ATE100 – Views, Viewpoints and Stakeholder Management

This module describes the concepts of views and viewpoints and their role in communication with stakeholders and how to apply the Stakeholder Management technique

Views and Viewpoints

View

- What you see
- Always specific to the architecture for which it is created
- Has an associated viewpoint that describes it, at least implicitly

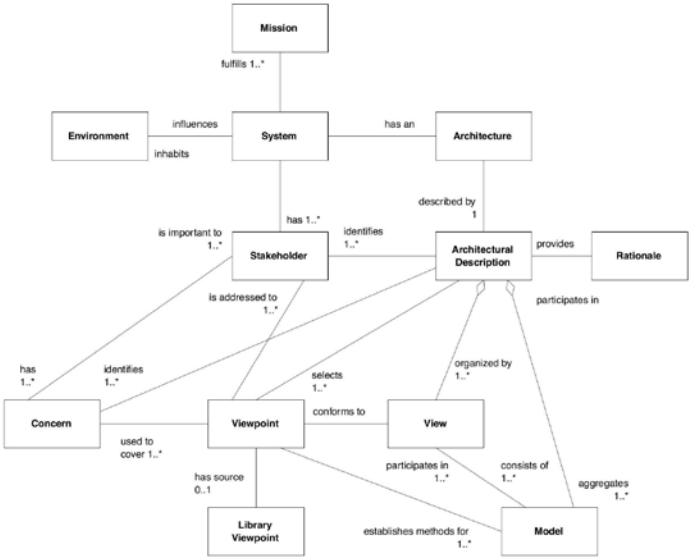
Viewpoint

- Where you are looking from
- Vantage point or perspective that determines what you see
- Generic, and can be stored in a library for re-use
- ISO/IEC 42010: 2007 encourages architects to define viewpoints explicitly

Making this distinction between the content and schema of a view

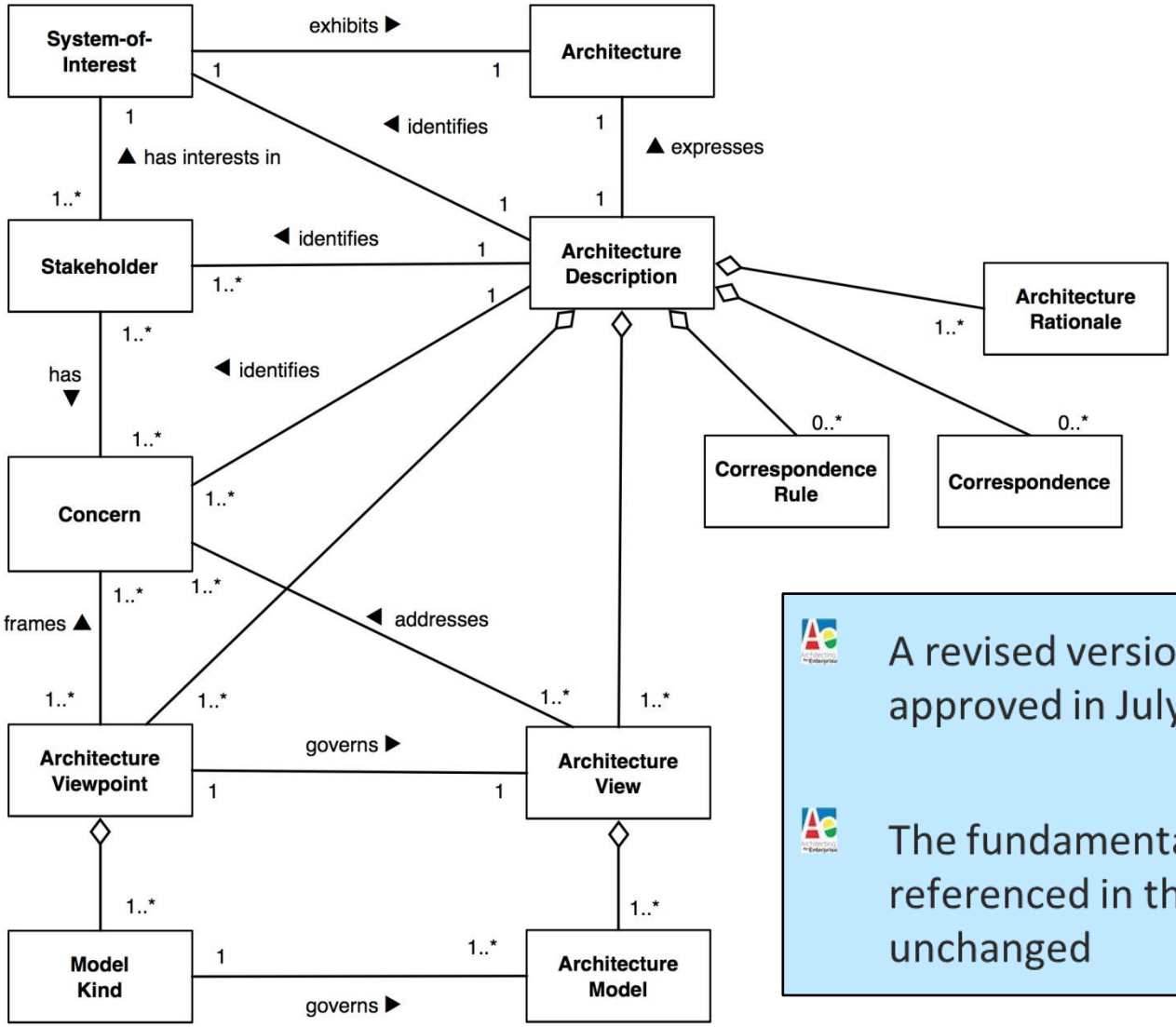
- May seem to be an unnecessary overhead
- But provides a mechanism for re-using viewpoints across different architectures

Basic Concepts contained in **ISO/IEC 42010: 2007**



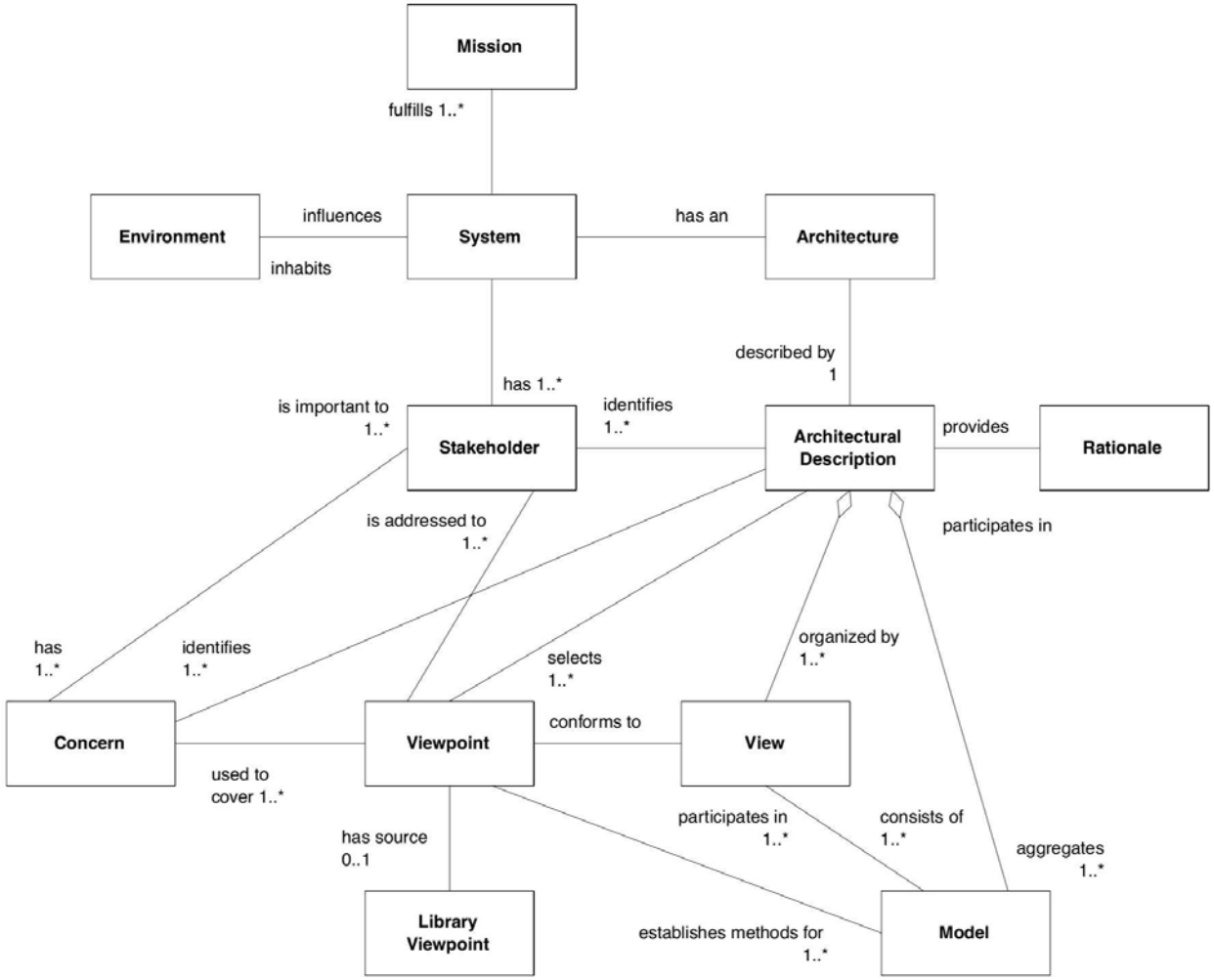
- The concepts discussed in this module have been adapted from more formal definitions contained in
  - ISO/IEC 42010: 2007 *Recommended Practice for Architectural Description of Software-intensive Systems*

