecture or Target Business Architecture development first

Phase B Steps

9. Create Architecture Definition Document

8. Finalize the *Business* Architecture

7. Conduct formal stakeholder review

6. Resolve impacts across the Architecture Landscape

5. Define roadmap components

4. Perform gap analysis

3. Develop Target *Business* Architecture Description

2. Develop Baseline *Business* Architecture Description

1. Select reference models, viewpoints, and tools

Slide 10 of 14

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Explicit Consideration of Architectural Style

❑ Part III: ADM Guidelines and Techniques provides guidance on how to apply the ADM in specific situations

   ▪ Applying iteration to the ADM

   ▪ Applying the ADM at different enterprise levels

   ▪ Security architecture and the ADM

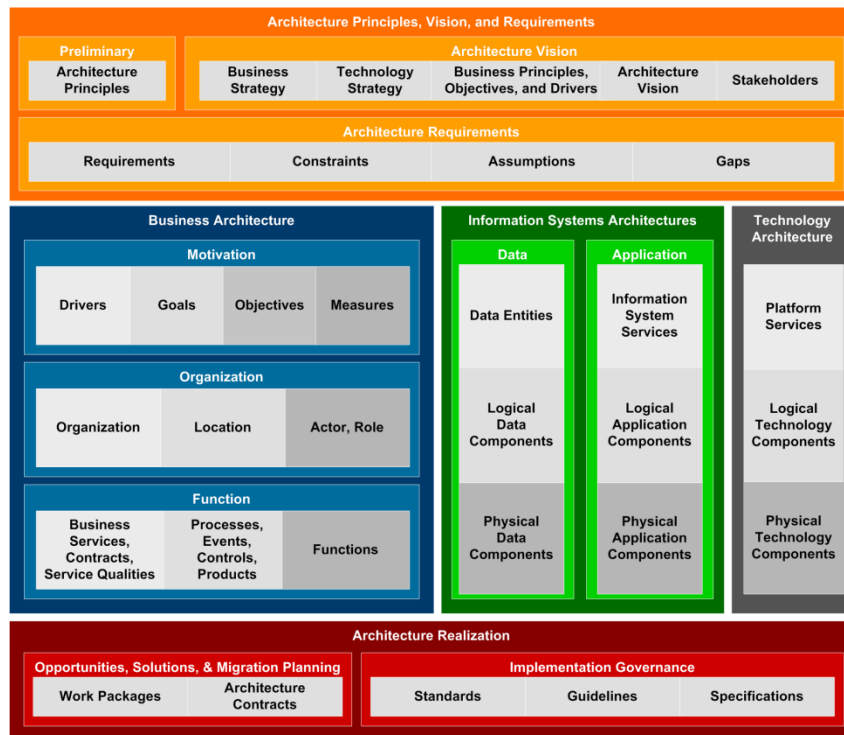   ▪ Using TOGAF to define and govern SOA

❑ Simplifies usability

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Applying Iteration to the ADM
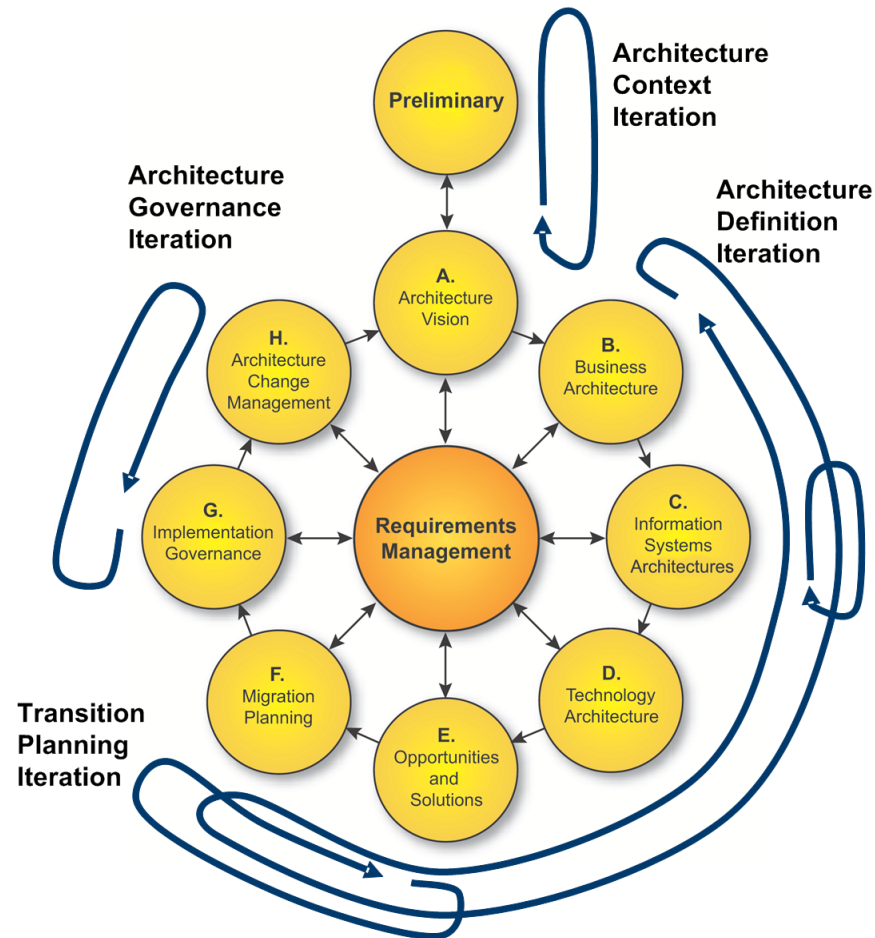
Applying the ADM at Different Levels

