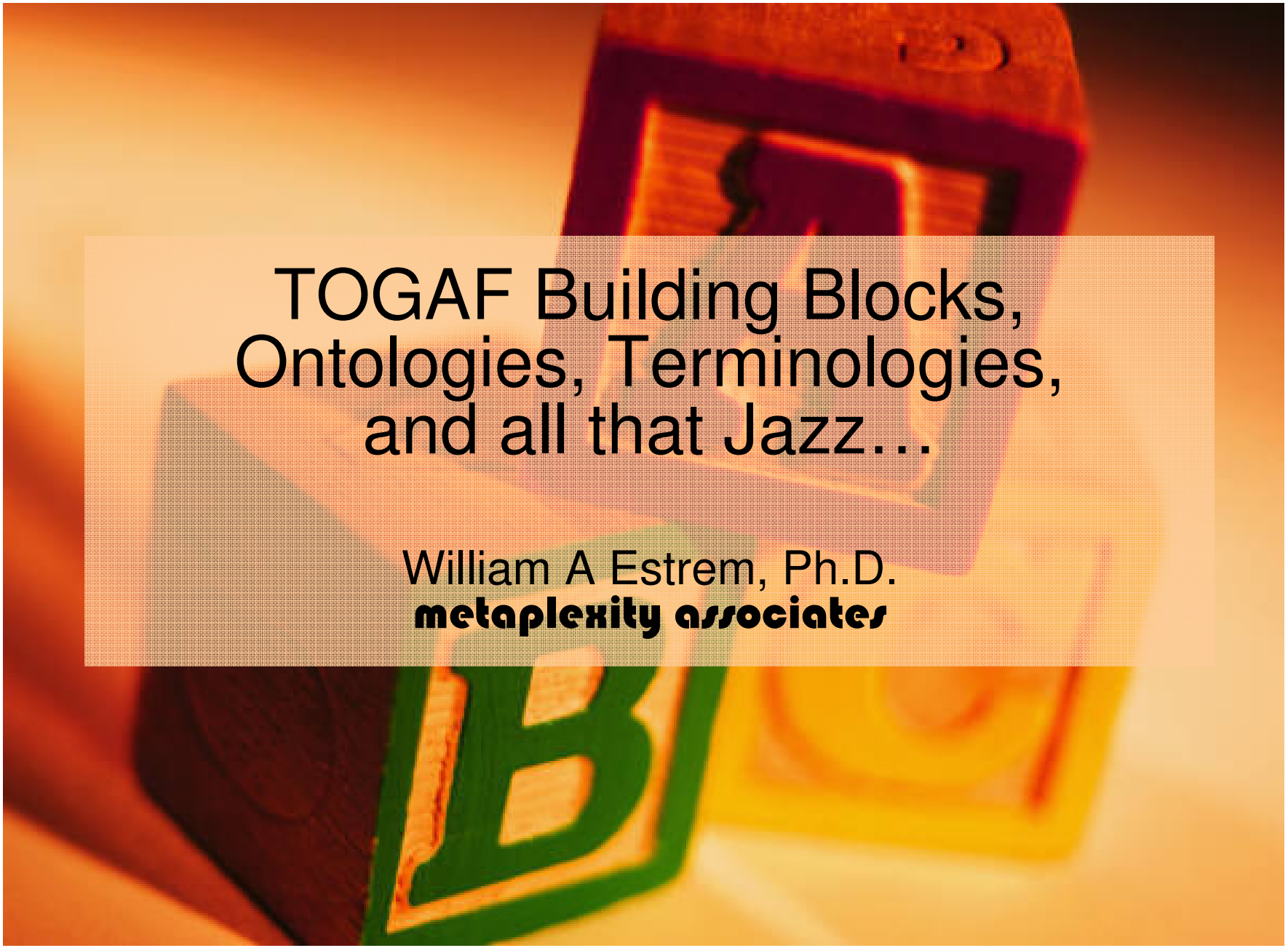
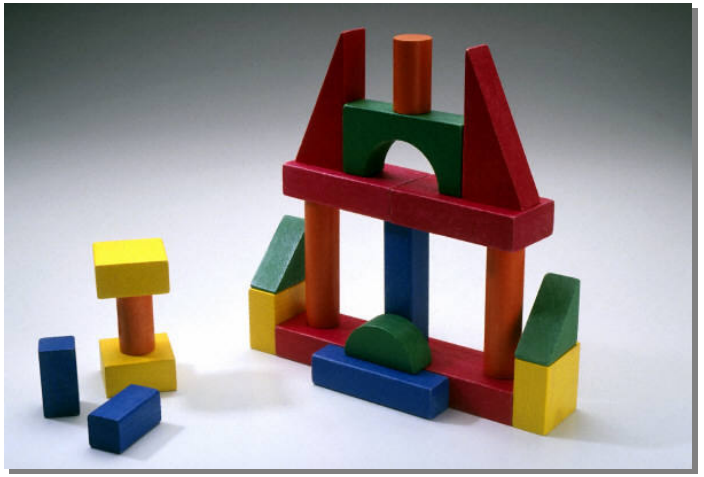


TOGAF Building Blocks, Ontologies, Terminologies, and all that Jazz…

William A Estrem, Ph.D.
metaplexity associates

Architecture Modeling in TOGAF

- Enterprise Architecture Modeling
- An Ontology for TOGAF 9
- A View of Service Oriented Architectures



metaplexity associates

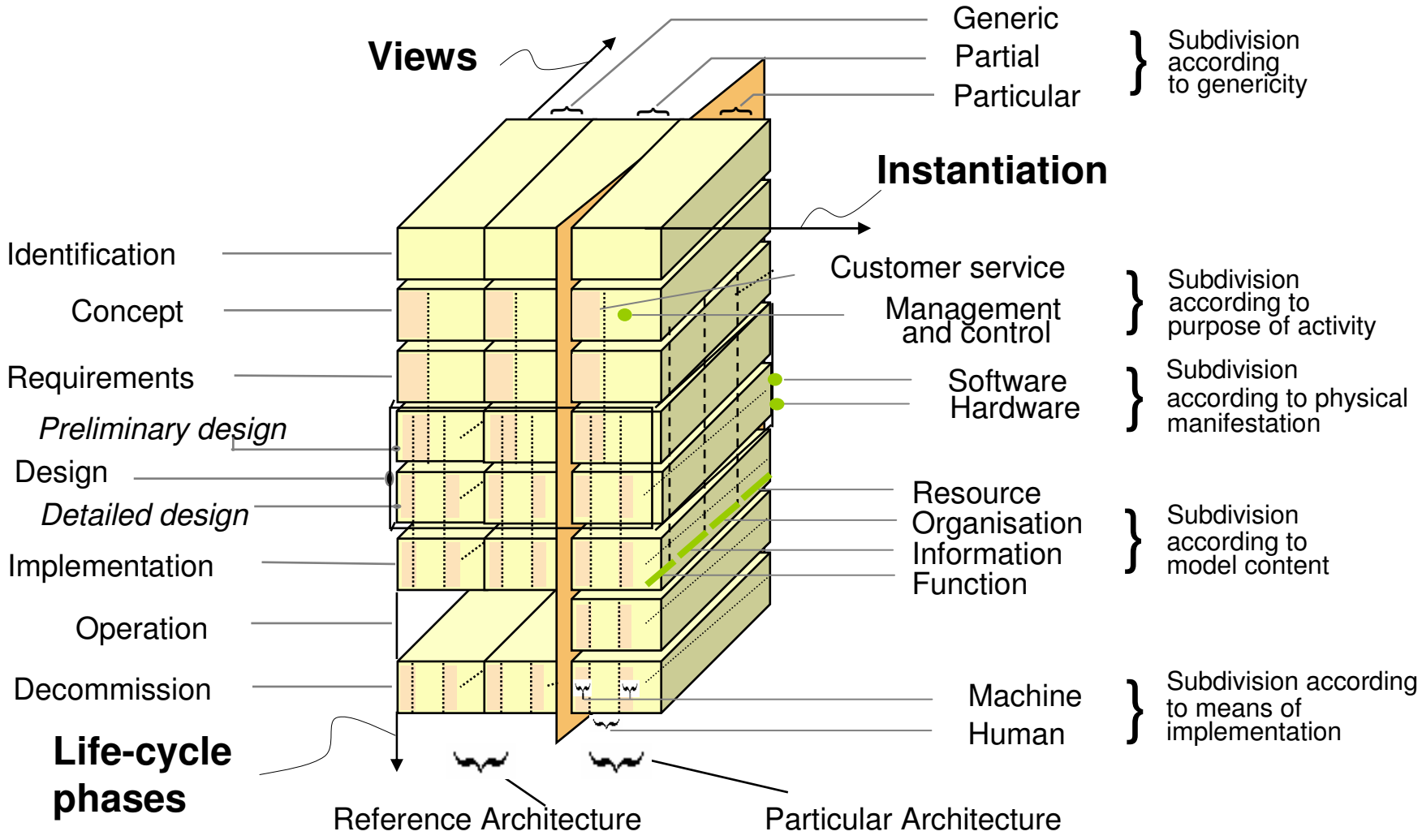
all models are wrong, some models are useful…