ISO/IEC/IEEE 42010: 2011



- A revised version of the standard was approved in July 2011
- The fundamental concepts referenced in this module are unchanged

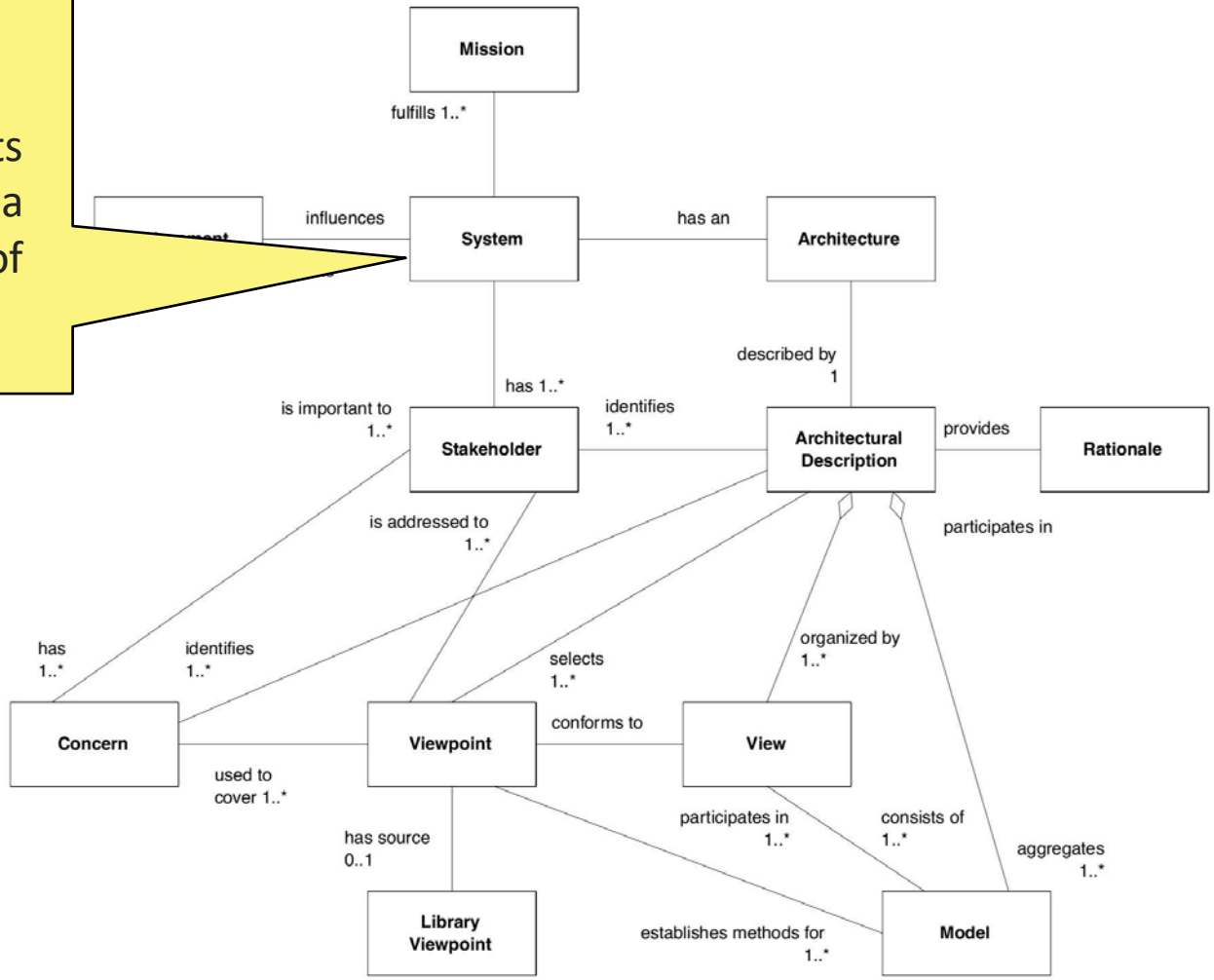
Basic Concepts contained in **ISO/IEC 42010: 2007**



Basic Concepts contained in **ISO/IEC 42010: 2007**

SYSTEM

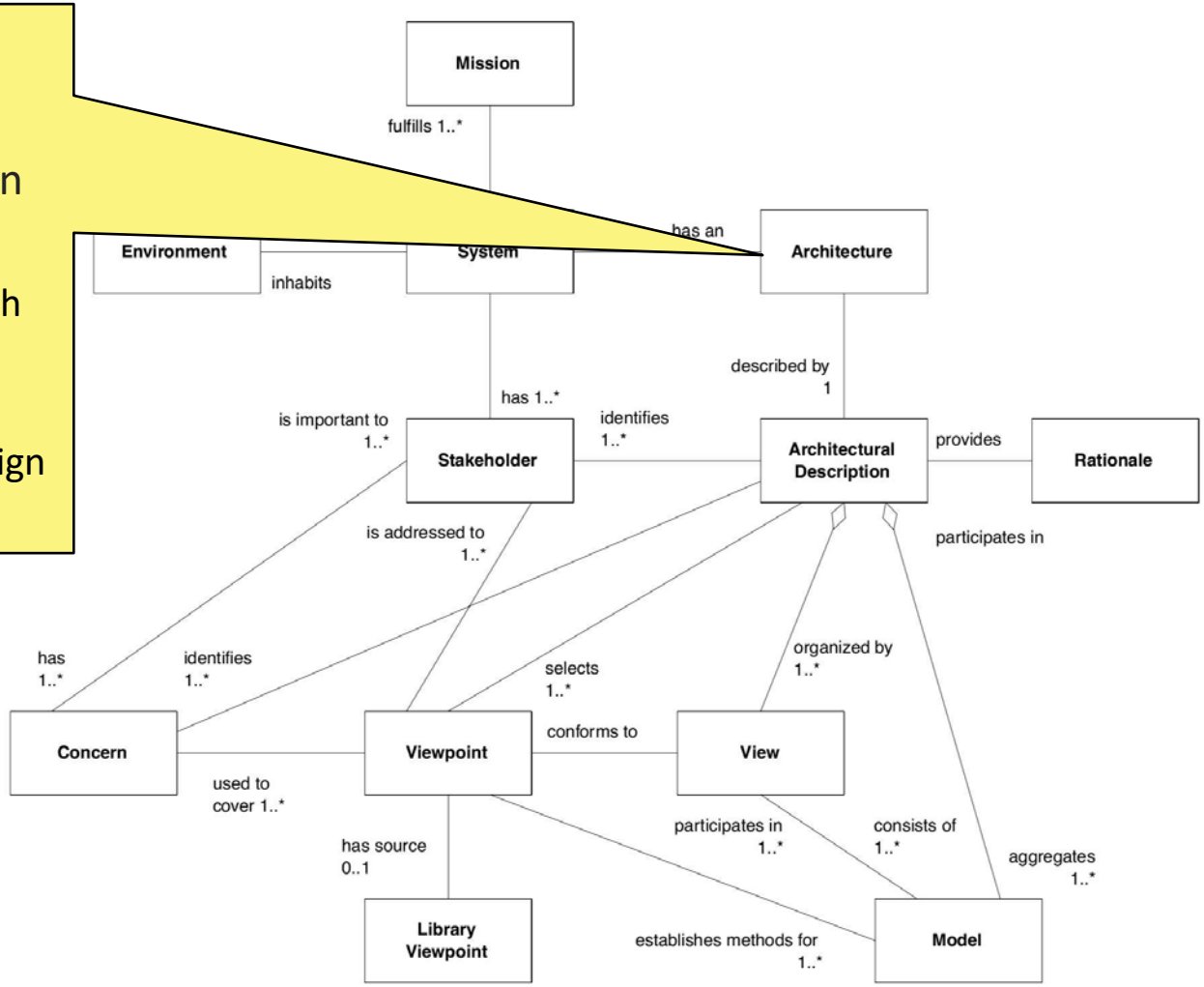
- Collection of components organized to accomplish a specific function or set of functions