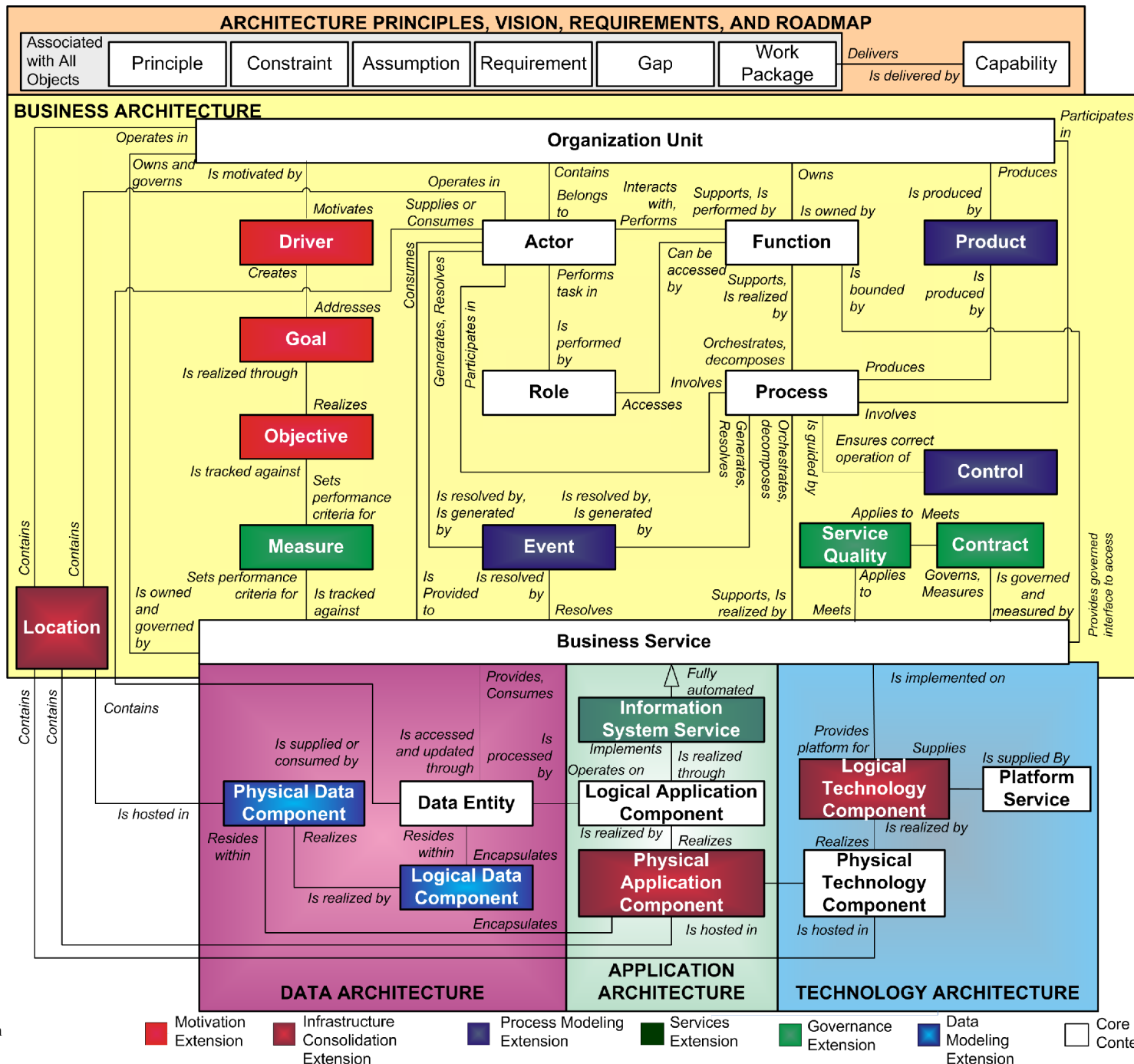THE **O**pen GROUP

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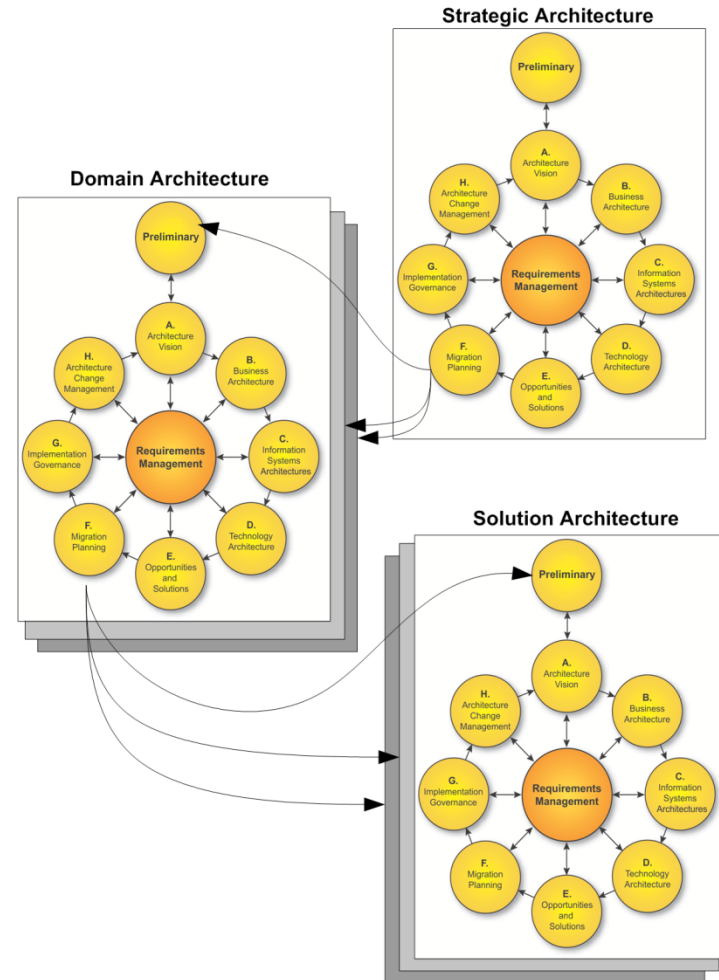