George E.P. Box

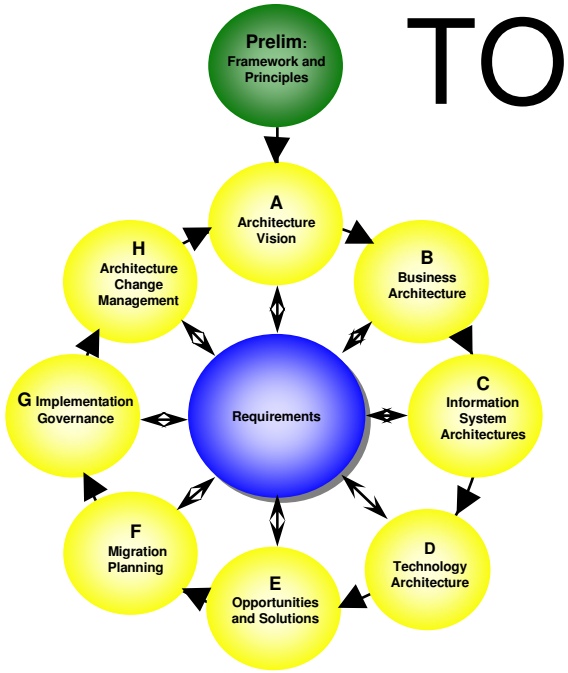
metaplexity associates

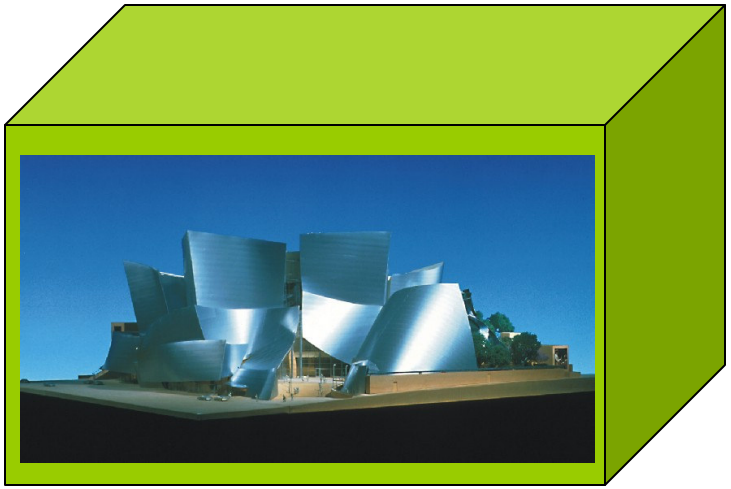
ISO 15704: Annex A - GERAM

Generalised **E**nterprise **R**eference **A**rchitecture and **M**ethodology



TOGAF Modeling





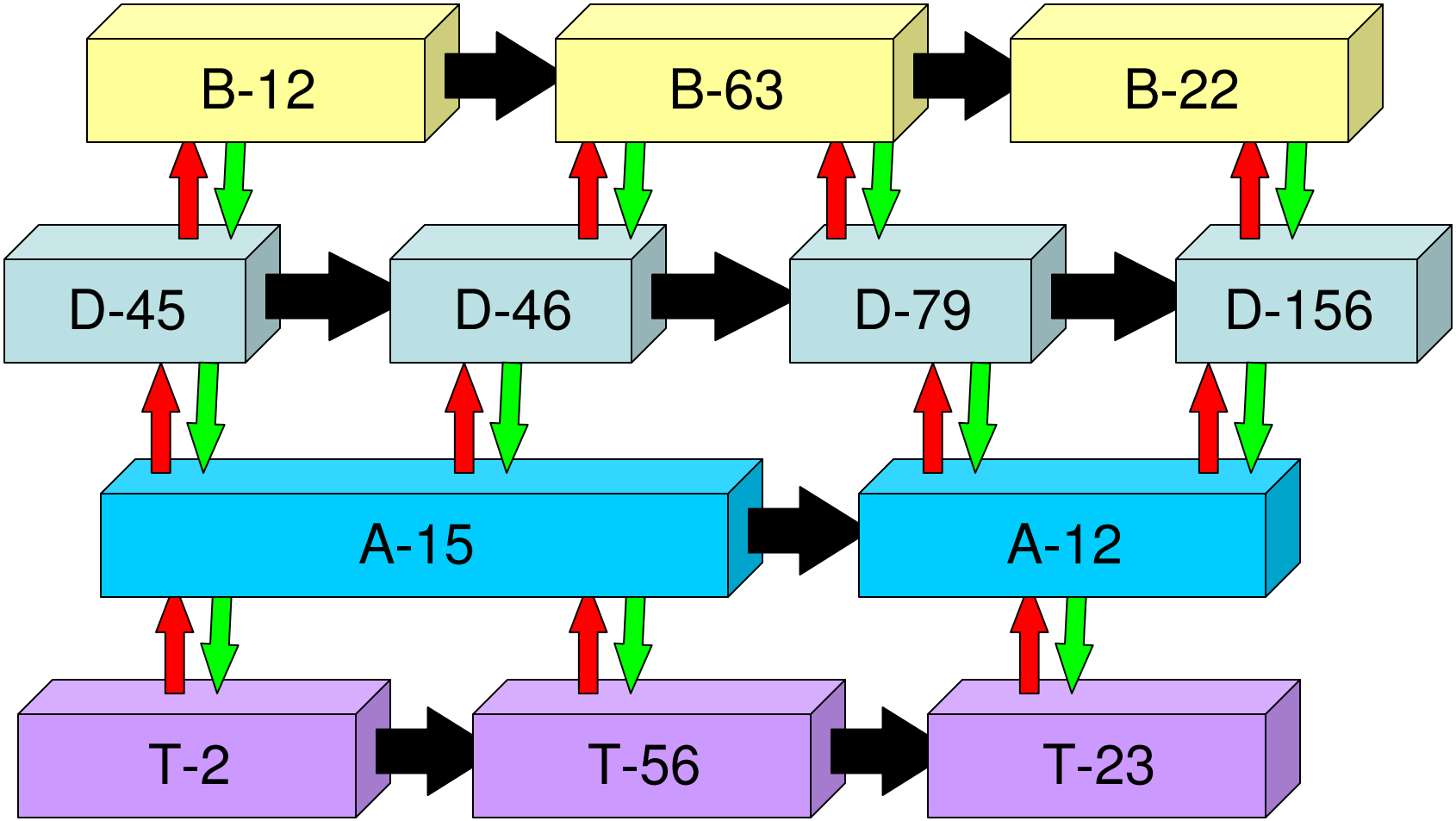
PROCESS

MODELS

WORKING ENTERPRISE SYSTEMS

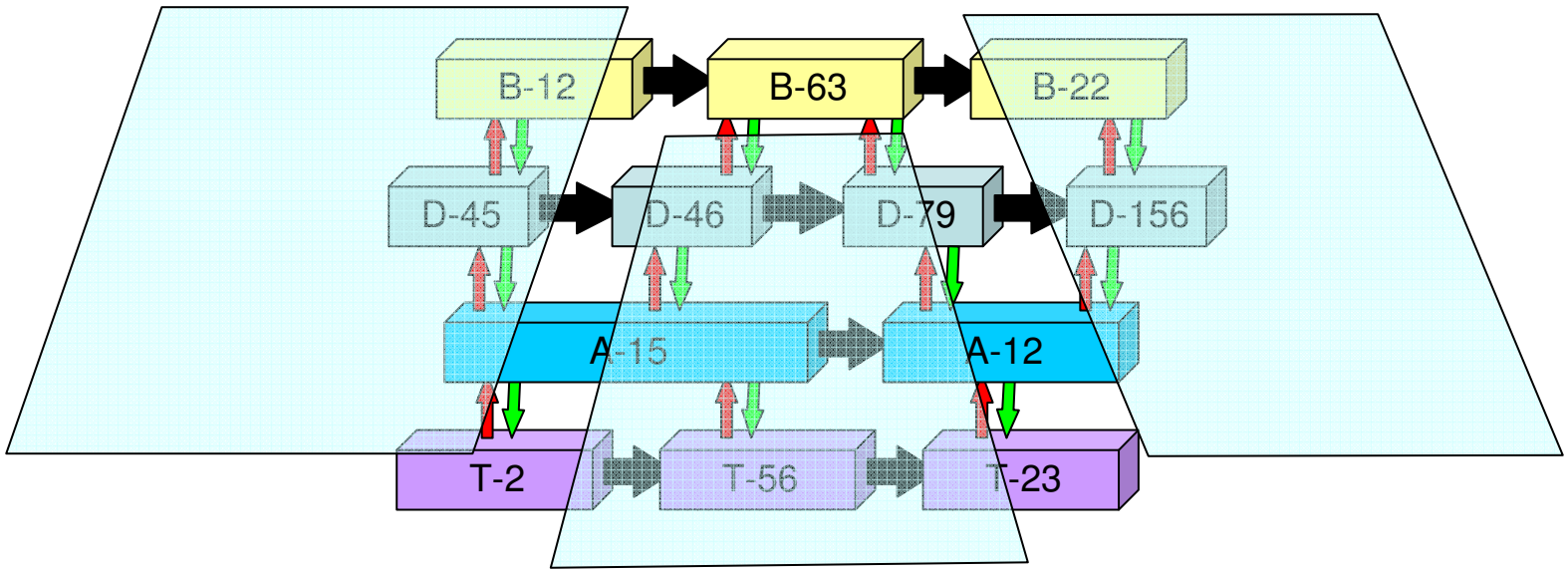
metaplexity associates

Building Block Concept



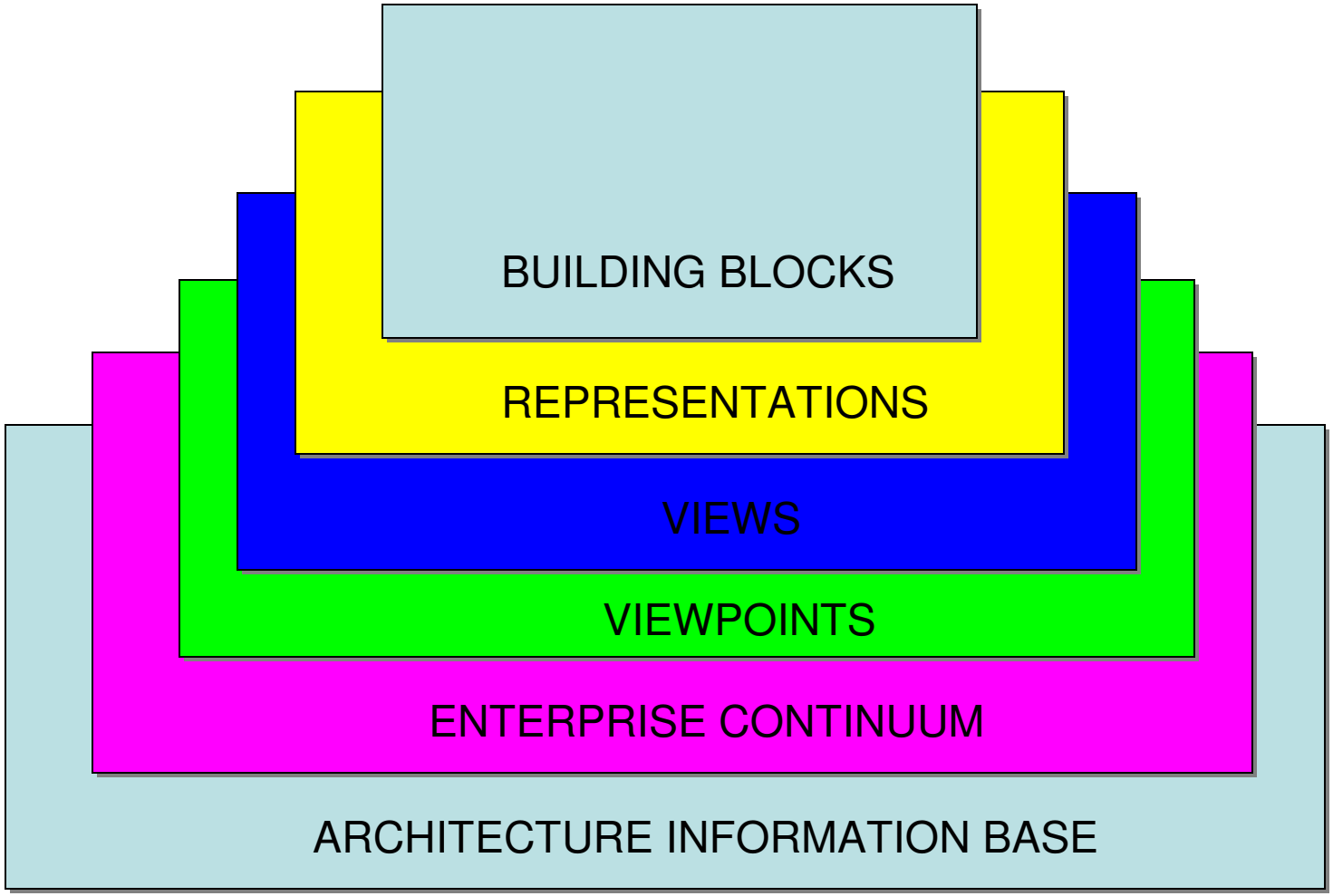
metaplexity associates

Integrated Views and Viewpoints



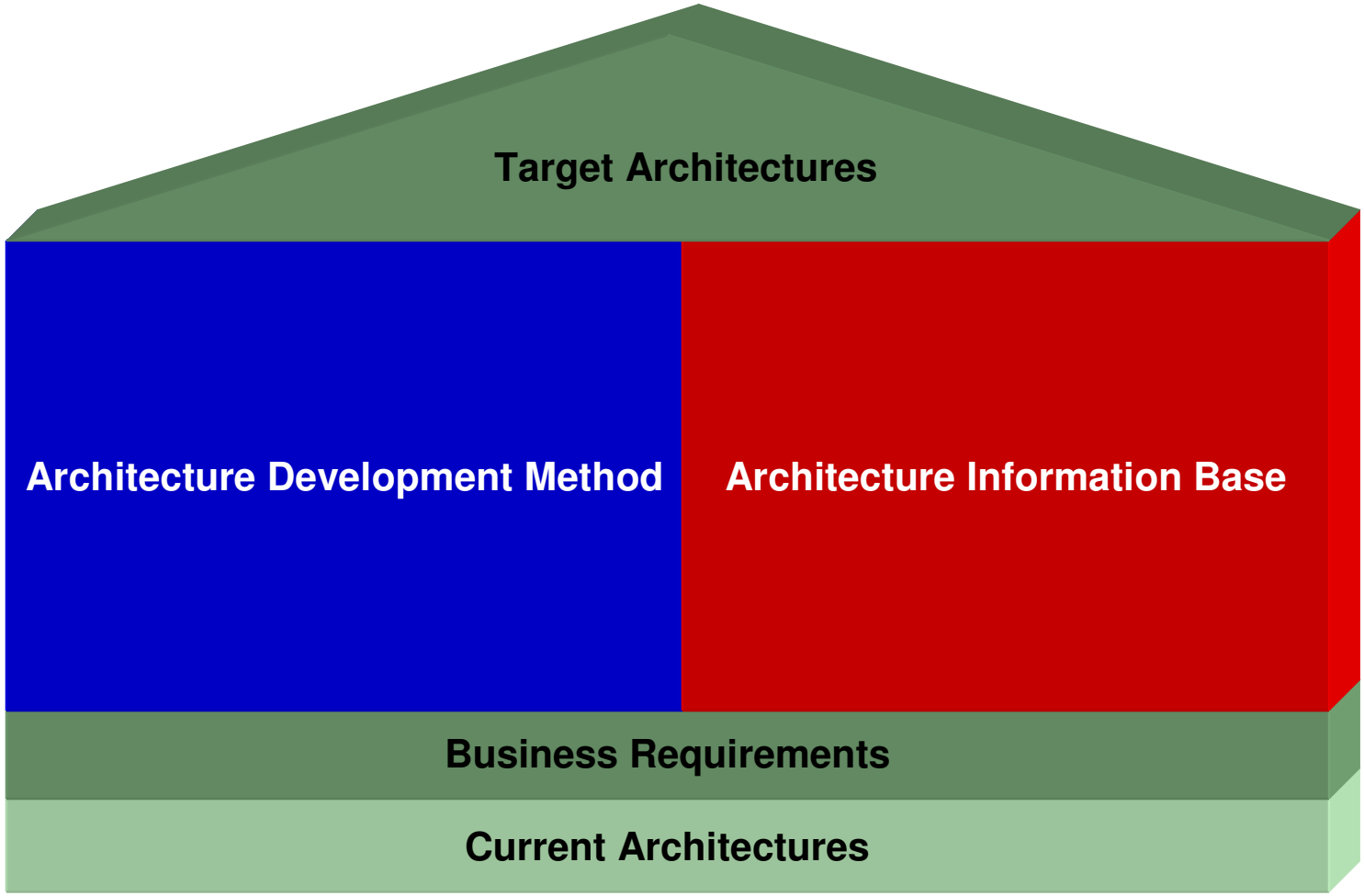