Basic Concepts contained in **ISO/IEC 42010: 2007**

ARCHITECTURE

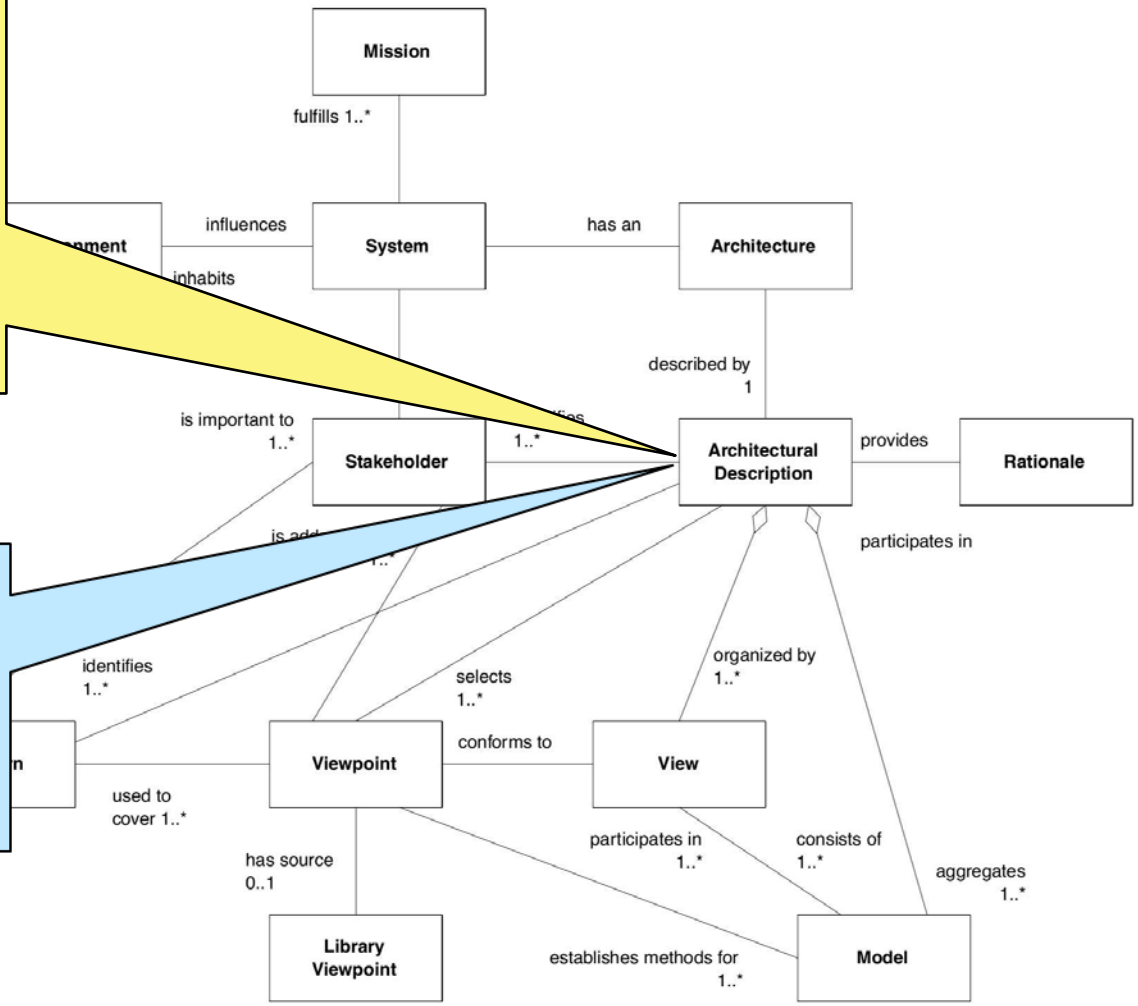
- System's fundamental organization, embodied in
  - its components
  - their relationships to each other and to the environment
  - principles guiding its design and evolution



Basic Concepts contained in **ISO/IEC 42010: 2007**

ARCHITECTURAL DESCRIPTION

- Collection of artifacts that document an architecture
- In the TOGAF Framework, architecture views are the key artifacts

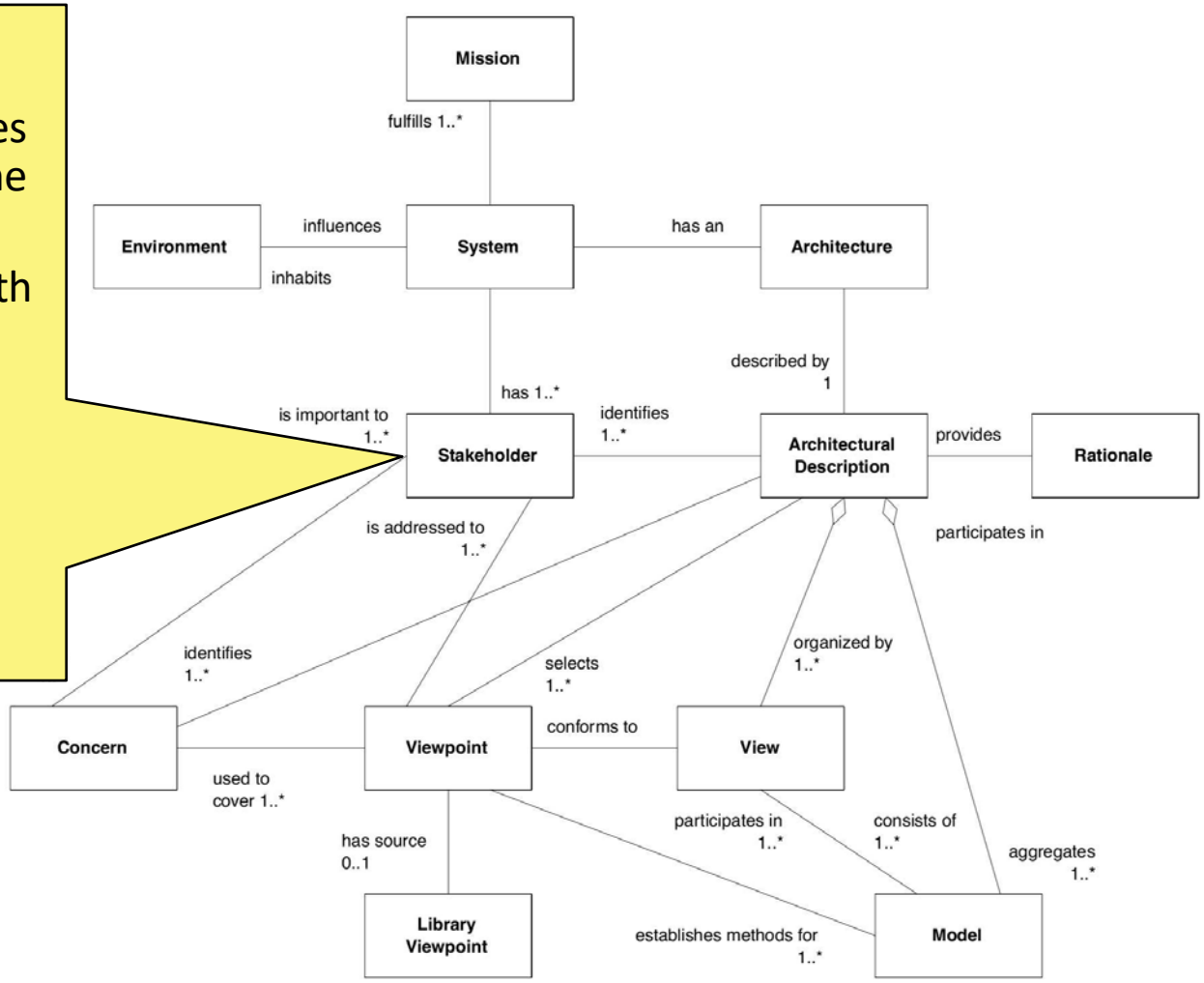


In the TOGAF Framework the **Architecture Definition Document** contains the Architectural Description

