

TDDE41 Software Architectures Standards

Lena Buffoni

lena.buffoni@liu.se

Lecture plan

- General notions
- IEE 42010
- TOGAF

Why standardize?

- Interoperability
- Cost reduction
- Provides a level of quality
- Better market value
- Necessary in some domains

Types of standards

- On artefacts (ISO/IEC 42010, DoDAF, TOGAF)
- On notations (UML, SysML, AADL)
- On processes (RUP & OpenUP, TOGAF ADM)

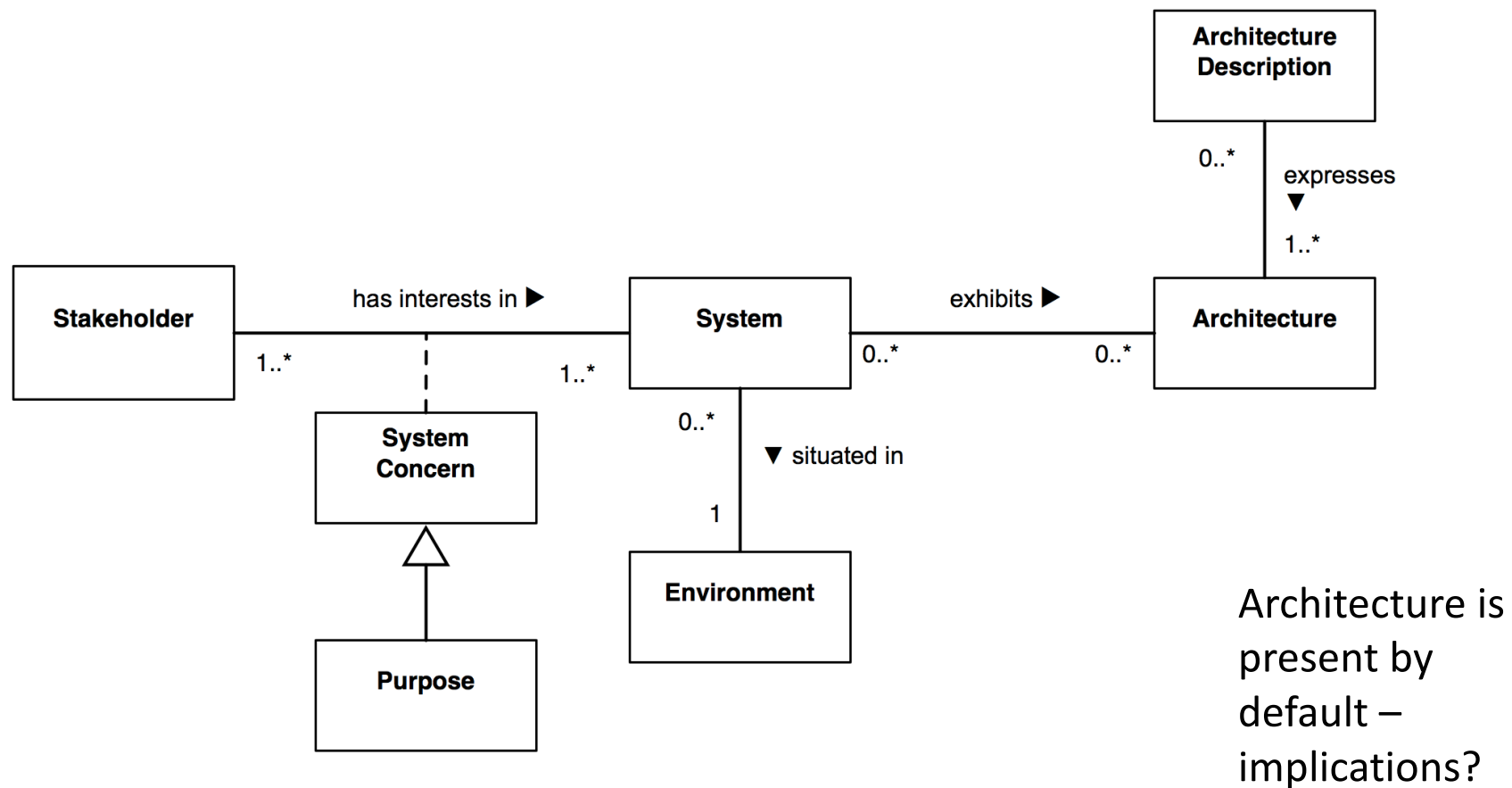
Early adoption

- + able to influence standard
- + competitive advantage
- + reflects current needs/technologies
- risk of failure
- moving target
- lack of support

