TOGAF

Version 9 Enterprise Edition

Module 17
Phase C
Information Systems Architectures - Overview

THE Open GROUP

Making standards work™

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Module Objectives

The aim of this module is to understand:

- The objectives of Phase C, Information Systems Architectures
- The Approach
- A brief overview of the inputs and outputs

This module is an introduction to the next two modules that look at the two Information Systems Architectures

Information Systems Architecture – Objectives

Data architecture:

- To define the types and sources of data needed to support the business, in a way that can be understood by the stakeholders

Application architecture:

- To define the kinds of application systems necessary to process the data and support the business

Approach

Phase C involves Data and Applications Architecture, in either order.

Advocates exist for both sequences:

- Spewak's *Enterprise Architecture Planning* recommends a data-driven sequence.
- Major applications systems (ERP, CRM, …) often combine technology infrastructure and application logic.
  An application-driven approach takes core applications (underpinning mission-critical business processes) as the primary focus of the architecture effort.
- Integration issues often constitute a major challenge.

Continued...

Top-Down Design – Bottom-up Implementation

- **Design:**
  1. Business Architecture
  2. Data (or Applications) Architecture
  3. Applications (or Data) Architecture
  4. Technology Architecture
- **Implementation:**
  1. Technology Architecture
  2. Applications (or Data) Architecture
  3. Data (or Applications) Architecture
  4. Business Architecture

Alternative Approach: Data-Driven Sequence Implementation

1. First implement application systems that **create** data
2. Then applications that **process** the data
3. Finally, applications that **archive** data

Approach: Architecture Repository

- Consider generic models relevant to an organization's industry vertical
  - Data Architecture Resources
    - Generic data models, for example the ARTS data model (Retail industry), Energistics data model (Petrotechnical industry)
  - Application Architecture Resources
    - Generic application models, for example the TeleManagement Forum (telecommunications industry), the OMG has a number of software models for specific verticals (Healthcare, Transportation, Finance etc)