metaplexity associates

TOGAF Architecture Modeling



metaplexity associates

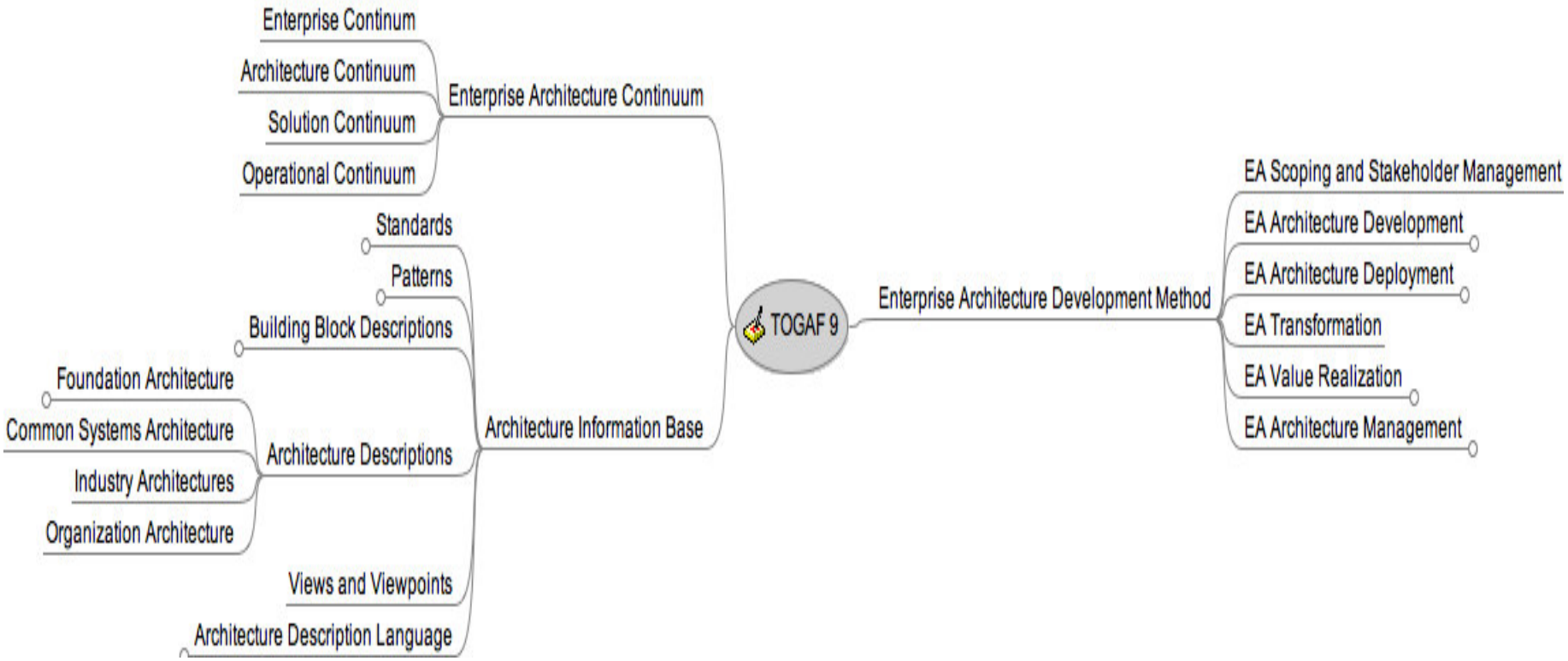
TOGAF 9*



* Proposed

metaplexity associates

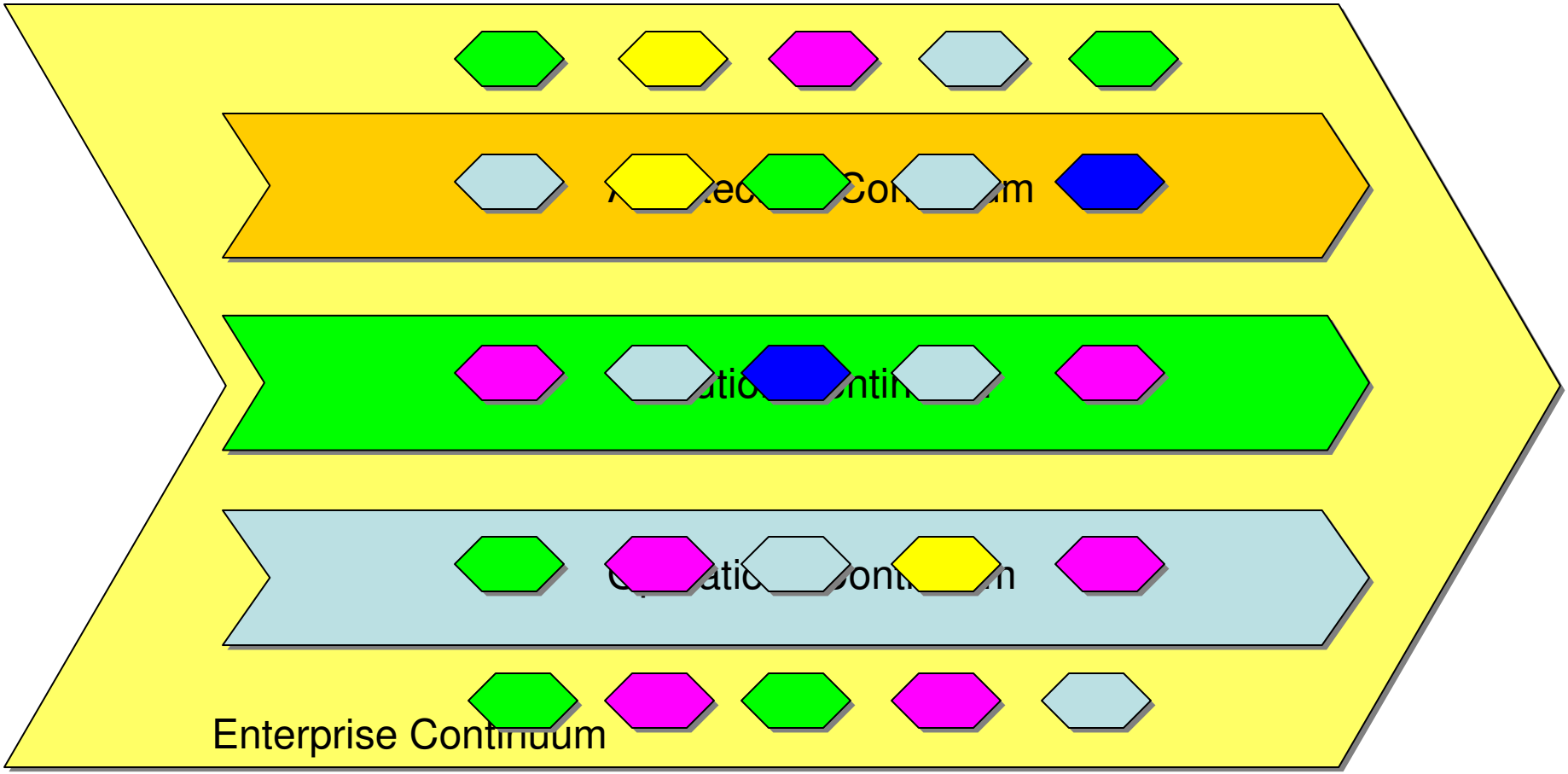
TOGAF 9 Content*



* Proposed

metaplexity associates

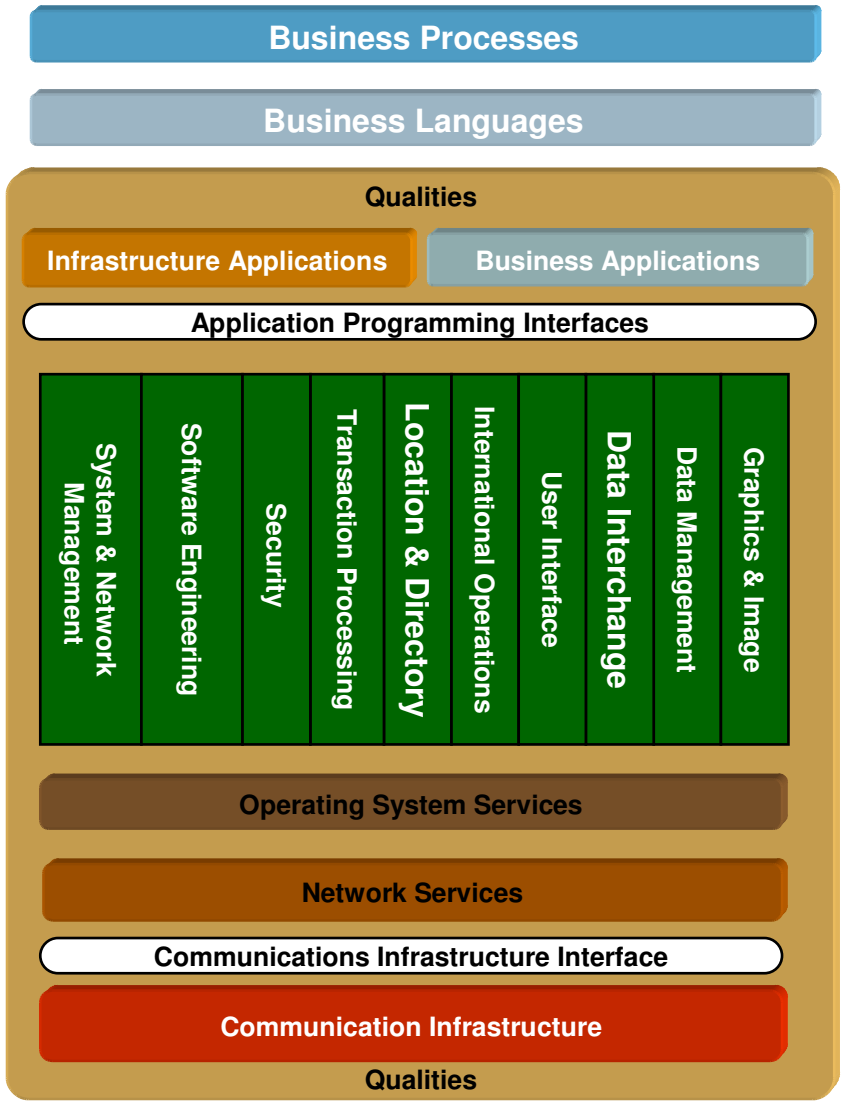
TOGAF 9 Enterprise Continuum



* Proposed

metaplexity associates

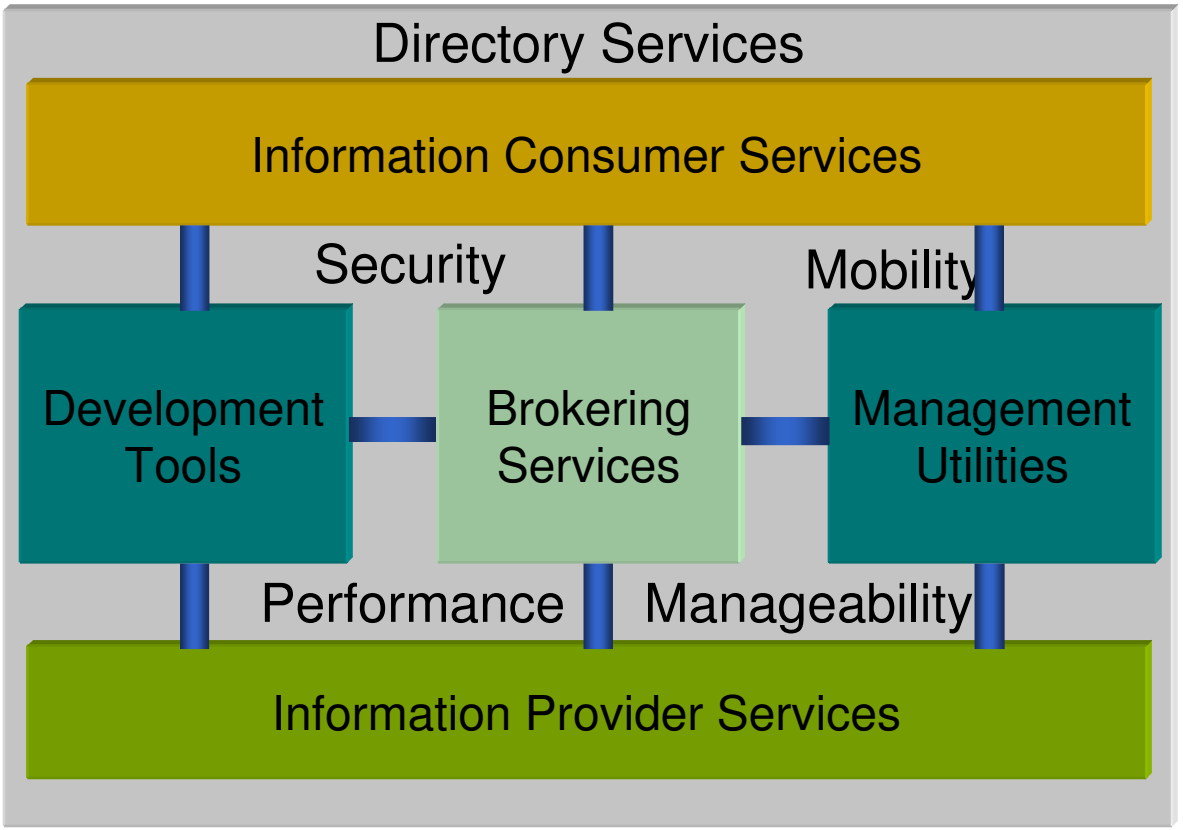
TOGAF Technical Reference Model



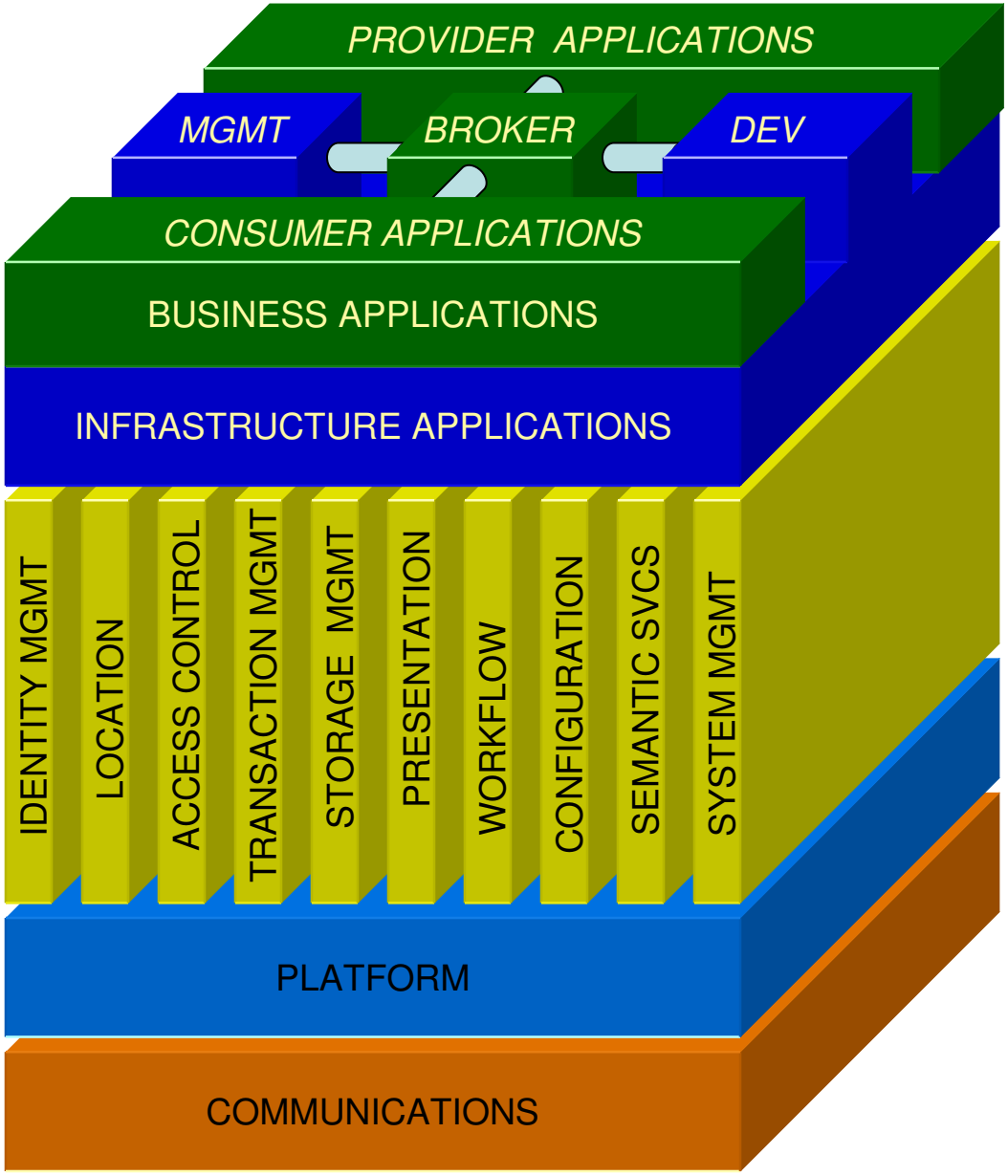
metaplexity associates

TOGAF In^3

