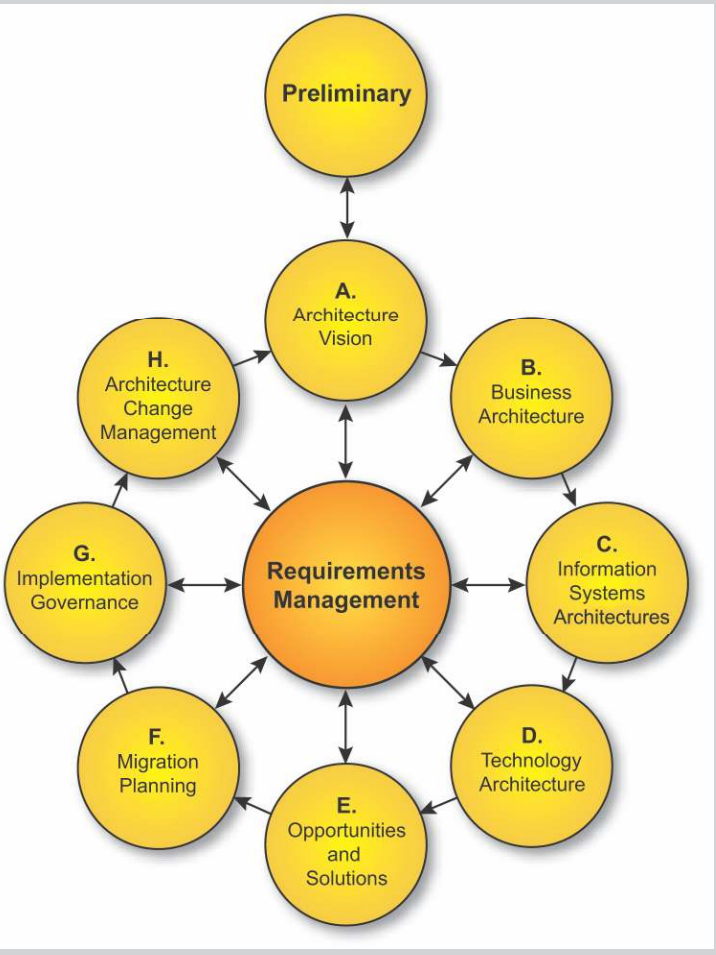
TOGAF

Version 9 Enterprise Edition

Module 4
The Enterprise Continuum & Tools



The Enterprise Continuum & Tools

TOGAF™

Roadmap

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 – 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

- Part V, Enterprise Continuum and Tools, Chapter 39

Slide 3 of 31

TOGAF™

Module Objectives

- To provide an introduction to the Enterprise Continuum.
- The Purpose of the Enterprise Continuum
- The constituent pieces of the Enterprise Continuum
- To explain high-level issues with Tool Standardization

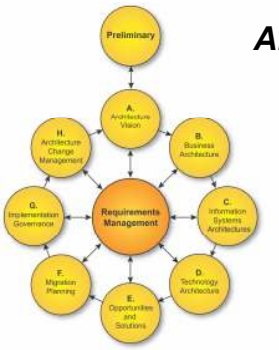
Definition of 'Continuum'

- Noun: a continuous extent of something, no part of which is different from any other