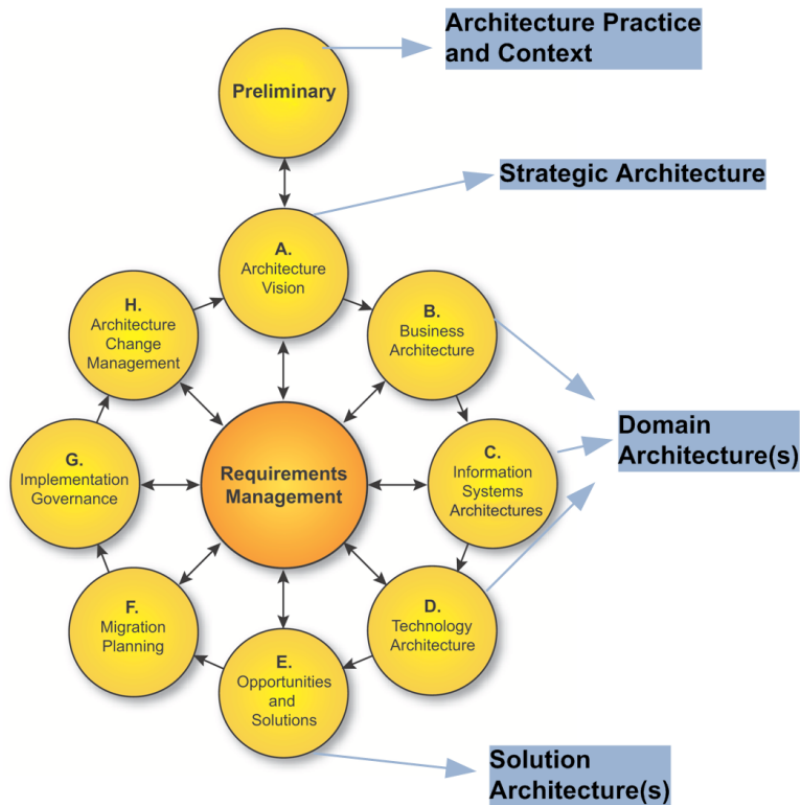
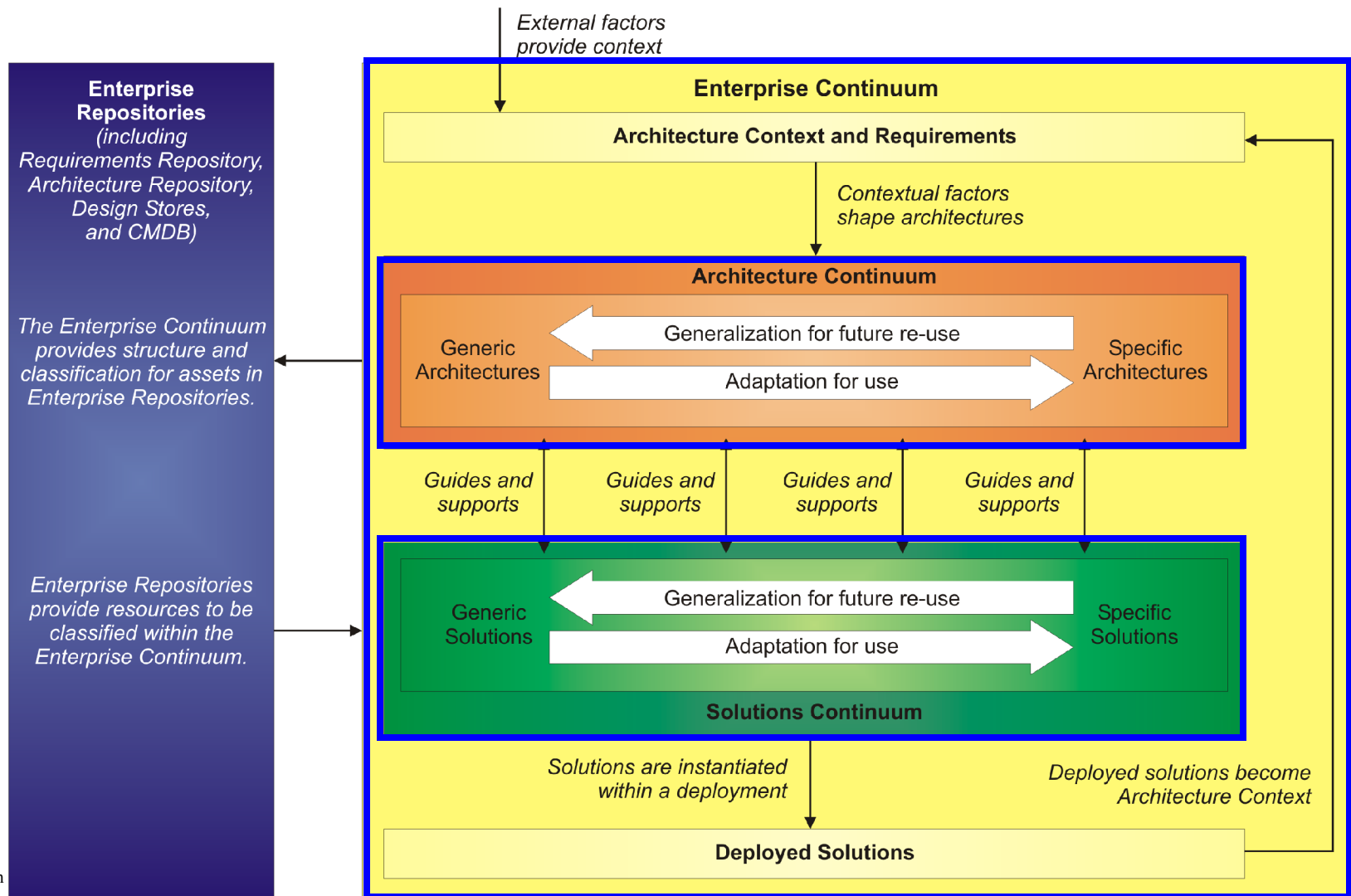# Architecture Content Framework