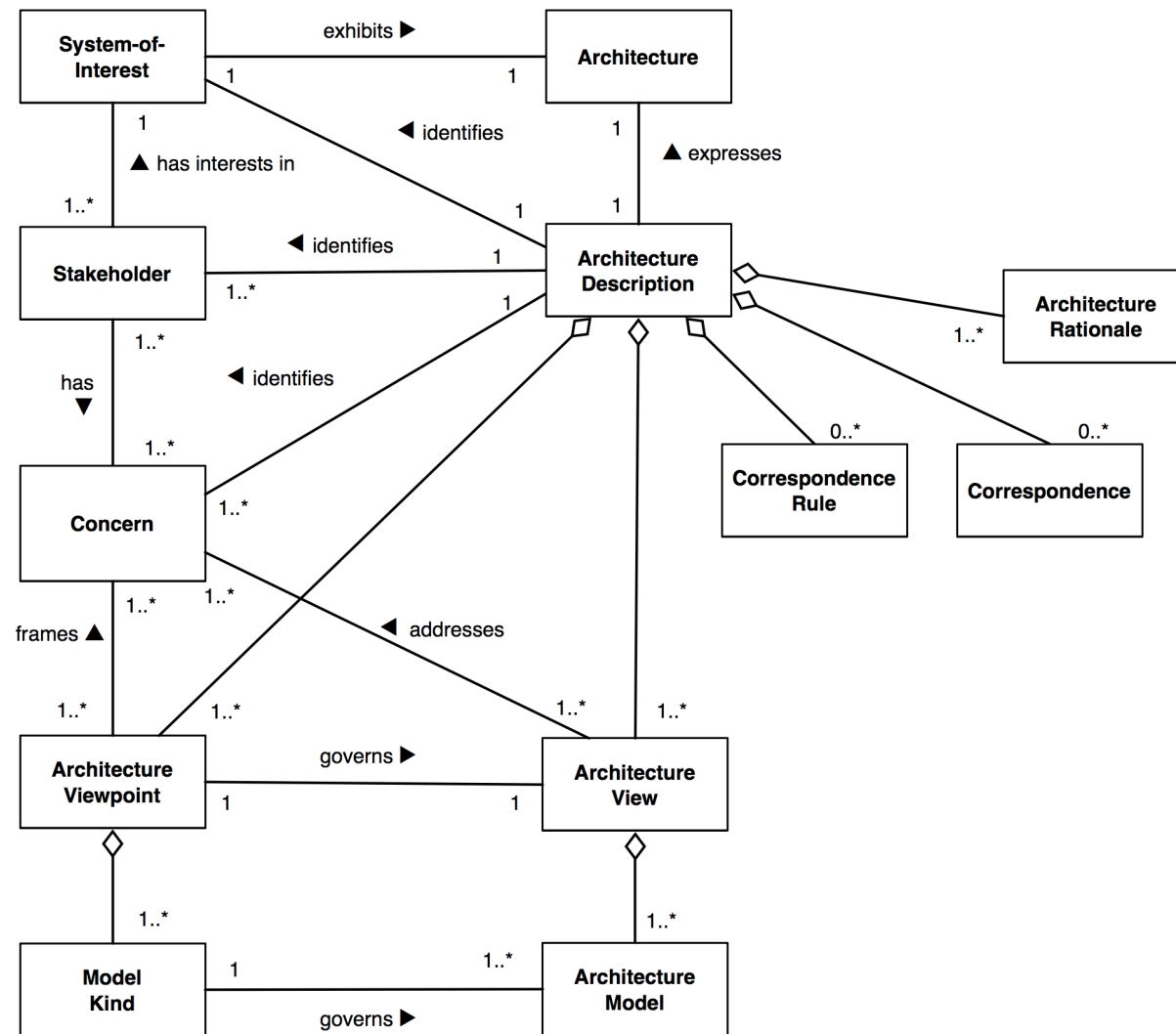
ISO/IEC 42010

- *IEE standard for Systems and software engineering – Architecture description.*
- Now covers architecture frameworks and architecture description languages
- Covers software intensive systems, general systems and software products and services
- Very general concepts