Source: Wiktionary.org

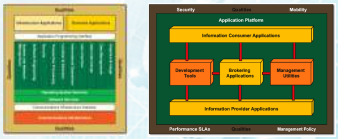
TOGAF 9 Components

ADM

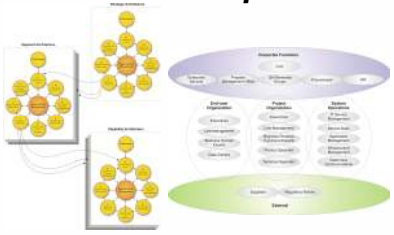


Architecture Content Framework

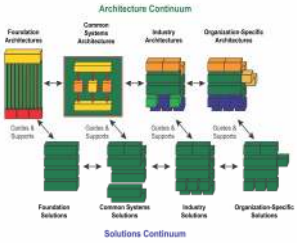
Reference Models



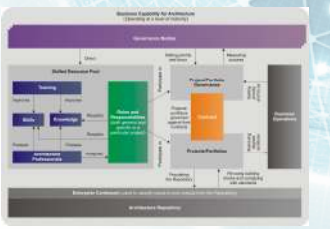
ADM Guidelines & Techniques



Enterprise Continuum



Architecture Capability Framework



Slide 6 of 31

TOGAF™

Overview

- A model for structuring a virtual repository and methods for classifying architecture and solution artifacts
- Based on architectures and solutions:
  - Models, patterns, architecture descriptions
  - Deliverables produced in this iteration of the ADM
  - Deliverables produced in other iterations of the ADM
  - Assets from the industry at large
  - Showing how artifacts evolve
- The practical implementation of the Enterprise Continuum takes the form of an Architecture Repository

Continued…

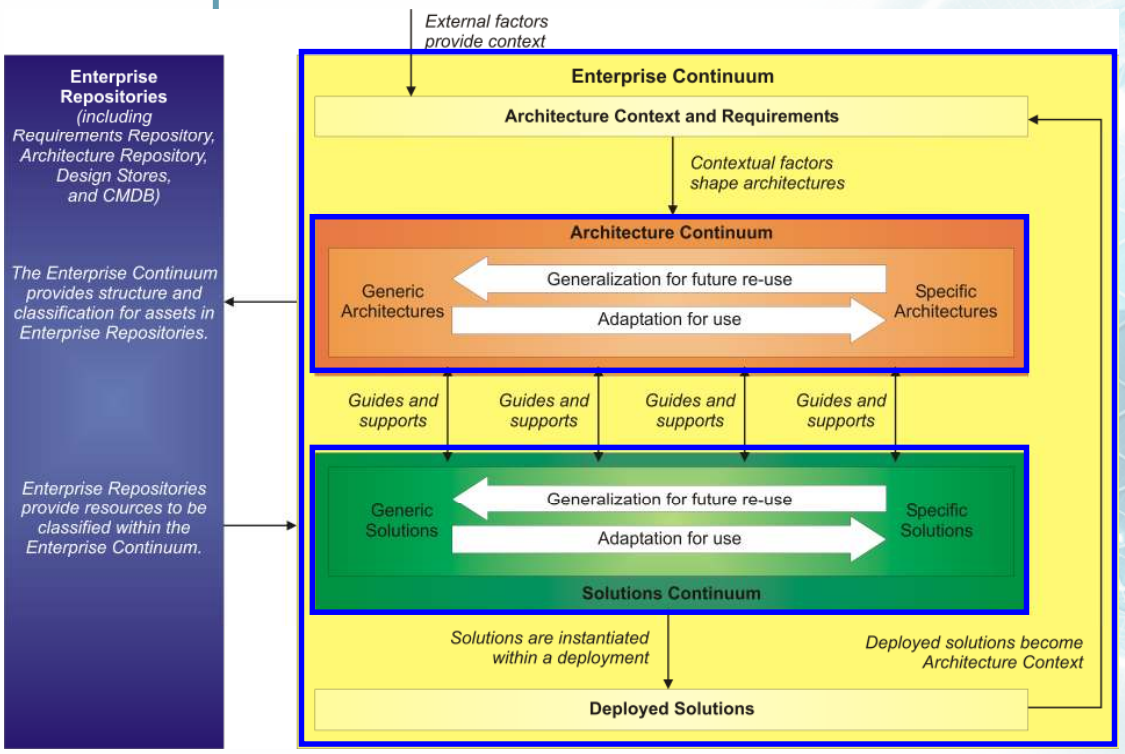
Overview (Cont'd)

- The Enterprise Continuum is a combination of two complementary concepts: the Architecture Continuum and the Solutions Continuum.
- It enables effective use of COTS products.
- It improves engineering efficiency.
- It aids organization of reusable architecture and solution assets.
- It provides a common language:
  - Within enterprises
  - Between customer enterprises and vendors