- Significant addition to TOGAF 9 that provides:
  - a structured metamodel for architectural artifacts
  - consistent use of architecture building blocks
  - a comprehensive checklist of architecture outputs
  - an overview of typical architecture deliverables
  - better integration of architectural work products
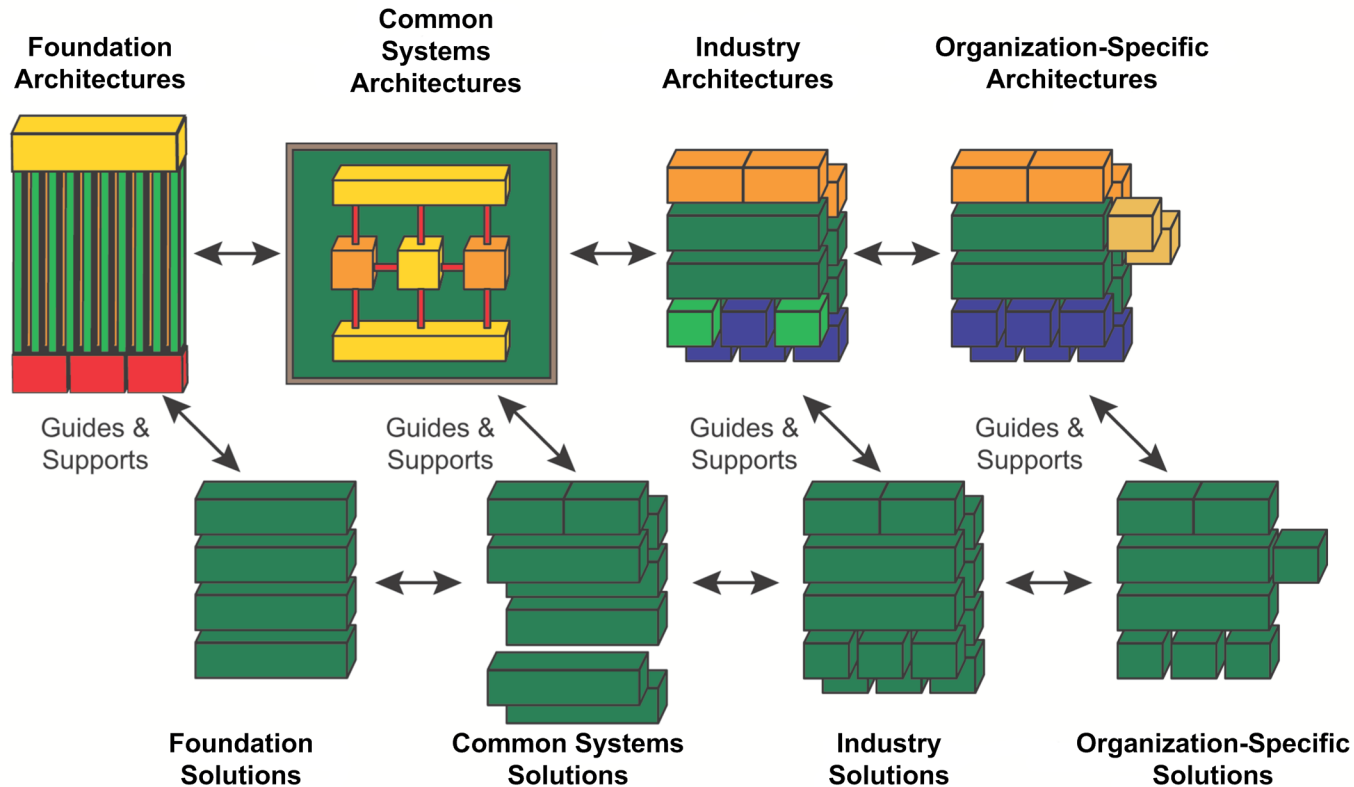 - a detailed open standard for describing architectures

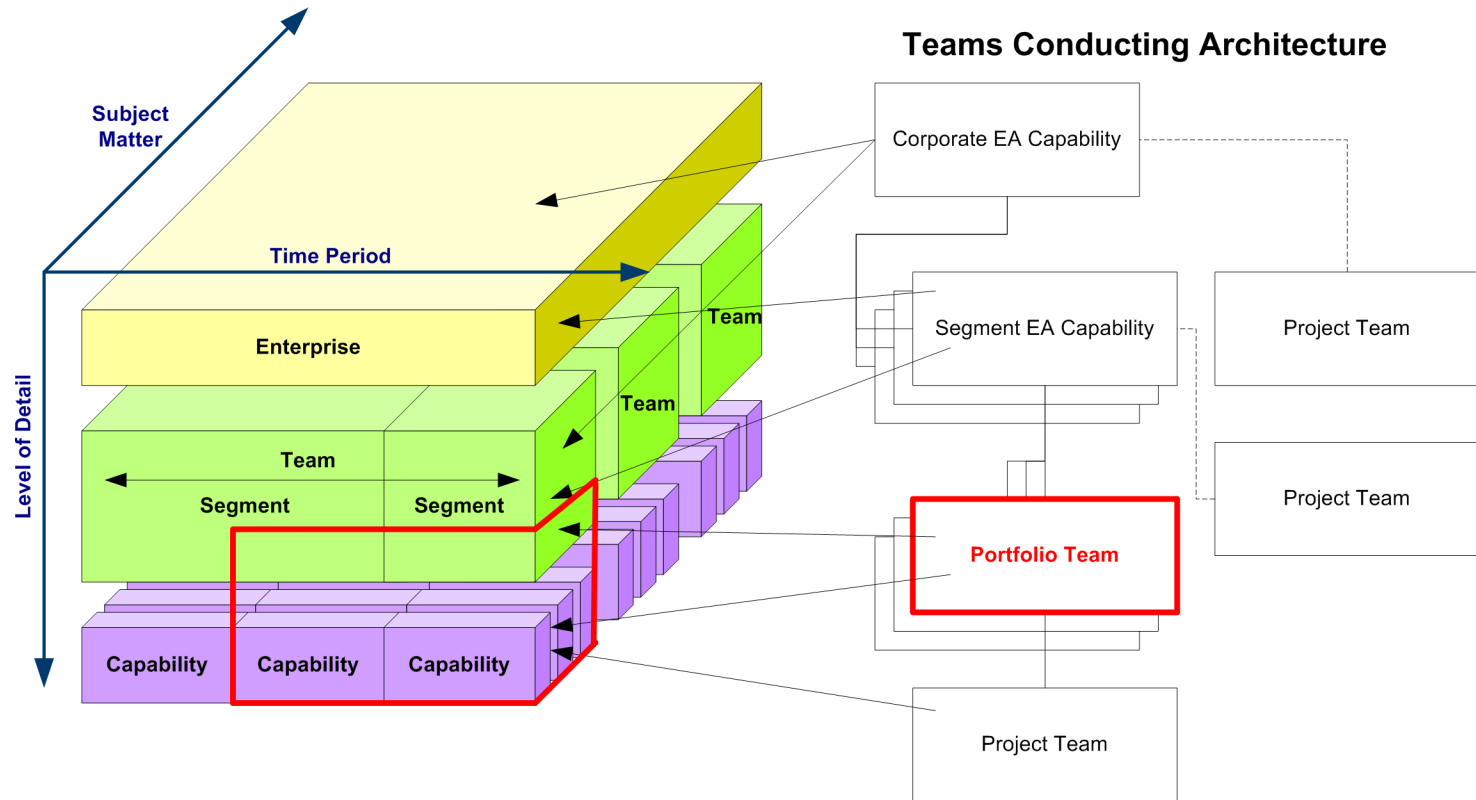| Associated with All Objects	Principle	Constraint	Assumption	Requirement	Gap	Work Package	Delivers / Is delivered by	Capability