ISO/IEC 42010



ISO/IEC 42010



Viewpoints

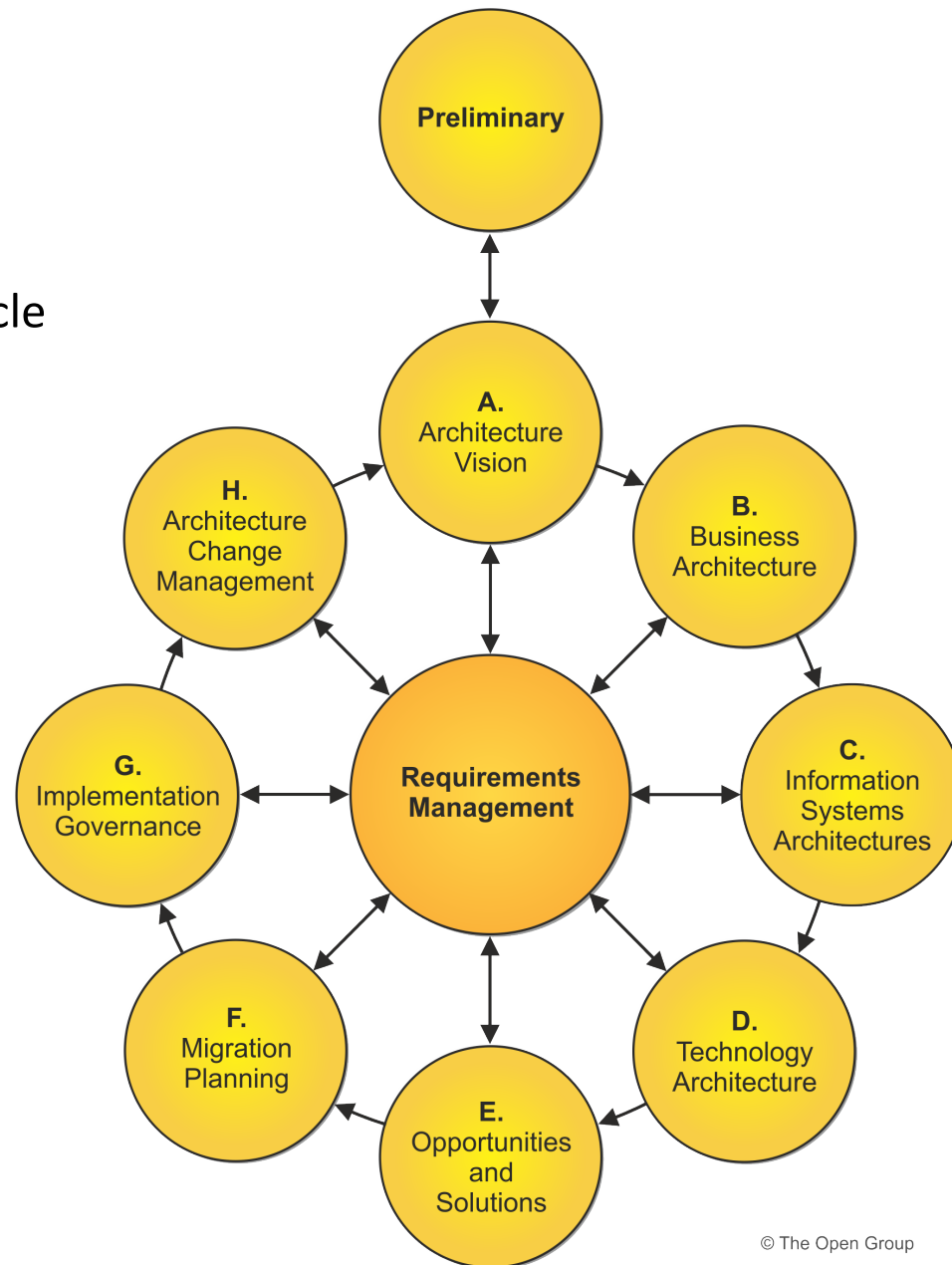
- A *viewpoint* (on a system) is an abstraction that yields a specification of the whole system related to a particular set of concerns.
- A view is **governed** by its viewpoint: the viewpoint establishes the conventions for constructing, interpreting and analyzing the view to address concerns framed by that viewpoint.