Architecture Reuse

- The Enterprise Continuum is a view of the repository of all architecture assets: models, patterns, architecture descriptions, etc.
- External architecture assets include:
  - Generic reference models (eg TOGAF's TRM, Zachmann…)
  - IT-specific models (eg a web services architecture)
  - Information Processing-specific models (eg e-Commerce, supply chain management …)
  - Vertical-Industry-specific models (eg TMF, ARTS, POSC…)
- The architecture governance function decides which assets an enterprise considers part of its own Enterprise Continuum

Enterprise Continuum: Constituents



TOGAF™

The Architecture Continuum

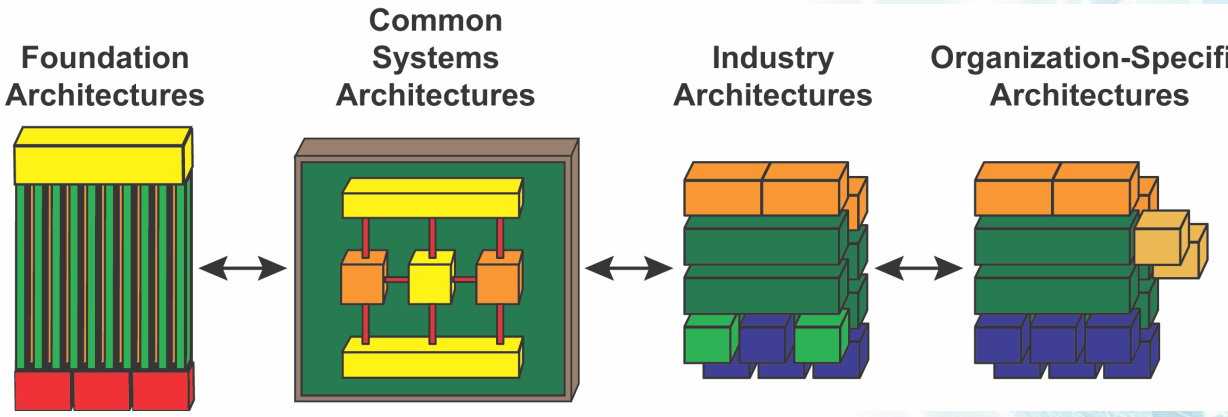
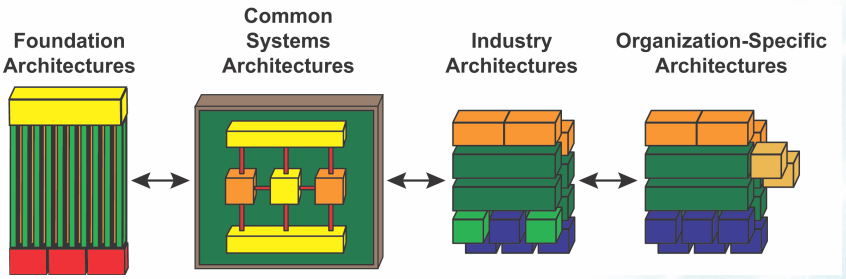
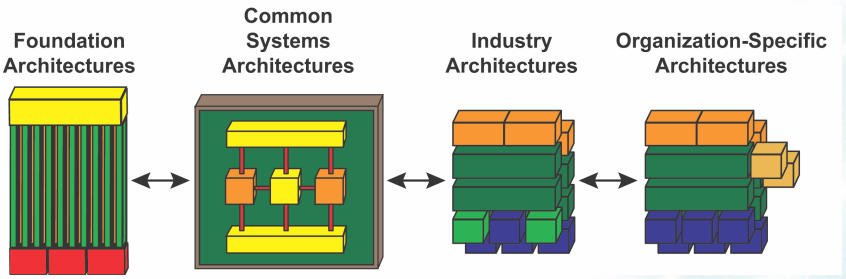