Basic Concepts contained in **ISO/IEC 42010: 2007**

STAKEHOLDERS

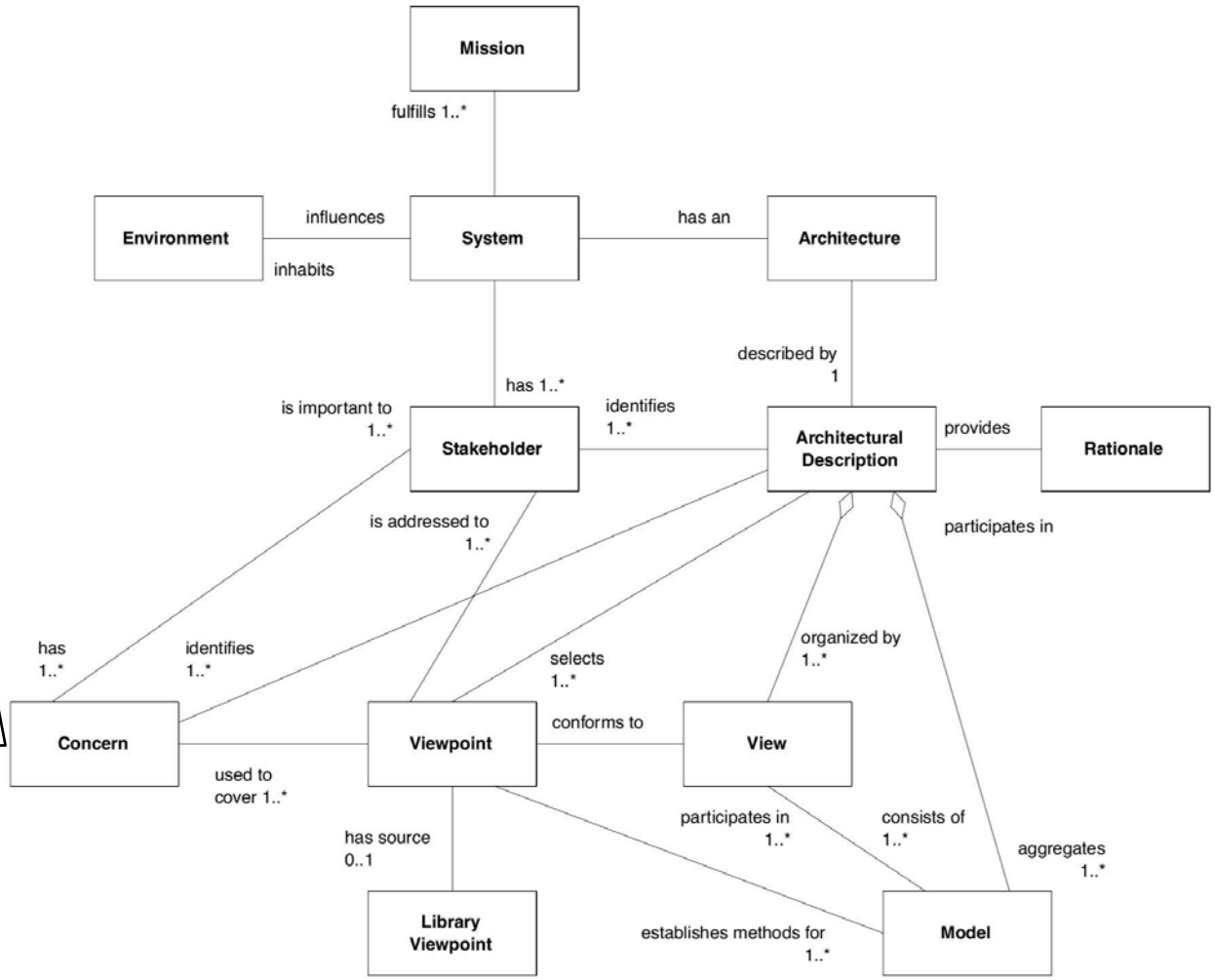
- People who have key roles in, or concerns about, the system
- Different stakeholders with different roles will have different concerns
- Stakeholders can be
  - Individuals
  - Teams
  - Organization



Basic Concepts contained in **ISO/IEC 42010: 2007**

CONCERNS

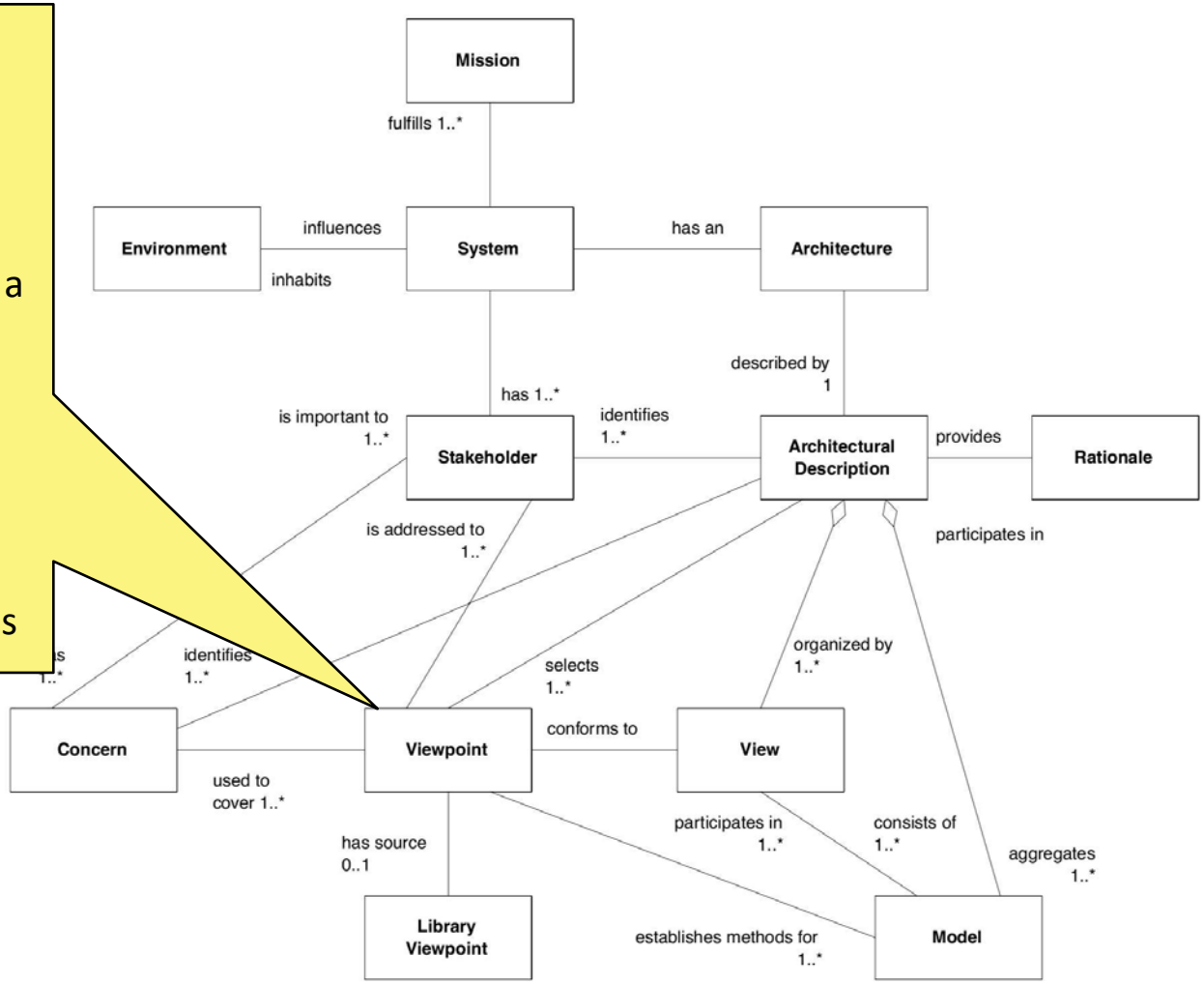
- Are key interests
  - crucially important to stakeholders
  - determine acceptability
- Concerns may pertain to system's
  - Functioning
  - Development
  - Operation
- Concerns include considerations of
  - performance
  - reliability
  - security
  - distribution
  - evolvability



Basic Concepts contained in **ISO/IEC 42010: 2007**

VIEWPOINT

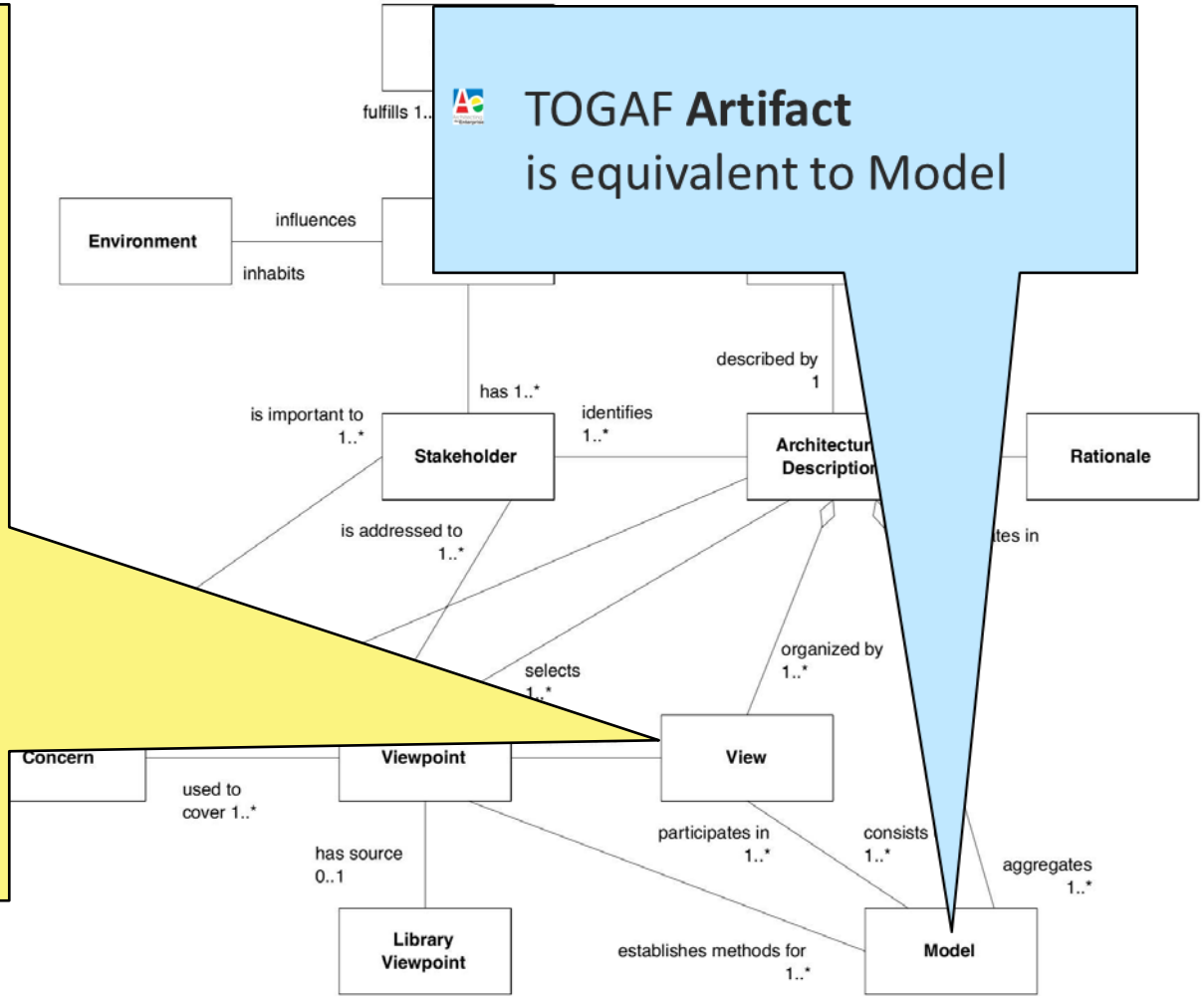
- defines perspective from which a view is taken
- Viewpoint defines
  - How to construct and use a view
  - Information that should appear in the view
  - Modeling techniques for expressing and analyzing information
  - Rationale for these choices