BUSINESS ARCHITECTURE

Participates in

Organization Unit

Operates in

Owns and governs — Is motivated by

Operates in

Contains

Belongs to

Interacts with, Performs

Supports, Is performed by

Owns

Is owned by

Produces

Is produced by

Motivates

Supplies or Consumes

Driver

Actor

Function

Product

Creates

Consumes

Generates, Resolves

Participates in

Performs task in

Is performed by

Can be accessed by

Supports, Is realized by

Is bounded by

Is produced by

Addresses

Goal

Orchestrates, decomposes

Produces

Is realized through

Realizes

Objective

Role

Involves

Process

Accesses

Involves

Is tracked against

Sets performance criteria for

Generates, Resolves

Orchestrates, decomposes

Is guided by

Ensures correct operation of

Control

Measure

Is resolved by, Is generated by

Is resolved by, Is generated by

Event

Applies to — Meets

Service Quality — **Contract**

Sets performance criteria for

Is owned and governed by

Is tracked against

Is Provided to

Is resolved by

Resolves

Supports, Is realized by

Applies to

Meets

Governs, Measures

Is governed and measured by

Provides governed interface to access

Contains

Contains

Location

Business Service

Contains

Contains

Contains

Is hosted in

DATA ARCHITECTURE

Provides, Consumes

Fully automated

Information System Service

Is implemented on

Is supplied or consumed by

Is accessed and updated through

Is processed by

Implements

Operates on

Is realized through

Provides platform for

Supplies

Is supplied By

Physical Data Component

Data Entity

Logical Application Component

Logical Technology Component

Platform Service

Resides within

Realizes

Resides within

Encapsulates

Is realized by

Realizes

Realizes

Is realized by

Logical Data Component

Physical Application Component

Physical Technology Component

Is realized by

Encapsulates

Is hosted in

Is hosted in

Is hosted in

APPLICATION ARCHITECTURE

TECHNOLOGY ARCHITECTURE

March

Legend	
Motivation Extension	
Infrastructure Consolidation Extension	
Process Modeling Extension	
Services Extension	
Governance Extension	
Data Modeling Extension	
Core Content	

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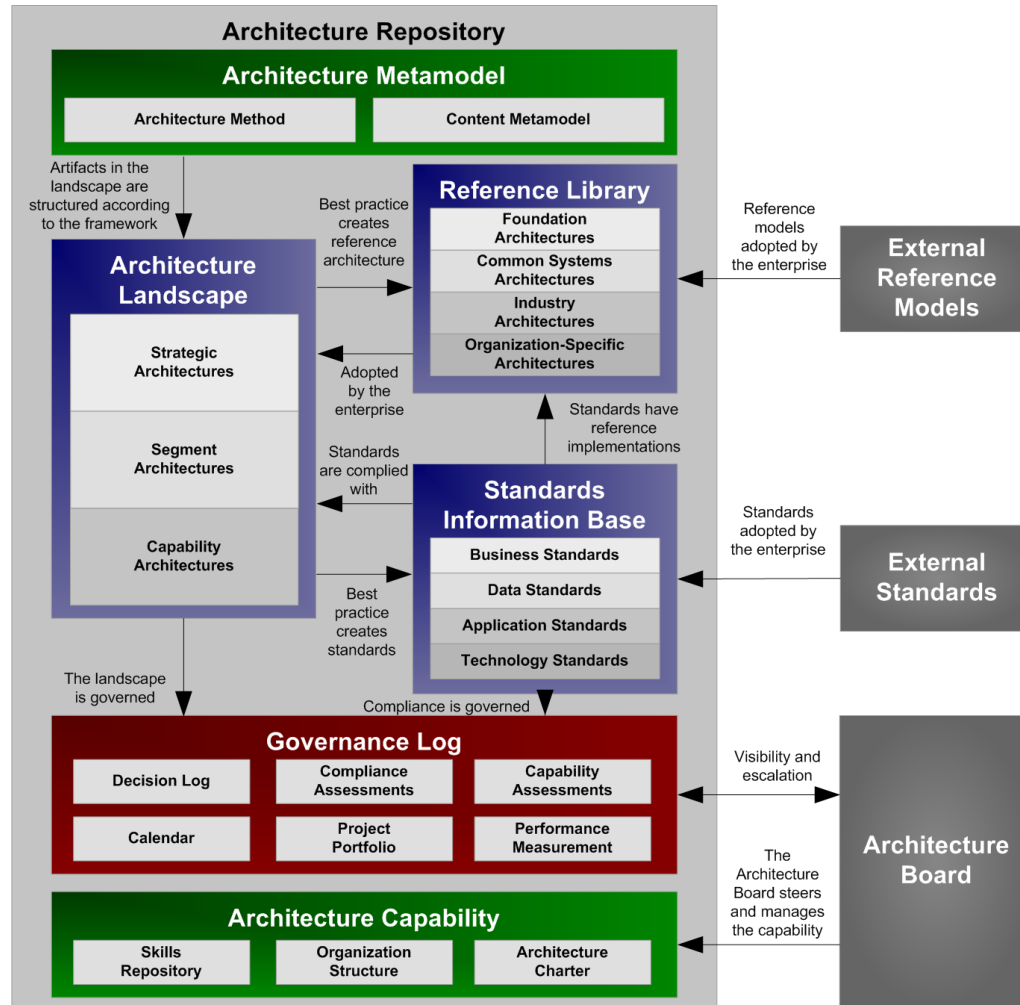Making standards work®

Enterprise Continuum

The Enterprise Continuum

Partitioning

Allows for management of costs and complexity by dividing up the Enterprise and assigning appropriate roles and responsibilities to each partition