Figure 1

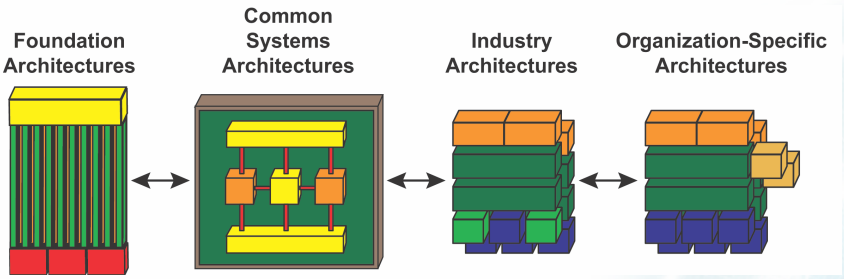
TOGAF™



- Architectures range from Foundation Architectures through Common Systems Architectures, and Industry Architectures to an enterprise's own Organization-Specific architecture
- Arrows represent bi-directional relationship between the different architectures
  - Left to right: meeting enterprise needs and business requirements
  - Enterprise needs and business requirements increase in detail from left to right
  - Right to left: leveraging architectural components and building blocks



- The architectural elements furthest left are the most reusable
- Requirements for missing elements are passed to the left of the continuum for inclusion.
- Enterprises can use the same continuum models, specialized for specific businesses.
- Figure 1 shows the different architectures that may be developed:
  - these are not fixed stages in a process
  - different architectures may exist as well.



- Figure 1 does not represent a formal process but represents a progression occurring at several levels:
  - Logical ⇨ Physical
  - Horizontal (IT technology-focused) ⇨ Vertical (business-focused)
  - Generalization ⇨ Specialization
  - Taxonomy ⇨ Architecture Specification
- At each point, an architecture is designed in terms of the design concepts and building blocks available.

Slide 14 of 31

TOGAF™

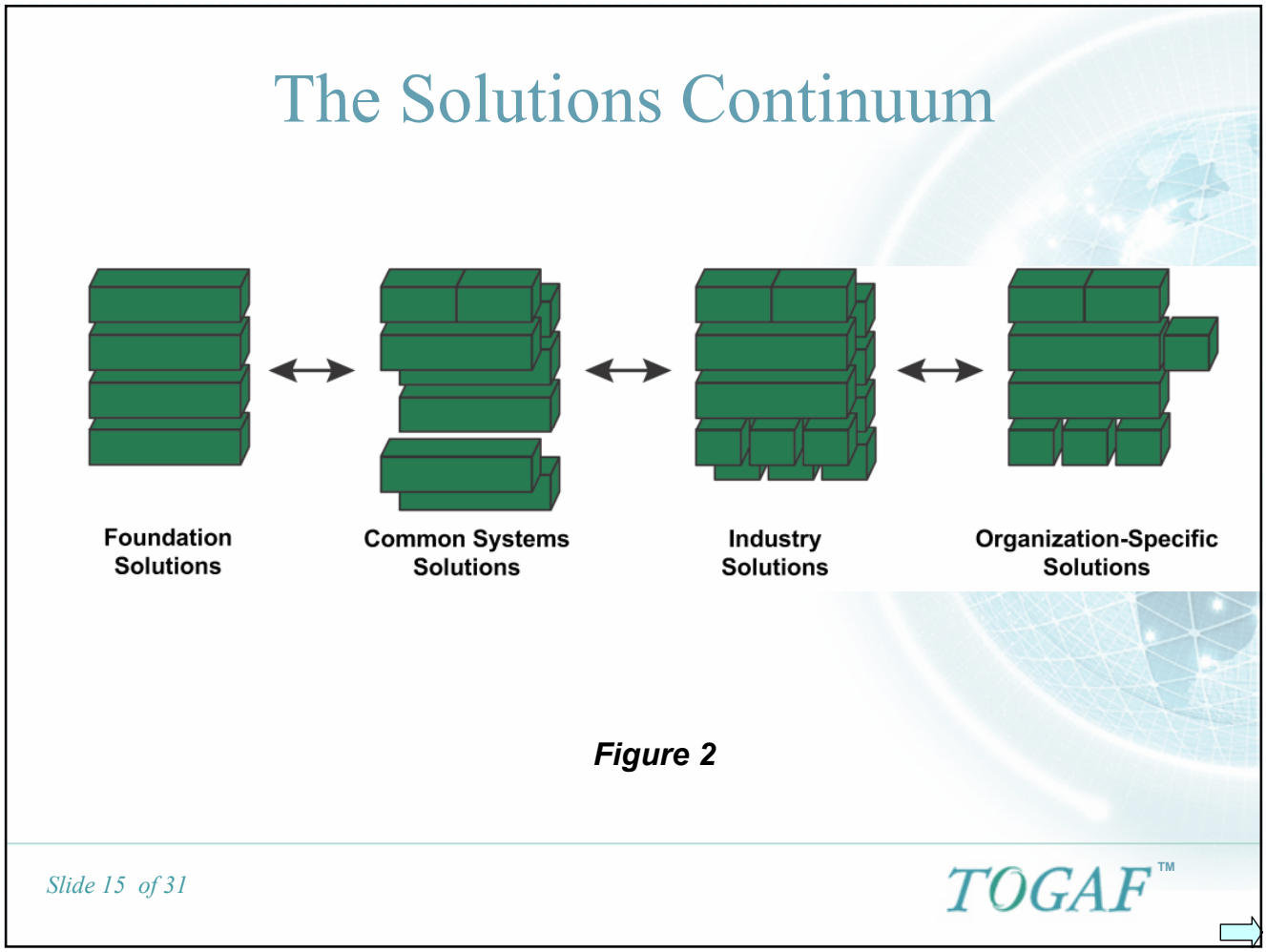
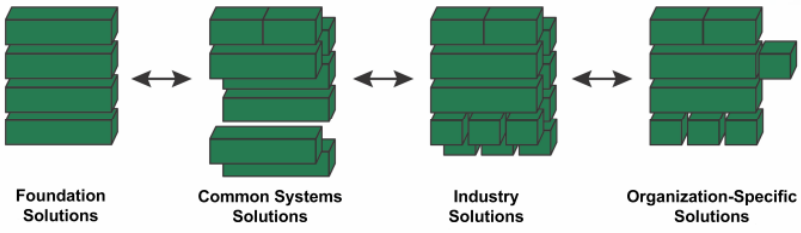