Integrated Information Infrastructure



metaplexity associates



metaplexity associates

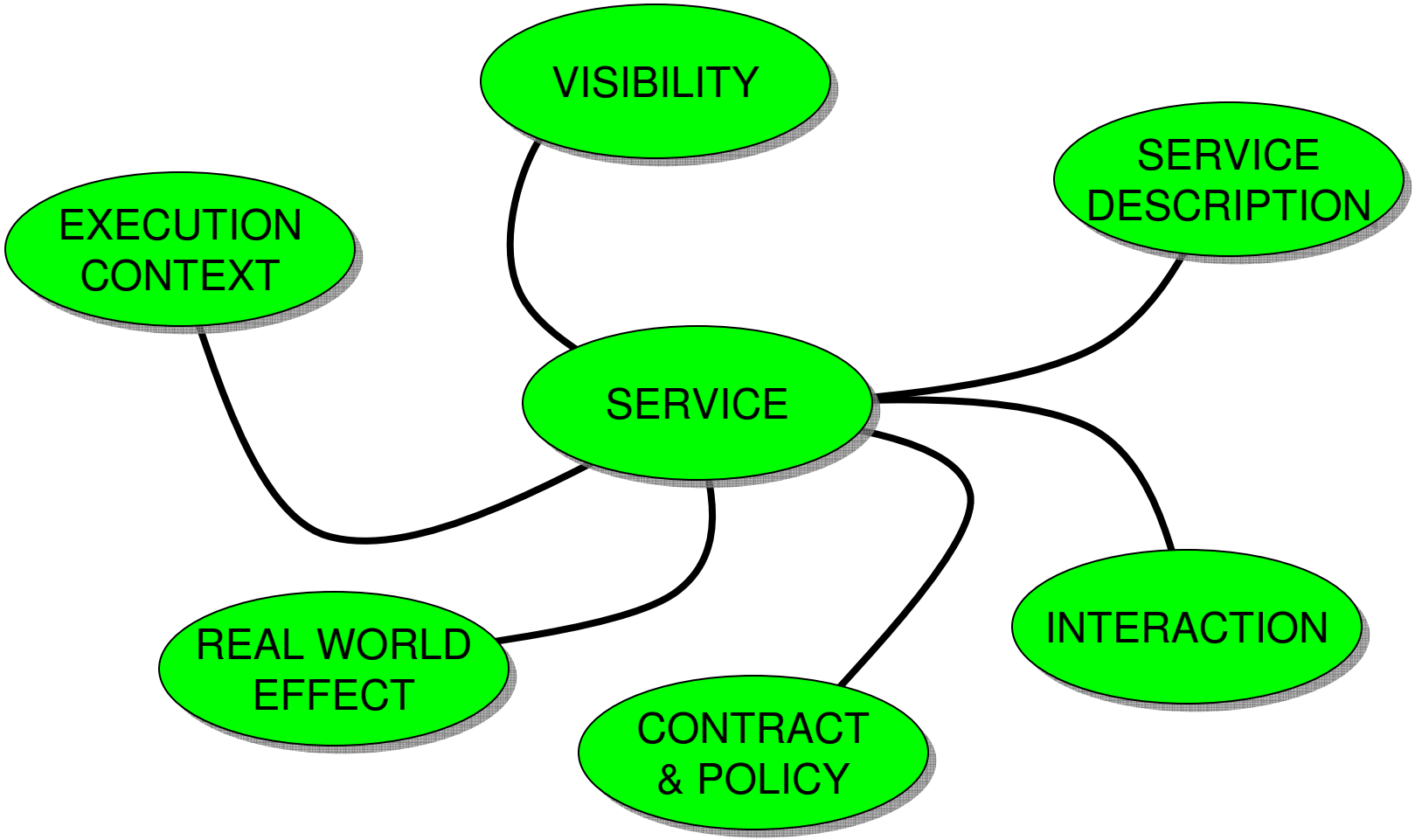
Defining Service Oriented Architecture

An **architectural style** that supports **service orientation**

- **Service orientation**
  A way of a way of thinking in terms of services and service based development and the outcomes that services bring
- **Service**
  A logical representation of a repeatable business activity that has a specified outcome (e.g., check customer credit; provide weather data, consolidate drilling reports), is self-contained and maybe composed of other Services. It is a black box to consumers of the Service
- **Architectural Style**
  The combination of distinctive features in which Enterprise Architecture is done, or expressed
- The SOA Architectural style's distinctive features:
  - Based on the design of the services comprising an enterprise's (or inter-enterprise) business processes. Services mirror real-world business activity
  - Service representation utilizes business descriptions. Service representation requires providing its context (including business process, goal, rule, policy, service interface and service component) and service orchestration to implement service
  - Has unique requirements on infrastructure. Implementations are recommended to use open standards, realize interoperability and location transparency.
  - Implementations are environment specific, they are constrained or enabled by context and must be described within their context.
  - Requires strong governance of service representation and implementation
  - Requires a "Litmus Test", which determined a "good services"