Architecture Repository

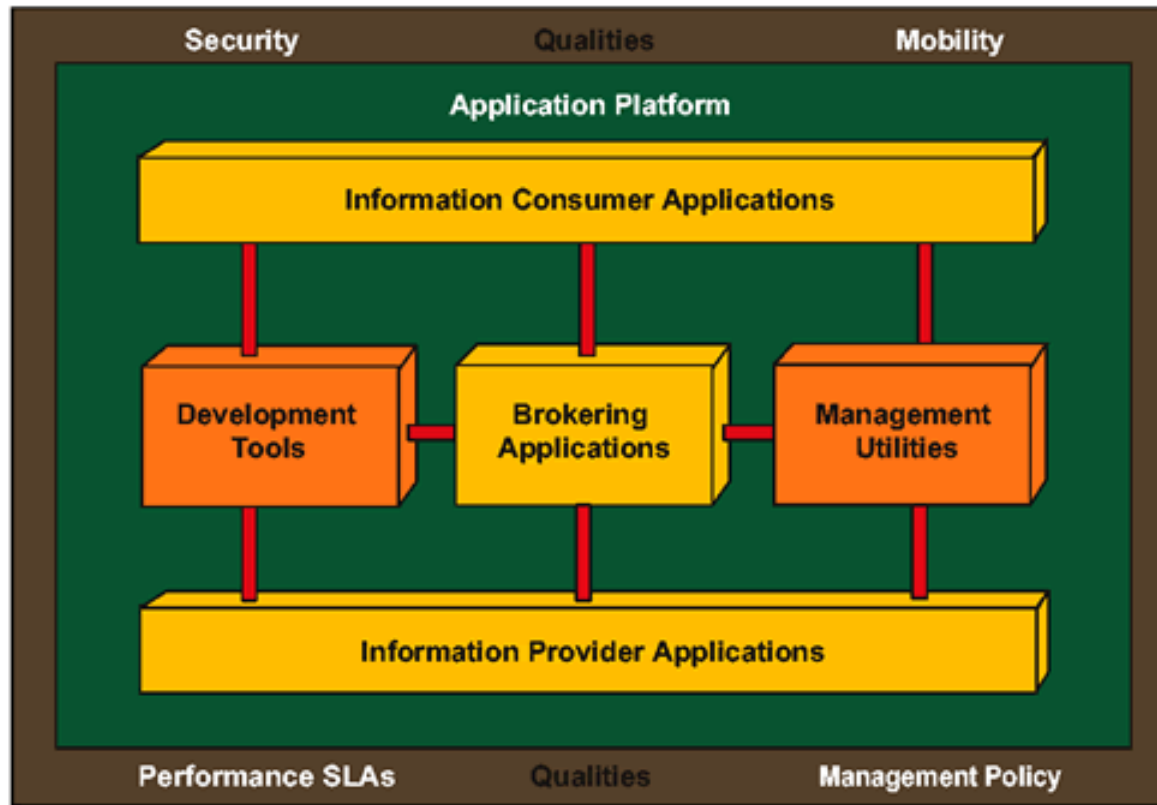© 2009 The Open Group, All Rights Reserved

TOGAF Reference Models

❑ The two reference models are:

- **The TOGAF Technical Reference Model (TRM)**
  - A <u>Foundation Architecture</u>
  - A model and a taxonomy of generic platform services
- **The Integrated Information Infrastructure Model** (III-RM).
  - A model for business applications and infrastructure applications
  - Specifically aimed to support the vision of *Boundaryless Information Flow™*

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Detailed TRM

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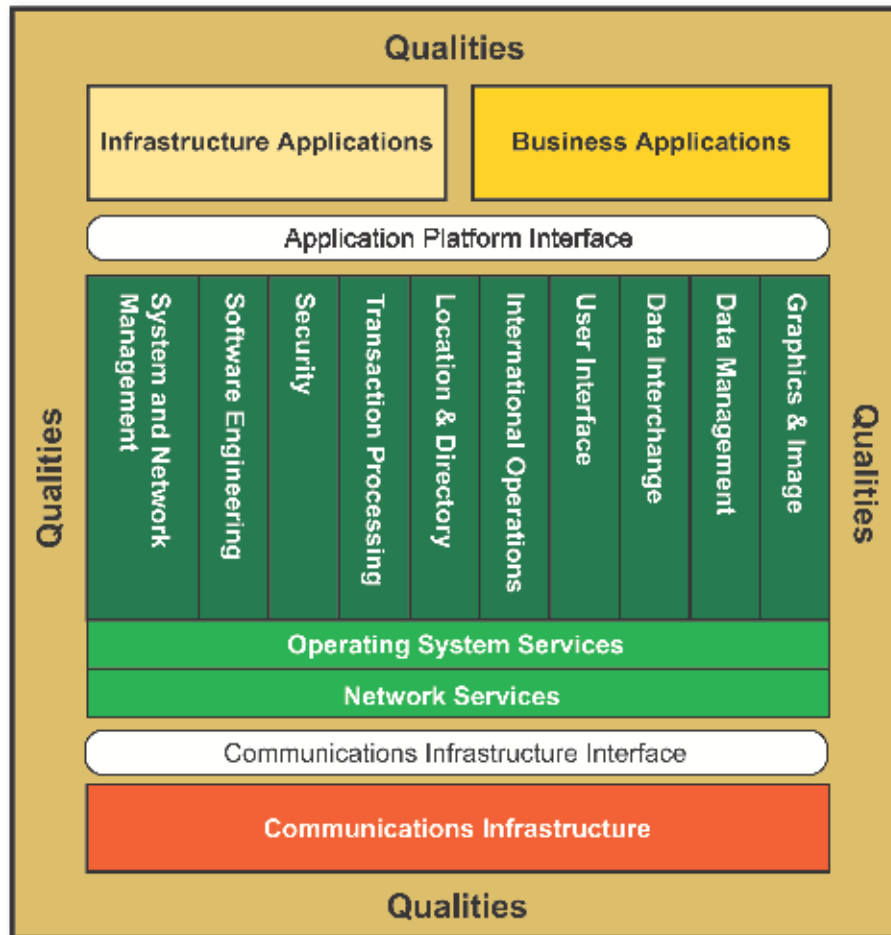
The III-RM