Figure 2



- The most specific architectures are on the right:
  - Foundation solutions help to create common systems solutions
  - Common systems solutions are used to create industry solutions
  - Industry Solutions are used to create organization-specific solutions
- The most generic concepts are on the left.

- The entire spectrum is important when balancing cost and value.

The Solutions Continuum:

- Represents the implementations of the architectures at the corresponding levels of the *Architecture Continuum*
- Is a population of the architecture with Solution Building Blocks, either purchased products or built components, that represent a solution to the enterprise's business need
- Forms a *Solutions Inventory* or *Reuse Library*, which adds significant value to the task of managing and implementing improvements to the IT environment

Relationships

- The Architecture and Solutions Continuum are related by guidance, direction, and support.
- E.g. the Foundation Architecture:
  - is an architecture of building blocks and corresponding standards
  - supports all the Common Systems Architectures and, therefore, the complete enterprise operating environment
- The Open Group's Foundation Architecture consists of the TRM
- The Open Group's III-RM is an example of a Common Systems Architecture

The Enterprise Continuum

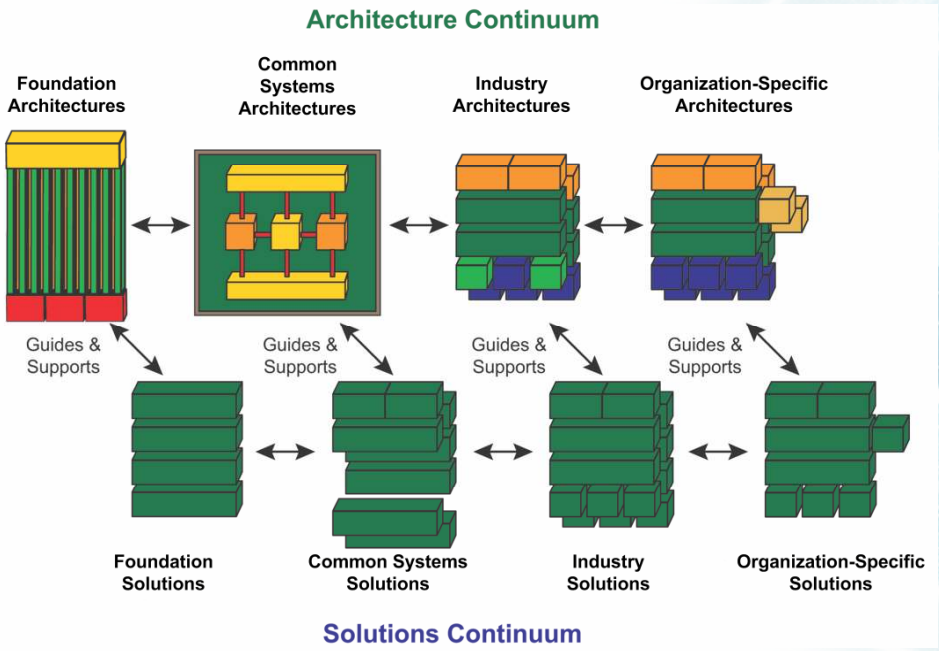


Figure 3: Best case for leveraging of architecture and solution components

Using the Continuum

- The TOGAF ADM describes the process of developing an enterprise-specific architecture by adopting and adapting generic architectures and solutions
- The Continuum:
  - contains complete and work-in-progress solutions
  - is a "framework-within-a-framework”
  - has few internal assets, at first
  - grows by adding reusable building blocks

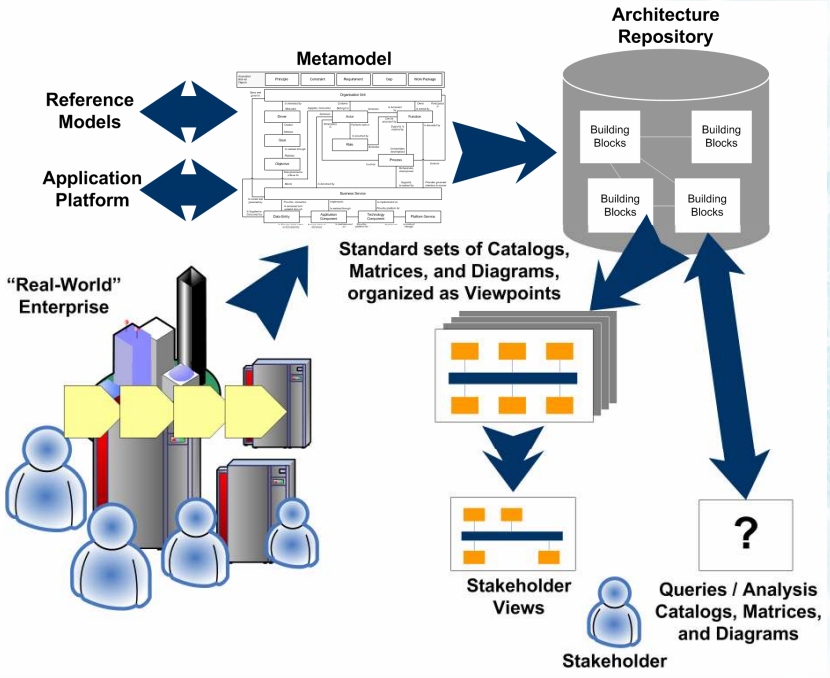
Relationships