metaplexity associates

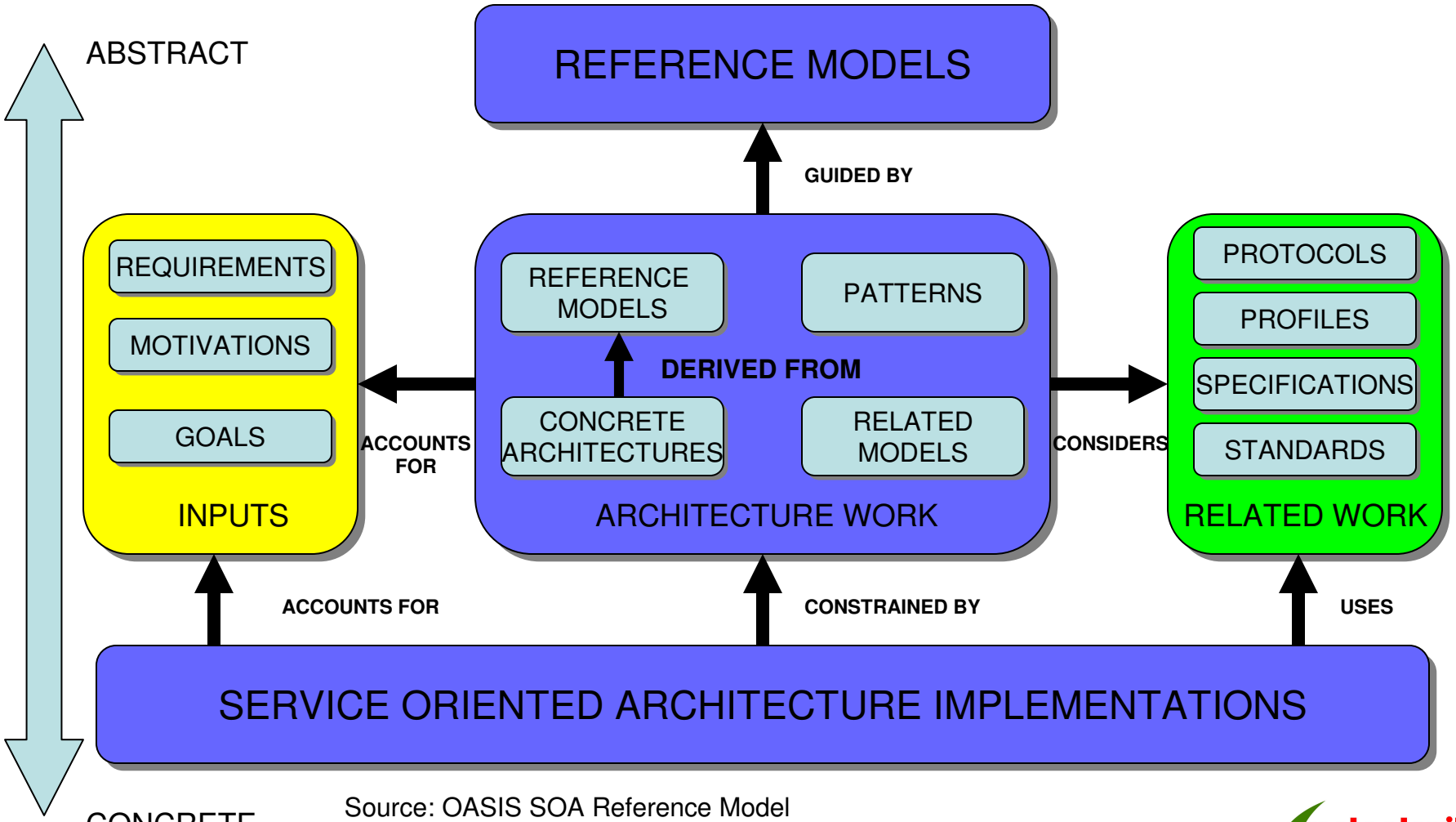
OASIS SOA Reference Model



Source: OASIS SOA Reference Model

metaplexity associates

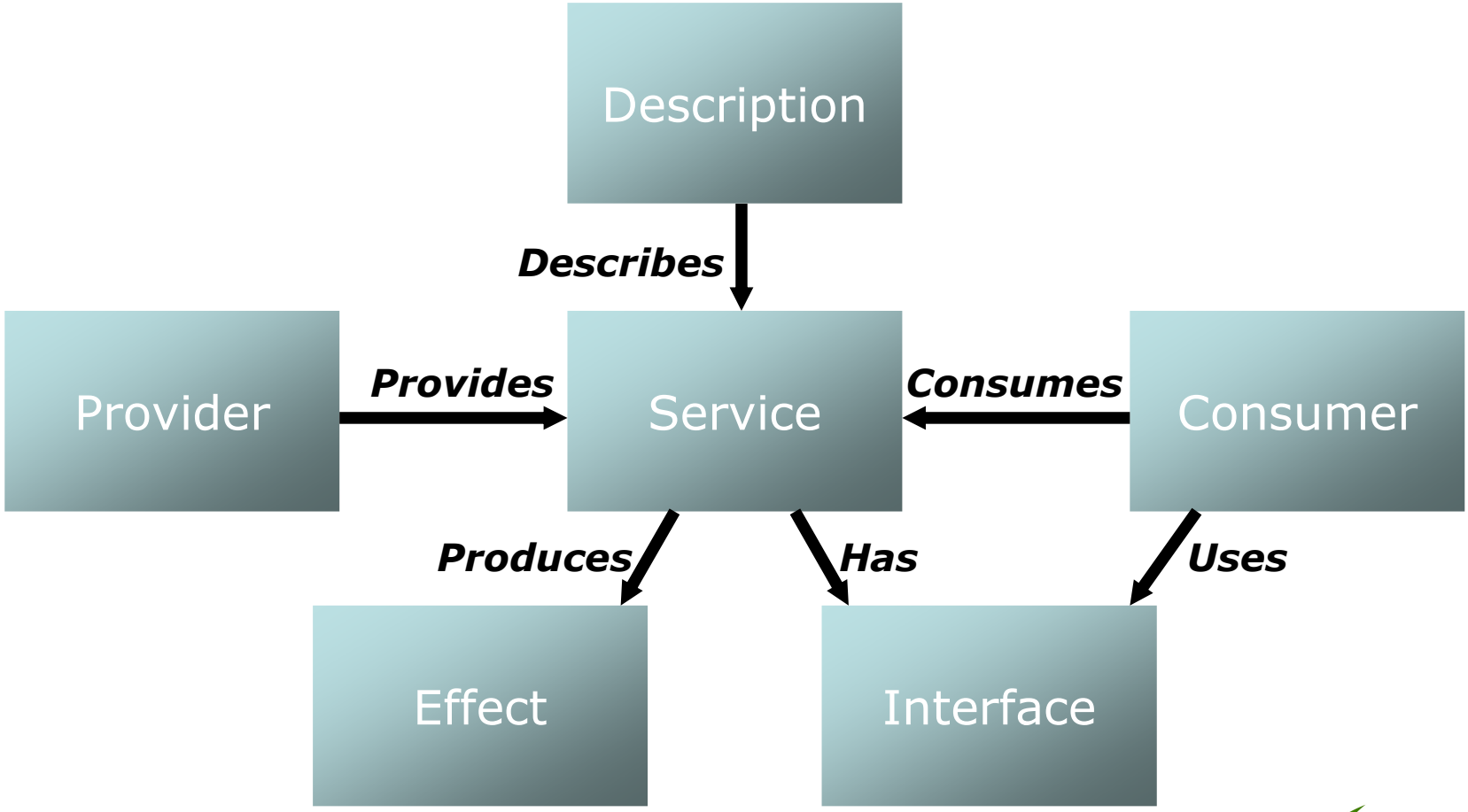
SOA:From Model to Reality



Source: OASIS SOA Reference Model

metaplexity associates

SOA Ontology Core Classes and Properties



metaplexity associates

What Is An Ontology?