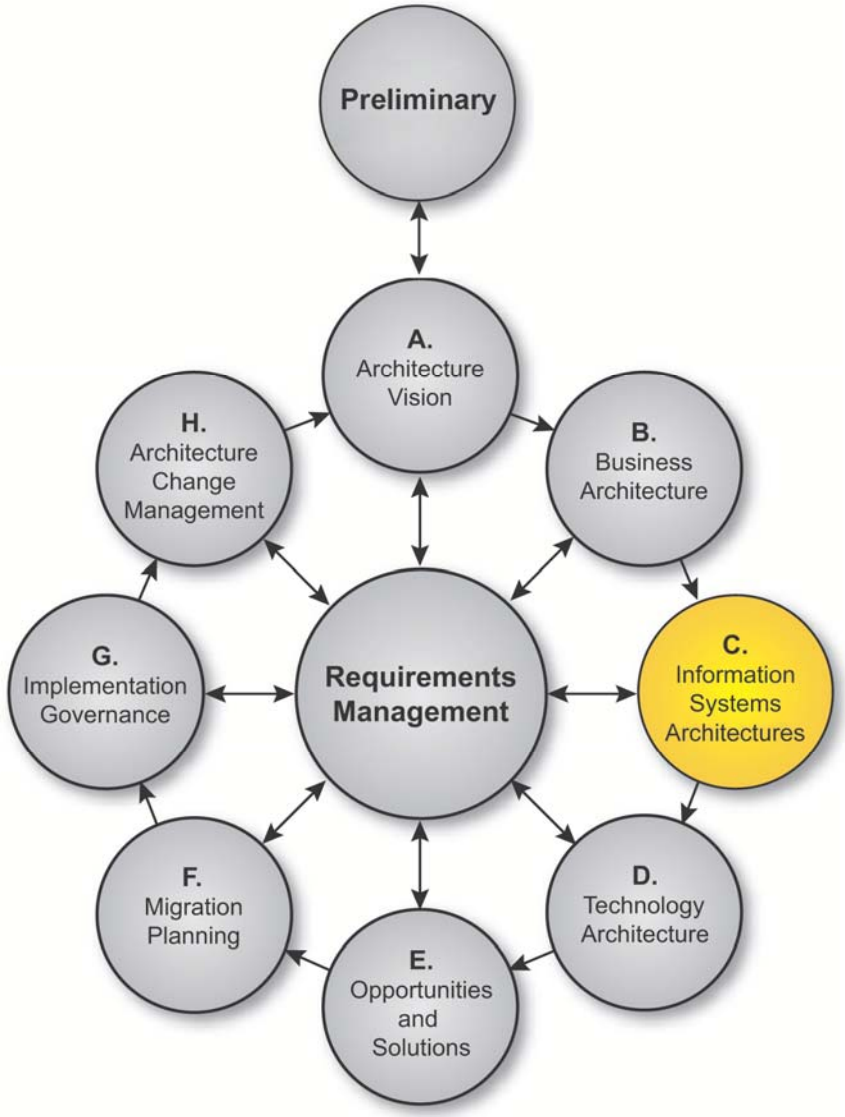
Considerations for Data Architecture

- Data Management
- Data Migration
- Data Governance

Phase C: Inputs

- Request for Architecture Work
- Capability Assessment
- Communications Plan
- Organization model for enterprise architecture
- Tailored Architecture Framework
- Data/Application principles
- Statement of Architecture Work
- Architecture Vision
- Architecture Repository
- Draft Architecture Definition Document
- Draft Architecture Requirements Specification, including:
  - Gap analysis results
  - Relevant technical requirements
- Business Architecture components of an Architecture Roadmap

Steps

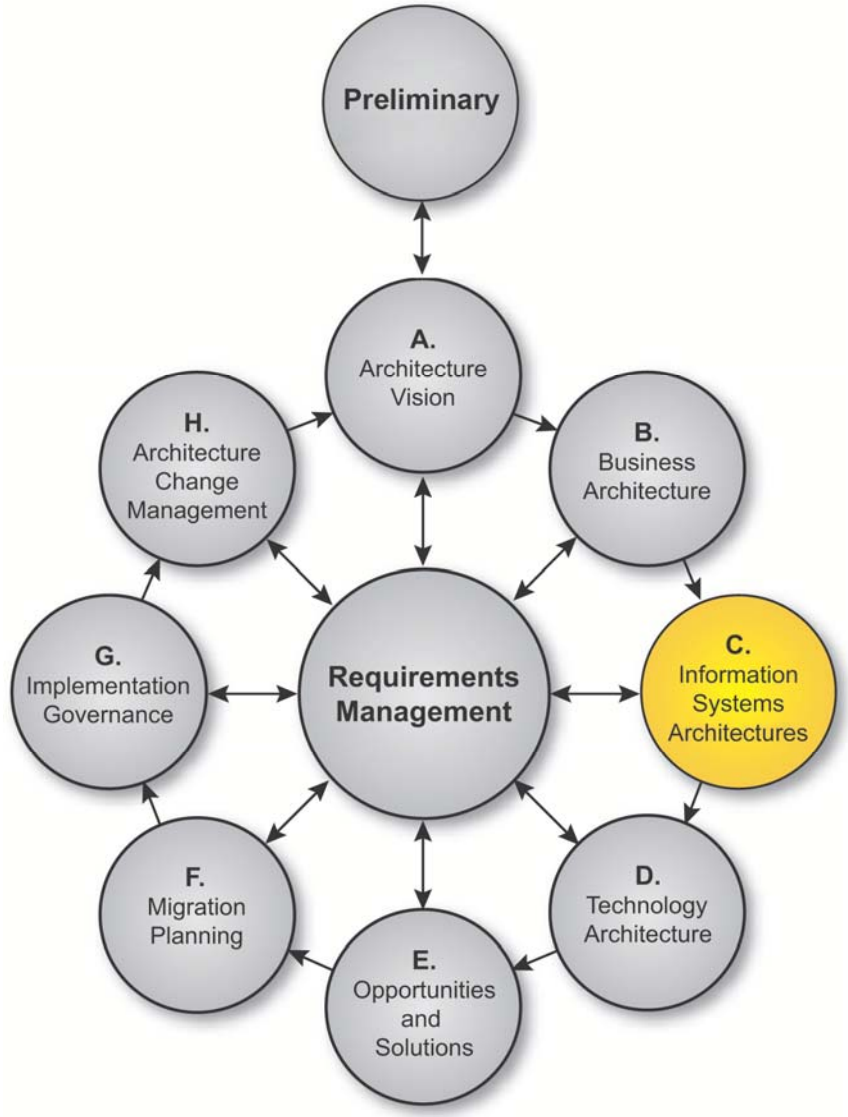


1. Data Architecture
2. Applications Architecture

Phase C: Outputs: Application Architecture

- Statement of Architecture Work
- Validated principles, or new principles (data/application)
- Draft Architecture Definition Document, containing:
  - Baseline Application/Data Architecture
  - Target Application /Data Architecture
  - Application/Data Architecture views of key stakeholder concerns
- Draft Architecture Requirements Specification, including:
  - Gap analysis results
  - Application / Data interoperability requirements
  - Relevant technical requirements Constraints on the Technology Architecture
  - Updated business requirements
- Application / Data Architecture components of an Architecture Roadmap

Summary



- The objective of Phase C is to document the fundamental organization of an organization's IT System
  - Embodied in the major types of information and the application systems that process hem
  - Their relationships to each other and the environment
  - The principles governing its design and evolution
  - It should document how the IT systems meets the business goals of the organization