- The Solutions Continuum assists understanding of products, systems, services, and solutions
- The Enterprise Continuum improves productivity through leverage
- The Enterprise Continuum does not represent strictly chained relationships:
  - enterprise architectures may have components from a Common Systems Architecture
  - enterprise solutions may contain a product or service

The need for Tools

- Tools are needed to manage and control the artifacts within the Enterprise Continuum
  - To promote re-use
  - To enable sharing of architecture information within an organization
  - To facilitate easier maintenance of the architecture
  - To ensure common terminology is used
  - To provide stakeholders with relevant models

Tools can model the Enterprise Architecture



TOGAF™

Issues in Tools Standardization

- A single “one size fits all” tool versus multiple tools
- Can a single tool address all needs, all maturity levels?
- TOGAF recognizes the complexity in this area and provides a set of Evaluation Criteria and Guidelines

Tools Evaluation Criteria

- Functionality
  - Key features and Functions
  - Ease of Use factors
  - Organizational Compatibility Factors
  - Tool Capacity/Scalability Constraints
- Architecture of the tool
  - Repository based? Version control support? Backwards compatibility with previous versions etc
- Full Lifecycle Support
- Interoperability Factors
- Financial Considerations
- Vendor Factors

Summary

- The Enterprise Continuum is
  - a model for structuring a virtual repository and methods for classifying architecture and solution artifacts
  - It enables the organization of reusable architecture and solution assets.
  - It is also an aid to communication between all architects involved in building and procuring an architecture by providing a common language and terminology.
  - This in turn enables efficiency in engineering and effective use of COTS products.