Basic Concepts contained in **ISO/IEC 42010: 2007**

VIEW

- Representation of a whole system from perspective of a related set of concerns of one or more stakeholders
- A View is what is seen from a Viewpoint
- Architect creates models using tools
- A view will comprise selected parts of one or more models
  - chosen to demonstrate that stakeholder concerns are addressed



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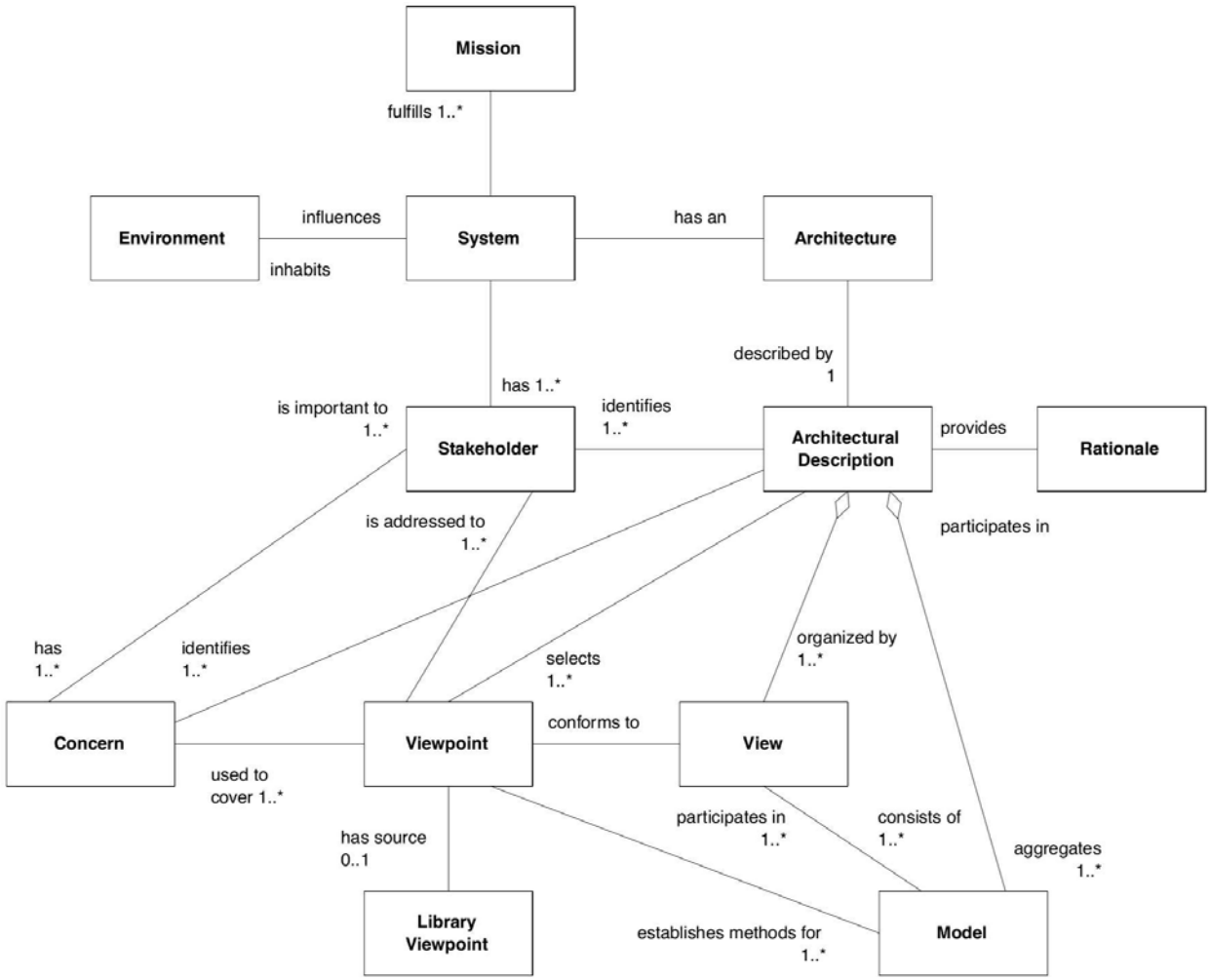


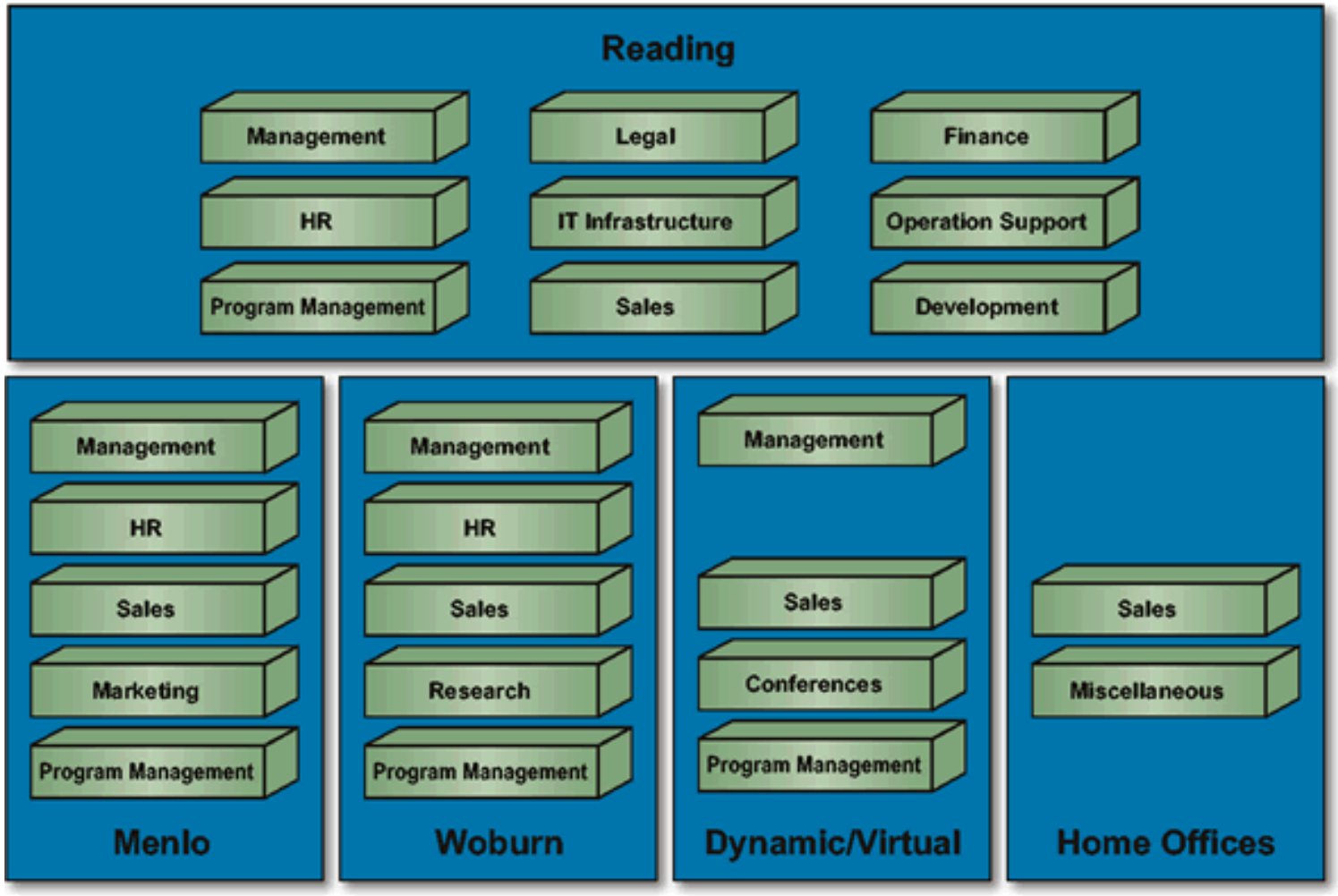
Simple Example of a Viewpoint and View

- A useful viewpoint is that of business domains, illustrated by an example from The Open Group itself