Capability Framework

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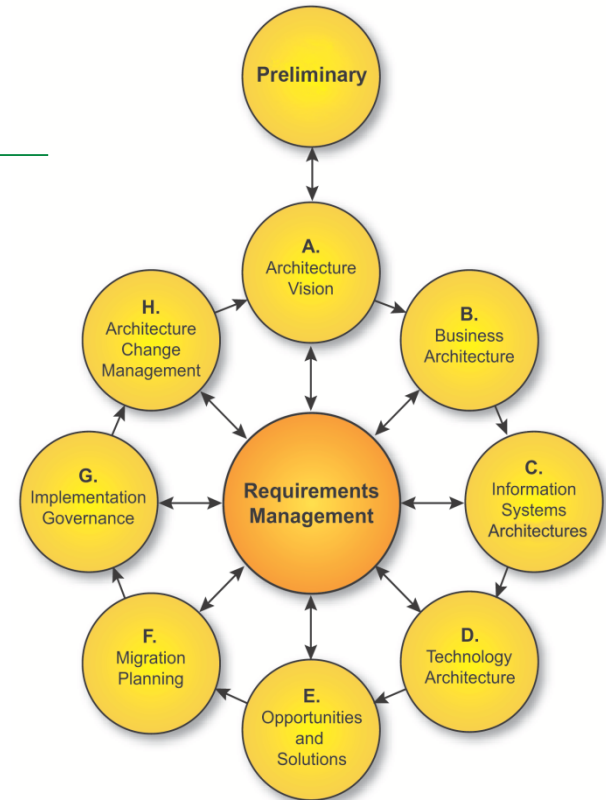*Making standards work*®
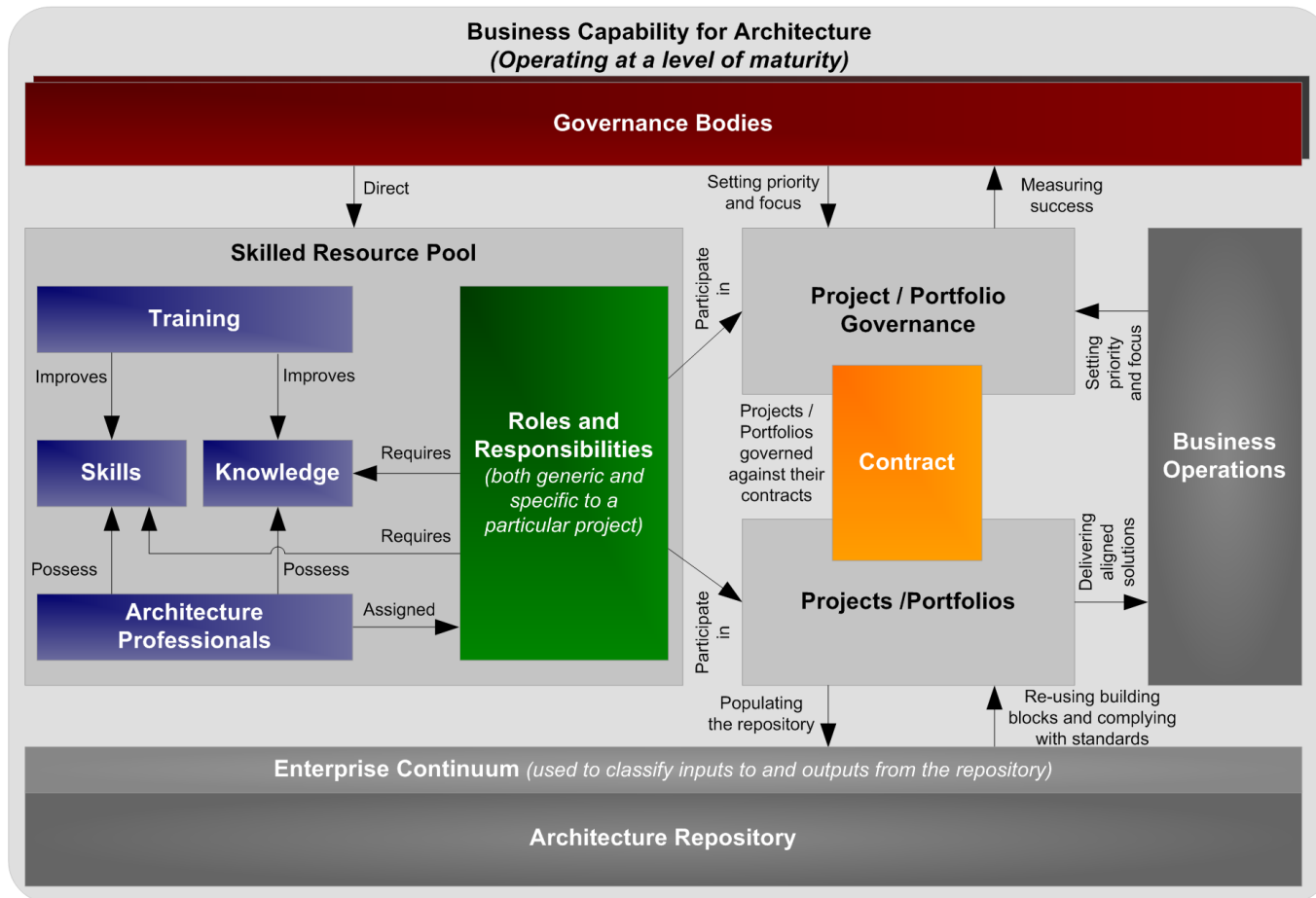
Stand-alone or Complementary
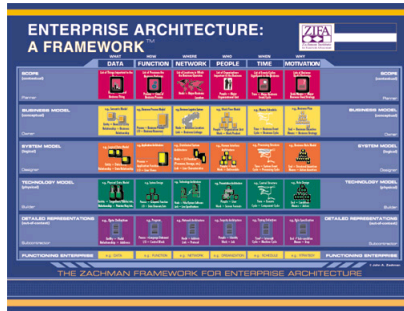
Zachman Framework
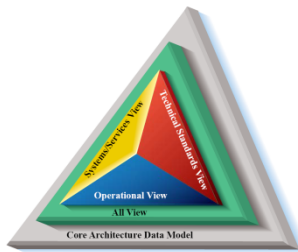
DoD Architecture Framework
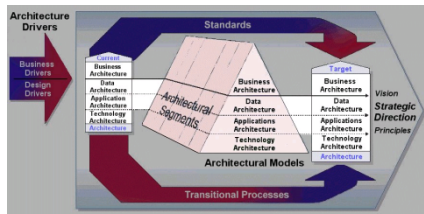
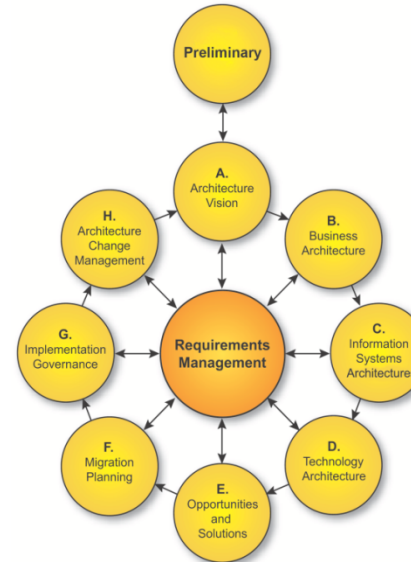Federal Enterprise Architecture Framework