Continued…

Summary

- The Enterprise Continuum
  - provides an overall context for architectures and solutions and classifies assets that apply across the entire scope of the enterprise.
- The Architecture Continuum
  - provides a classification mechanism for assets that collectively define the architecture at different levels of evolution from generic to specific.
- The Solutions Continuum
  - provides the classification for assets to describe specific solutions for the organization that can be implemented to achieve the intent of the architecture.

Continued…

Summary

- Tools are needed to manage artifacts within the Enterprise Continuum
- There are a number of issues that should be considered when adopting tools
- TOGAF provides guidelines and evaluation criteria for tools selection

Test Yourself Question

Q. According to TOGAF, all the following statements apply to the Enterprise Continuum, *except* _____:

A It is a virtual repository of all known architecture assets and artifacts in the IT industry

B It is a virtual repository of all architecture assets and artifacts which the enterprise is considering in its own architecture project

C It provides a taxonomy for classifying architecture assets

D Its is an important aid to communication for architects on both the buy and supply side

E It helps to organize reusable and solution assets

Test Yourself Question

Q. According to TOGAF, all of the following are examples of 'assets within the IT Industry at large' from the Architecture Continuum, *except* _____

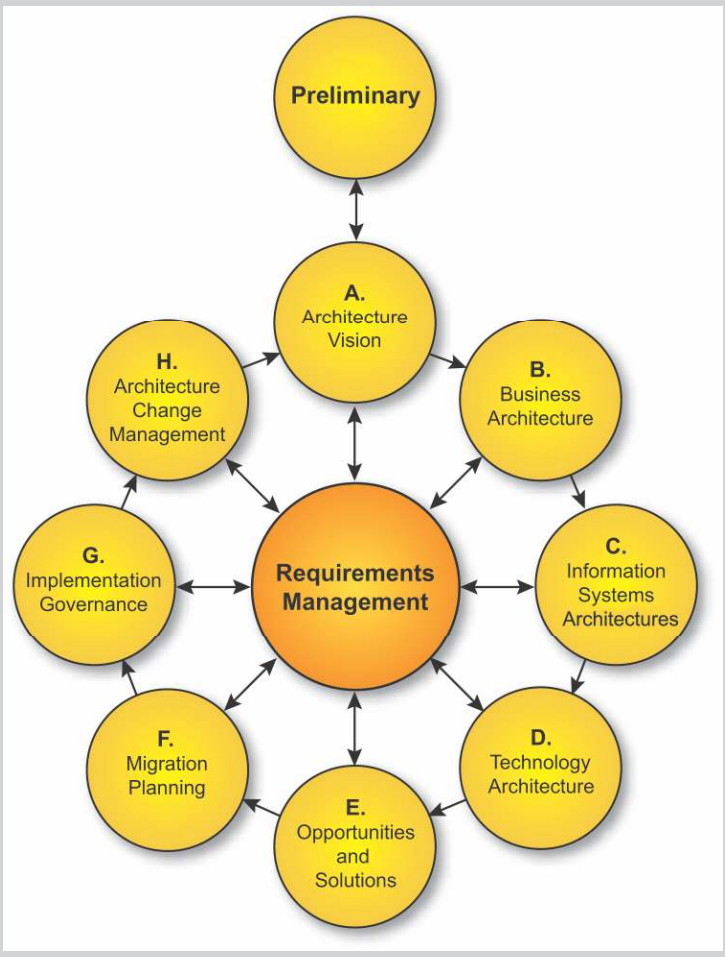
A The TOGAF TRM

B The Zachman Framework

C IT-specific models, such as web services

D The ARTS data model

E Deliverables from previous architecture work



The Enterprise Continuum

TOGAF™