The Open Group Architecture Framework (TOGAF)

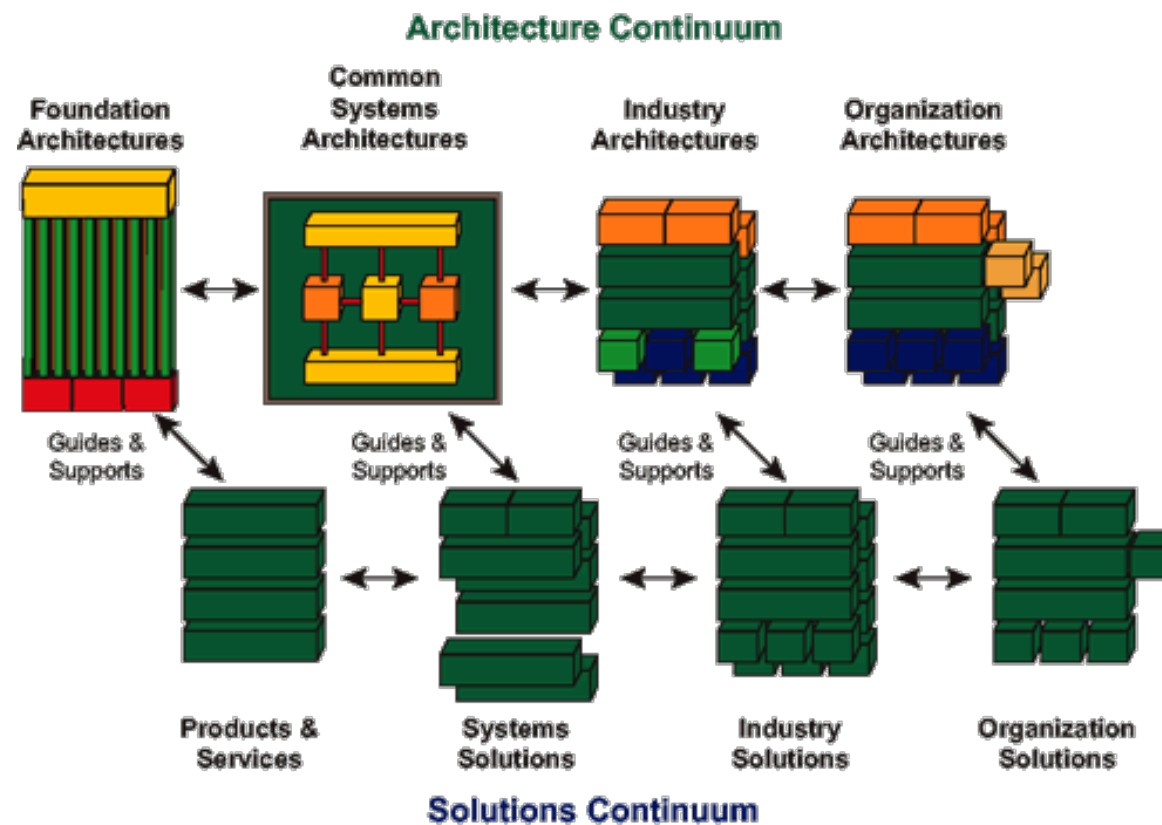
- Enterprise architecture framework
- Uses terminology from ISO/IEC 42010
- 4 areas: business, technology, data, application
- Centered around the Architecture Development Method (ADM)
- Enterprise continuum
- Architecture repository
- Industry specific techniques

TOGAF

Architectural development cycle



TOGAF: solutions continuum



Summary

- Standards document best practices
- Consider costs vs benefits when choosing a standard
- A standard cannot guarantee a good result