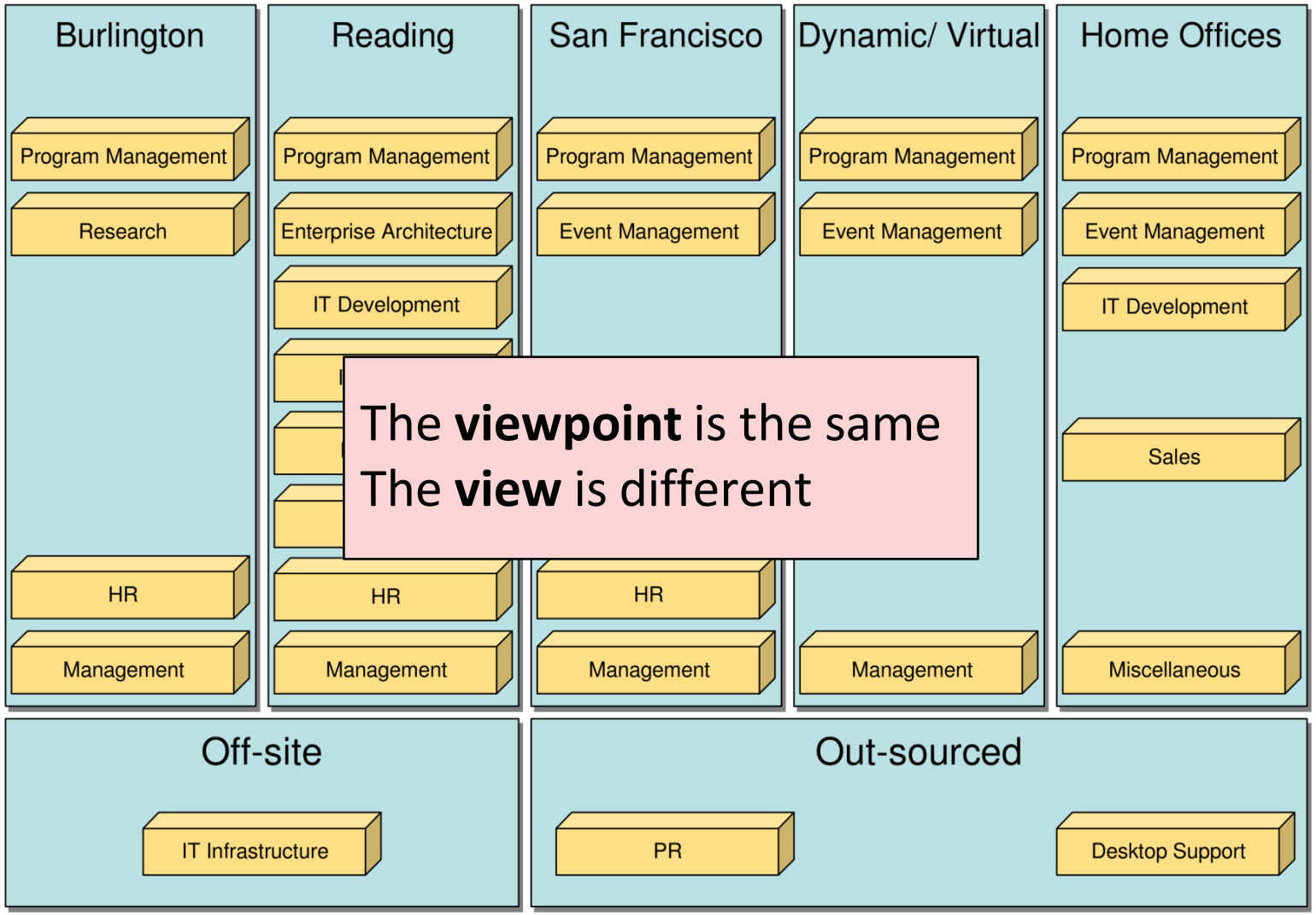
Viewpoint element	***Description***
Stakeholders:	Management Board, Chief Information Officer
Concerns:	Show the top-level relationships between geographical sites and business functions
Modeling technique:	Nested boxes diagram. Blue = locations; brown = business functions. Semantics of nesting = functions performed in the locations.

- The following slides show 2 different views that address the same viewpoint

View – The Open Group in 2000



View – The Open Group in 2008



Developing Views in the ADM

- Choice of which views to develop is key decision of architect
- The architect has a responsibility for ensuring
  - Completeness (fitness-for-purpose) of architecture, in terms of adequately addressing all pertinent concerns of stakeholders
  - Integrity of the architecture, in terms of connecting views to each other
  - Reconciling conflicting concerns of different stakeholders
  - Showing trade-offs made (as between security and performance)
- Choice has to be constrained by
  - Considerations of practicality
  - Principle of fitness-for-purpose

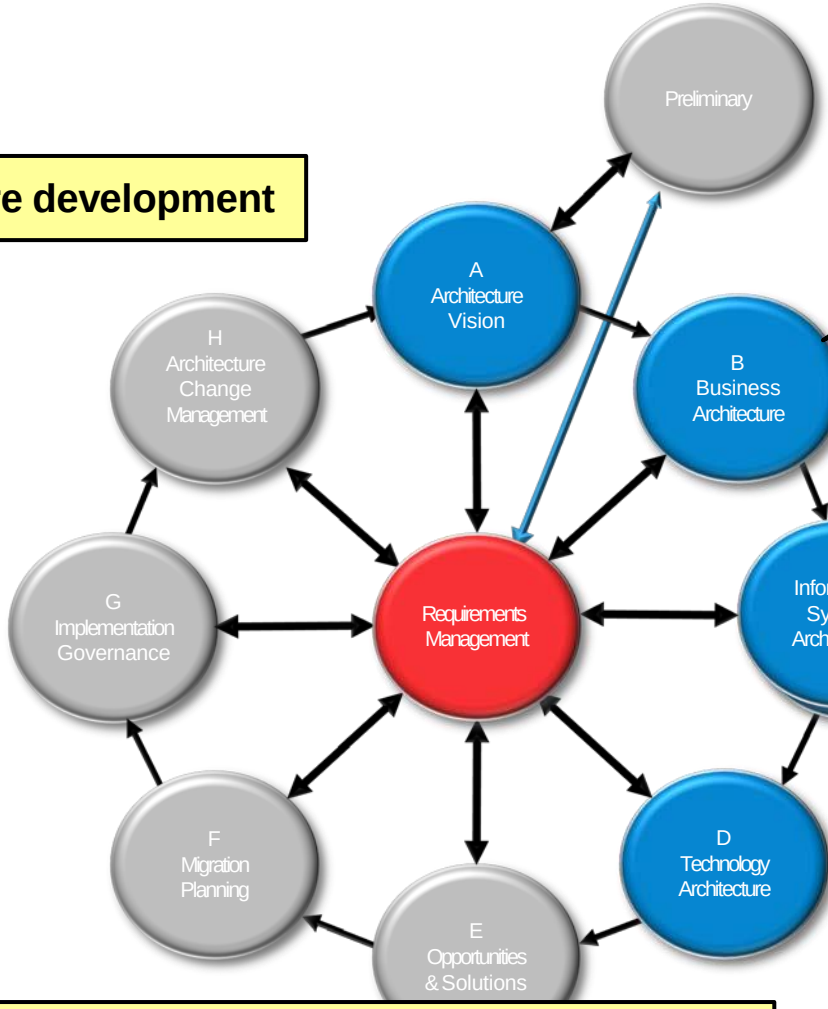
The development of architecture views is an iterative process.