Support or Guidance

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Other Frameworks

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Complementary

ITIL

IT Service Management
Best Practice

TOGAF 9

Framework, method
and resources

COBIT

Governance and
control

Modeling languages
and notation

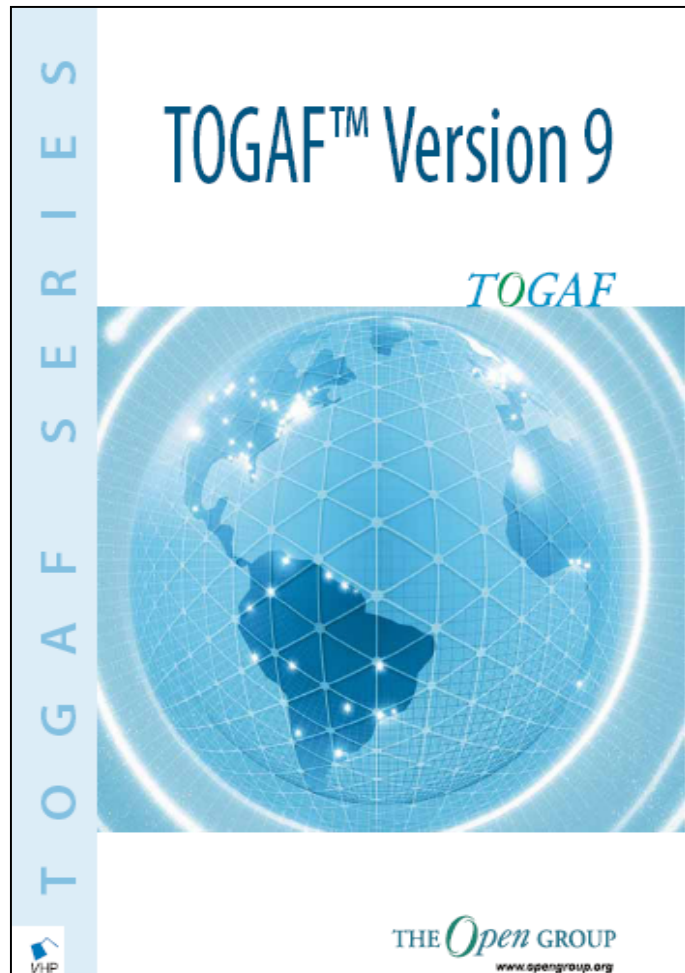THE *Open* GROUP

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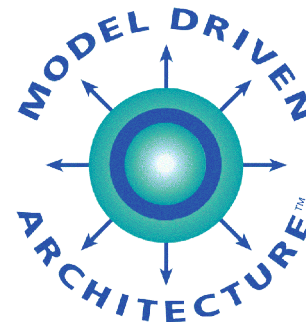
Value of TOGAF™ 9 Certification

- ❑ A globally recognized standard, backed by certification
- ❑ Certified professionals
  - ▪ Demonstrable knowledge of TOGAF
  - ▪ Minimizes employers' hiring time and improves quality of hires
- ❑ Vendors of TOGAF Certified Products or Services
  - ▪ Warrant conformance to the TOGAF product standard throughout the lifetime of certification
  - ▪ Customers who procure are assured of compliance
- ❑ Certification credentials can readily be verified

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Further Information

❑ Detailed information on TOGAF 9 including downloads of the specification, links to white papers, information sheets, reference cards, etc

■ http://www.opengroup.org/togaf/

■ http://www.togaf.info

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TOGAF Version 9

- ❑ TOGAF Version 9, "The Book"
  - ▪ Document No. G091
  - ▪ ISBN: 978-90-8753-2307
  - ▪ www.opengroup.org
  - ▪ www.vanharen.net

TOGAF Version 9 Pocket Guide
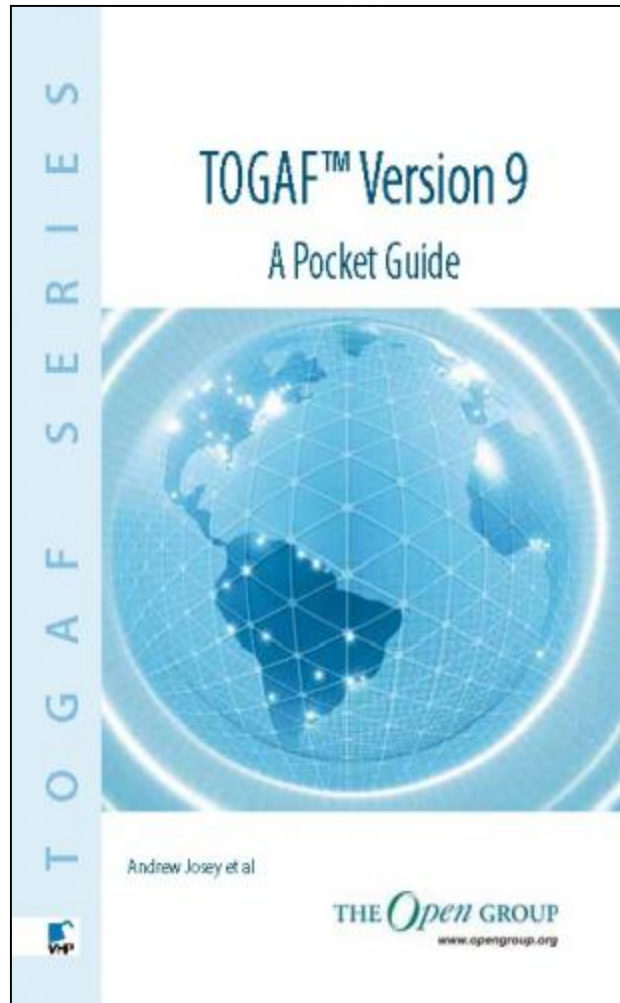
❑ TOGAF Version 9, The Pocket Guide

   ▪ Document No. G092
   ▪ ISBN: 978-90-8753-232-1
   ▪ www.opengroup.org
   ▪ www.vanharen.net

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Summary

- TOGAF 9
    - Builds a rich foundation for business execution
    - Enables business solutions from solidly defined architectural capabilities
    - Unites the business objectives with the IT capabilities, creating a platform for significant added value
    - Backed by certification

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Questions?

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