- The typical progression is
  - From business to technology
  - From high-level overview to lower-level detail
- Each progression has to be made for :
  - the existing environment (referred to as the baseline in the ADM) and
  - the target environment
- Provides context for gap analysis at end of Phases B, C, and D of the ADM

Development of Architecture Views in the ADM

Views based architecture development

Viewpoints Library



Baseline Views
Target Views

Baseline Views
Target Views

Baseline Views
Target Views

Development of architecture views is an iterative process

View Creation Process

- Often possible to create required views for a particular architecture by
  1. Refer to existing library of viewpoints
  2. Select appropriate viewpoints (based on stakeholders and concerns that need to be covered by views)
  3. Generate views of system by using selected viewpoints as templates

- This approach can be expected to bring the following benefits:
  - Less work for the architects - viewpoints have already been defined therefore views can be created faster
  - Better comprehensibility for stakeholders - viewpoints are already familiar
  - Greater confidence in validity of the views - viewpoints have known track record

Where no Appropriate Viewpoint has been Predefined

- Develop a new viewpoint that will cover the outstanding need
  - Then generate a view from it
  - This is ISO/IEC 42010: 2007 recommended practice
- Pragmatic approach
  - Create an *ad hoc* view for a specific system
  - Later consider whether a generalized form of implicit viewpoint should be defined, so that it can be re-used
- Every view has a viewpoint, at least implicitly
  - Defining viewpoint in a systematic way will help in assessing its effectiveness

Classes of Artifact

Three specific classes of artifact are defined in the TOGAF content framework:

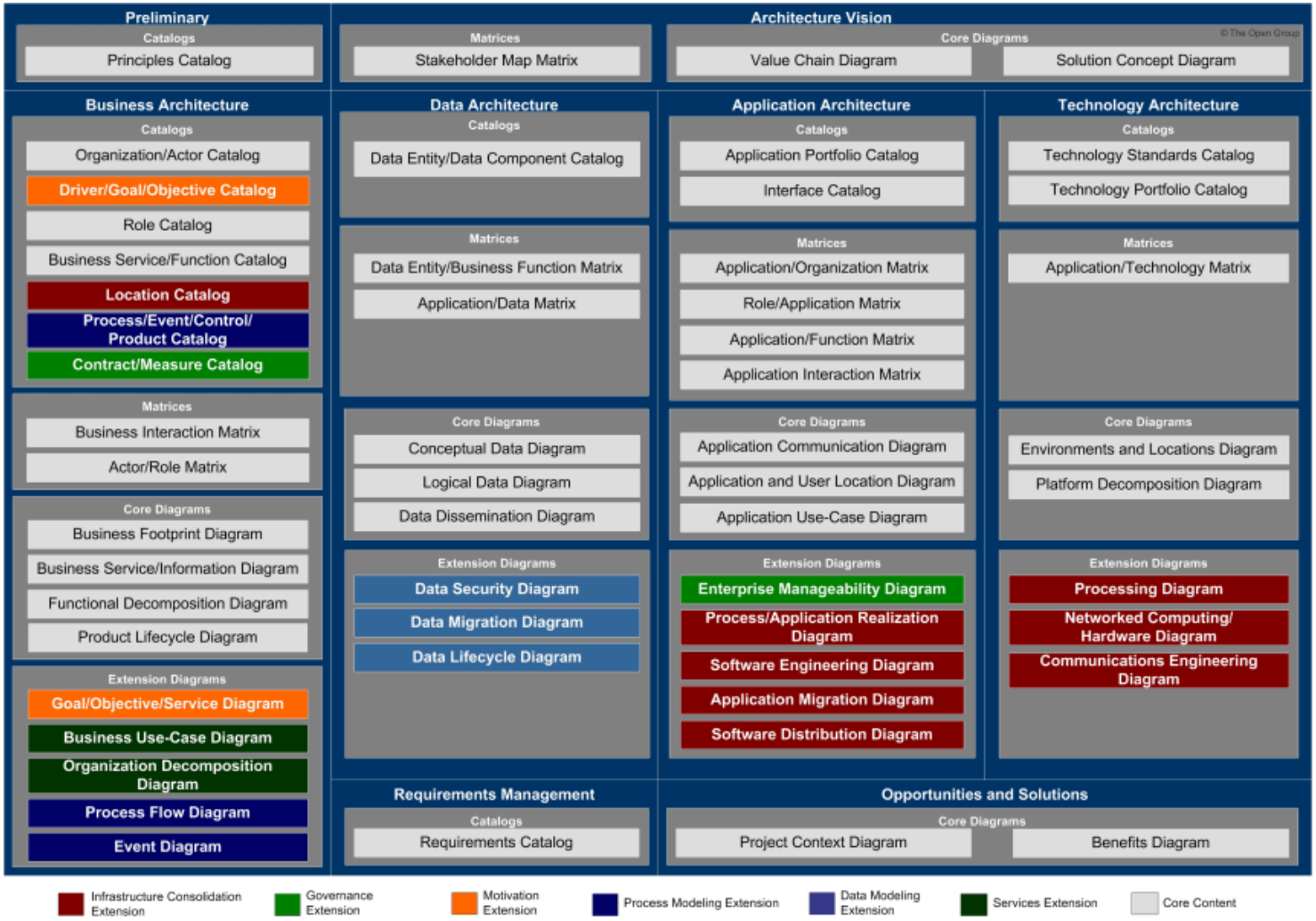
- **Catalogs**
  - Specific foundational views - represent lists of building blocks
- **Matrices**
  - Specific foundational views - show relationships between building blocks of specific types
- **Diagrams**
  - Graphical views - present building blocks in a rich and visual way, more suited to stakeholder communication

The TOGAF Architecture Domains as Views

- ISO/IEC 42010 considers the 4 TOGAF architecture domains as views (with associated implicit viewpoints) of a single architecture that can be used to group the foundational catalogs, matrices, and diagrams:

  - **Business Architecture domain** addresses the needs of users, planners, and business management describing the flow of business information and the activities between people and process
  - **Data Architecture domain** addresses the needs of database designers, database administrators, and system engineers responsible for developing and integrating the data
  - **Application Architecture domain** addresses the needs of system and software engineers responsible for developing and integrating applications
  - **Technology Architecture domain** addresses the needs of acquirers, operators, administrators, and managers responsible for the technology capability

The TOGAF Framework Defines a Taxonomy of Artifacts



Stakeholder Management

- Important discipline that successful architecture practitioners can use to win support from others

- Benefits:
  - Most powerful stakeholders can be identified early and their input can then be used to shape the architecture
  - Support from more powerful stakeholders will help engagement win more resource
  - By communicating with stakeholders early and frequently, EA team can ensure that they fully understand architecture process & benefits
  - EA team can anticipate reactions to architecture models and reports
    - Capitalize on positive reactions
    - Avoid or address negative reactions
    - Identify conflicting or competing objectives
    - Develop strategy to resolve issues

Stakeholder Management Approach

- Used during the Vision Phase (A) to identify key players in engagement
- Different stakeholders may be uncovered as the engagement progresses through the ADM phases
  - Opportunities & Solutions
  - Migration Planning
  - Architecture Change Management
- The TOGAF ADM specifically identifies this issue through concepts:
  - Stakeholders
  - Concerns
  - Views
  - Viewpoints

Stakeholder Management Steps

Identify Stakeholders

Classify Stakeholder Positions

Determine Stakeholder Management Approach

Tailor Engagement Deliverables

Identify Stakeholders

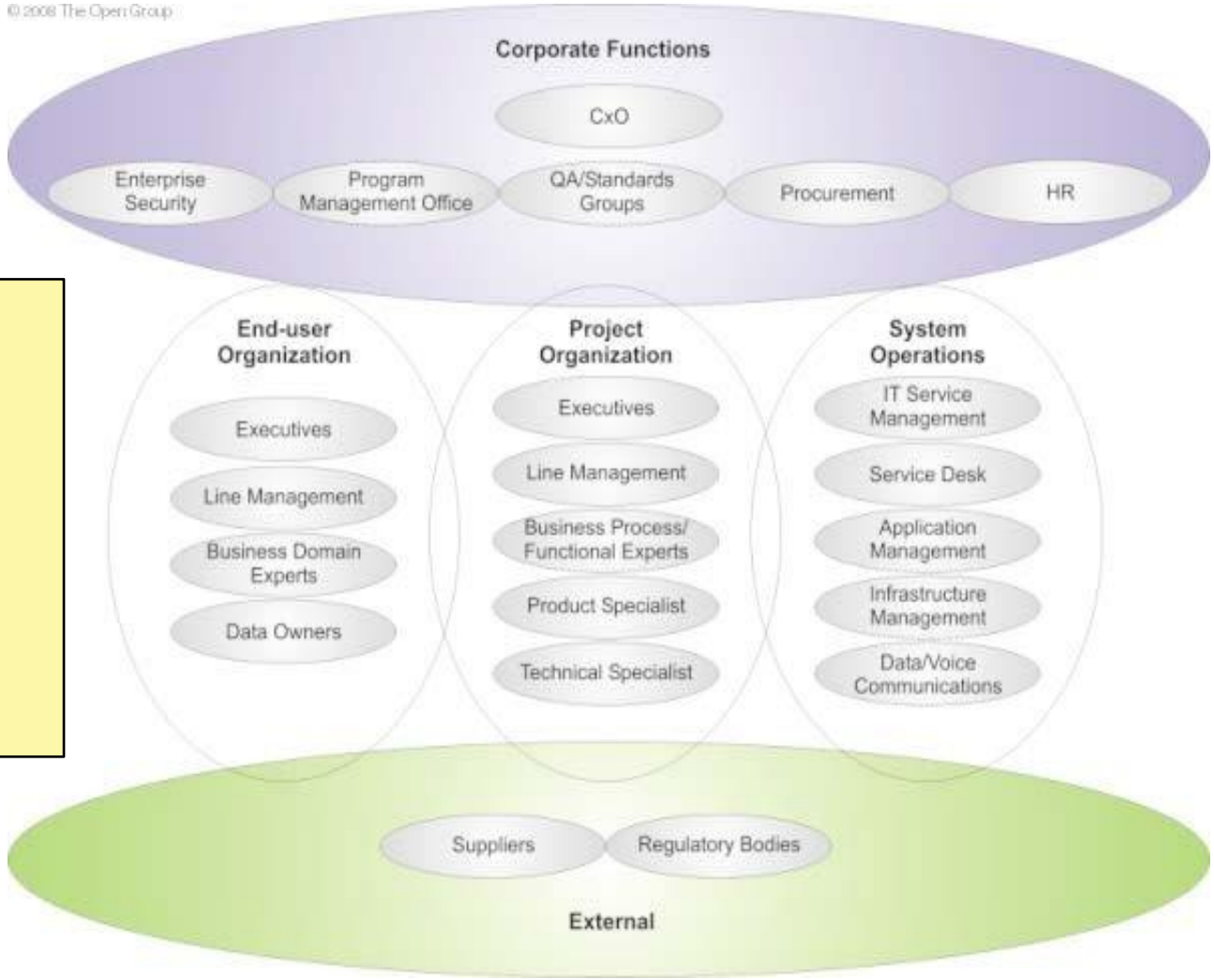
- Identify Stakeholders
- Classify Stakeholder Positions
- Determine Stakeholder Management Approach
- Tailor Engagement Deliverables

- Identify EA stakeholders - these can be organizations or people
- Who is impacted by the project
  - Who gains and who loses from this change?
  - Who controls change management of processes?
  - Who designs new systems?
  - Who will make the decisions?
  - Who procures IT systems and who decides what to buy?
  - Who controls resources?
  - Who has specialist skills the project needs?
  - Who has influence?
- In particular, influencers need to be identified as they are valued by their colleagues and managers

Example Stakeholder Categories

Five broad categories of stakeholder

- Corporate Functions
- End-user Organization
- Project Organization
- System Operations
- External



Classify Stakeholder Positions

Identify Stakeholders

Classify Stakeholder Positions

Determine Stakeholder Management Approach

Tailor Engagement Deliverables

- Develop understanding of the most important stakeholders
- Create a Stakeholder Analysis

Stakeholder Analysis - Example

Stakeholder group	Stakeholder	Ability to disrupt change	Current under-standing	Required under-standing	Current commitment	Required commitment	Required support
CIO	John Smith	H	M	H	L	M	H
CFO	Jeff Brown	M	M	M	L	M	M

Stakeholder Analysis - Example

Stakeholder group	Stakeholder	Ability to disrupt change	Current under-standing	Required under-standing	Current commitment	Required commitment	Required support
CIO	John Smith	H	M	H	L	M	H
CFO	Jeff Brown	M	M	M	L	M	M

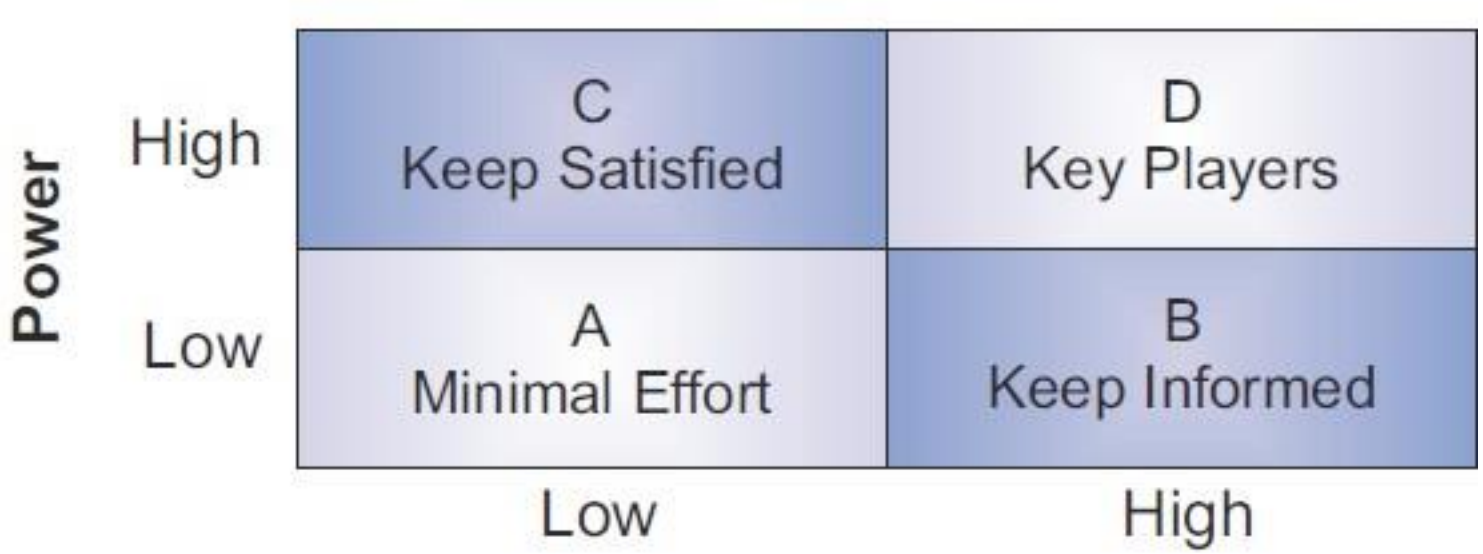
- Is that person ready to change direction and begin moving towards the Target Architecture? If so, how ready?
- Is that person capable of being a credible advocate or agent of the proposed enterprise architecture initiative? If so, how capable?
- How involved is the individual in the enterprise architecture initiative? Are they simply an interested observer, or do they need to be involved in the details?
- Has that person made a contractual commitment to the development of the enterprise architecture, and its role in the governance of the development of the organization?

Determine Stakeholder Management Approach

- Identify Stakeholders
- Classify Stakeholder Positions
- **Determine Stakeholder Management Approach**
- Tailor Engagement Deliverables

- For key stakeholders
  - Assess power
  - Ability to block/advance or not powerful enough
  - Assess interest - interested, not interested
- Work out the stakeholder power, influence and interest and focus on key individuals
- Map to power/interest matrix
  - Indicates strategy to adopt for engaging with them

Stakeholder Power Grid



Determine Stakeholder Management Approach

Identify Stakeholders

Classify Stakeholder Positions

Determine Stakeholder Management Approach

Tailor Engagement Deliverables

- Identify what artifacts are needed and validate with each stakeholder group
  - Viewpoints
  - Matrices
  - Views
- Enables architecture to be communicated to, understood and validated by key stakeholders

Example Stakeholder Map (Partial)

Stakeholder	Key Concerns	Class	Catalogs, Matrices and Diagrams
CIO	Business Service Disruptions Total Cost of Ownership Interoperability with Legacy Systems	Key Player	Value chain diagram Solution concept diagram Business interaction matrix Product lifecycle diagram Application/technology matrix
COO	Daily Customer Experience (Performance) Sub Contractor Performance Management Operating Costs	Key Player	Value chain diagram Solution concept diagram Business interaction matrix Product lifecycle diagram Functional decomposition
VP Innovation	Roadmap of phased capability improvements Manage expectations Technology alternatives and costs	Key Player	Data-entity component catalogue; Application/Data matrix Application/Techology matrix
CMO	Implementation deadlines Competitive advantage Customer satisfaction	Keep Informed	Value chain diagram Product lifecycle diagram Business footprint diagram
President & CEO	Brand image Competitive advantage Business performance Costs and impact on revenue	Keep Satisfied	Organization/actor catalog Service/function catalog
General Manager	Brand image Customer satisfaction Operating costs	Minimal Effort	Role catalog Product lifecycle diagram

Source: Architecting the Enterprise

ATE100 – Views, Viewpoints and Stakeholder Management

- This module described
  - The concepts of views and viewpoints
  - Their role in communication with stakeholders
  - How to apply the Stakeholder Management technique

Learning Outcomes

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Transition from TOGAF 8.1.1 to TOGAF 9

- Concepts of views and viewpoints are largely unchanged
  - Terminology has been aligned with ISO/IEC 42010: 2007
  - UML model linking basic concepts has been added
  - Taxonomy of viewpoints has been extended to match TOGAF 9 content Meta Model

- The topic of Stakeholder Management is new in TOGAF 9

Transition from TOGAF 9 to TOGAF 9.1

- Terms “artifact” and “viewpoint” have been clarified and made consistent

- The Stakeholder Map diagram is now referred to as an example,
  - Table changed to refer to Stakeholder Concerns
  - List of artifacts for each stakeholder updated