- An ontology is an explicit description of a domain:
  - concepts
  - properties and attributes of concepts
  - constraints on properties and attributes
  - Individuals *(often, but not always)*
- An ontology defines
  - a common vocabulary
  - a shared understanding

metaplexity associates

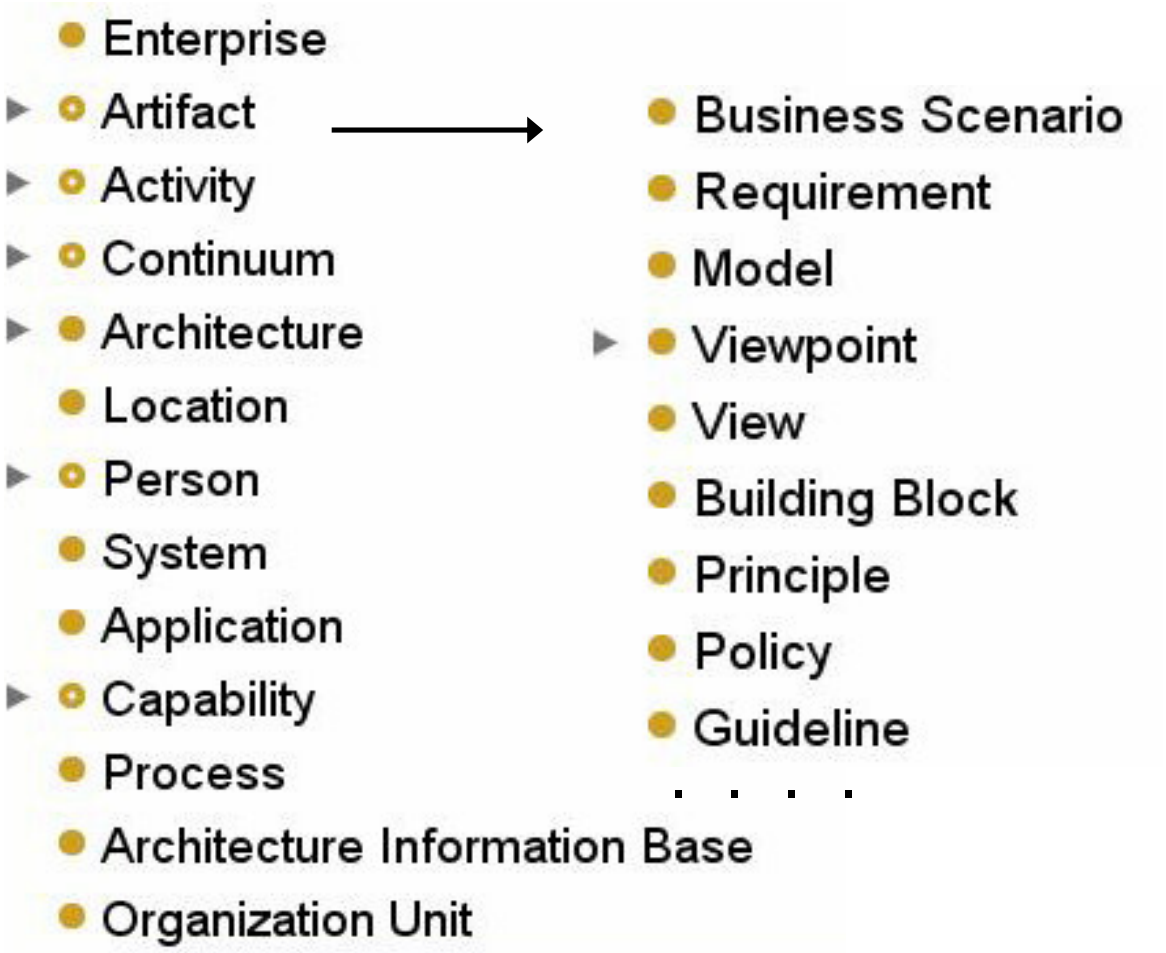
TOGAF Ontology*

- Enterprise
- Artifact
- Activity
- Continuum
- Architecture
- Location
- Person
- System
- Application
- Capability
- Process
- Architecture Information Base
- Organization Unit

* Proposed

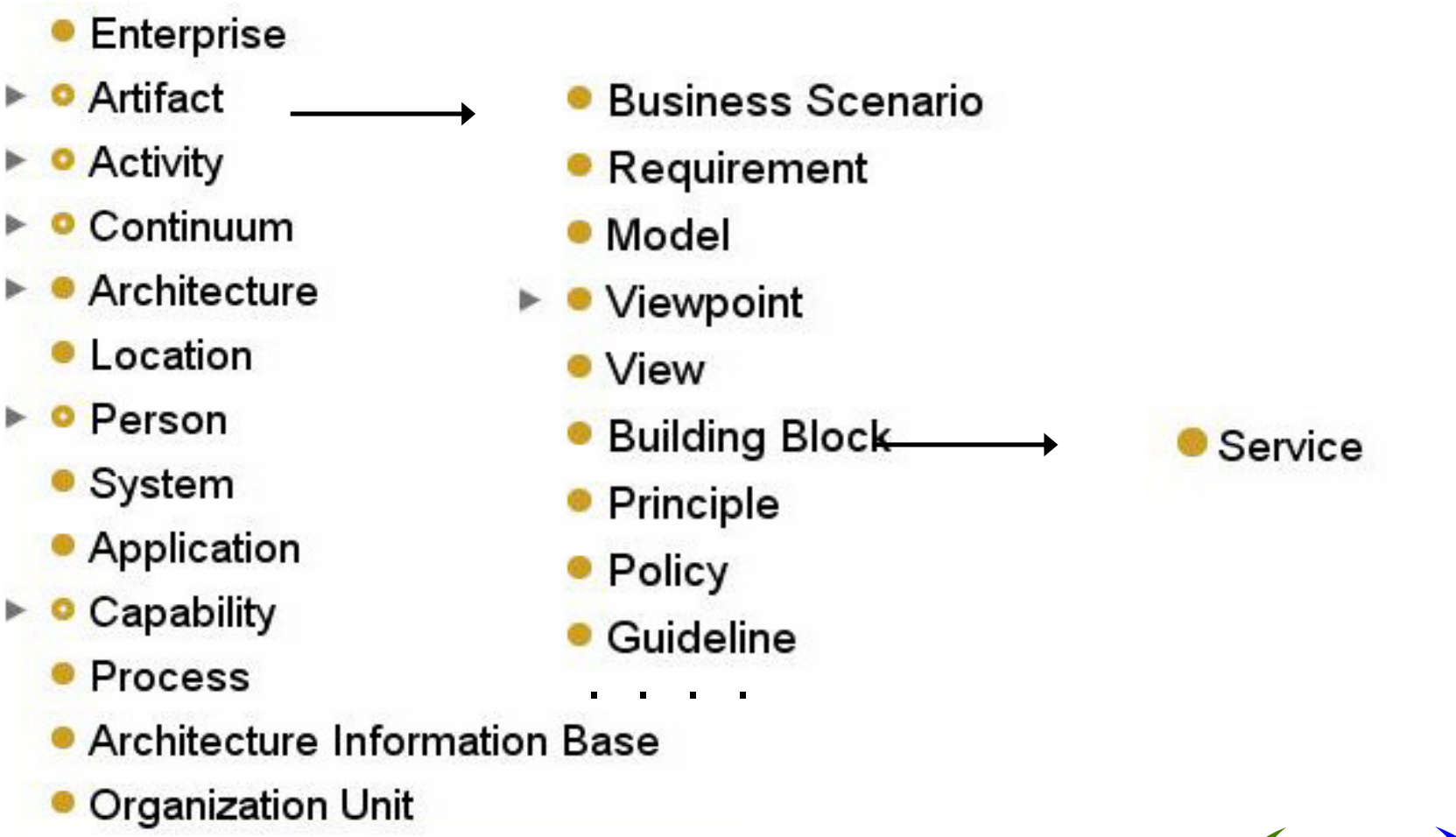
metaplexity associates

TOGAF Ontology - Artifact



metaplexity associates

TOGAF Ontology and SOA



metaplexity associates

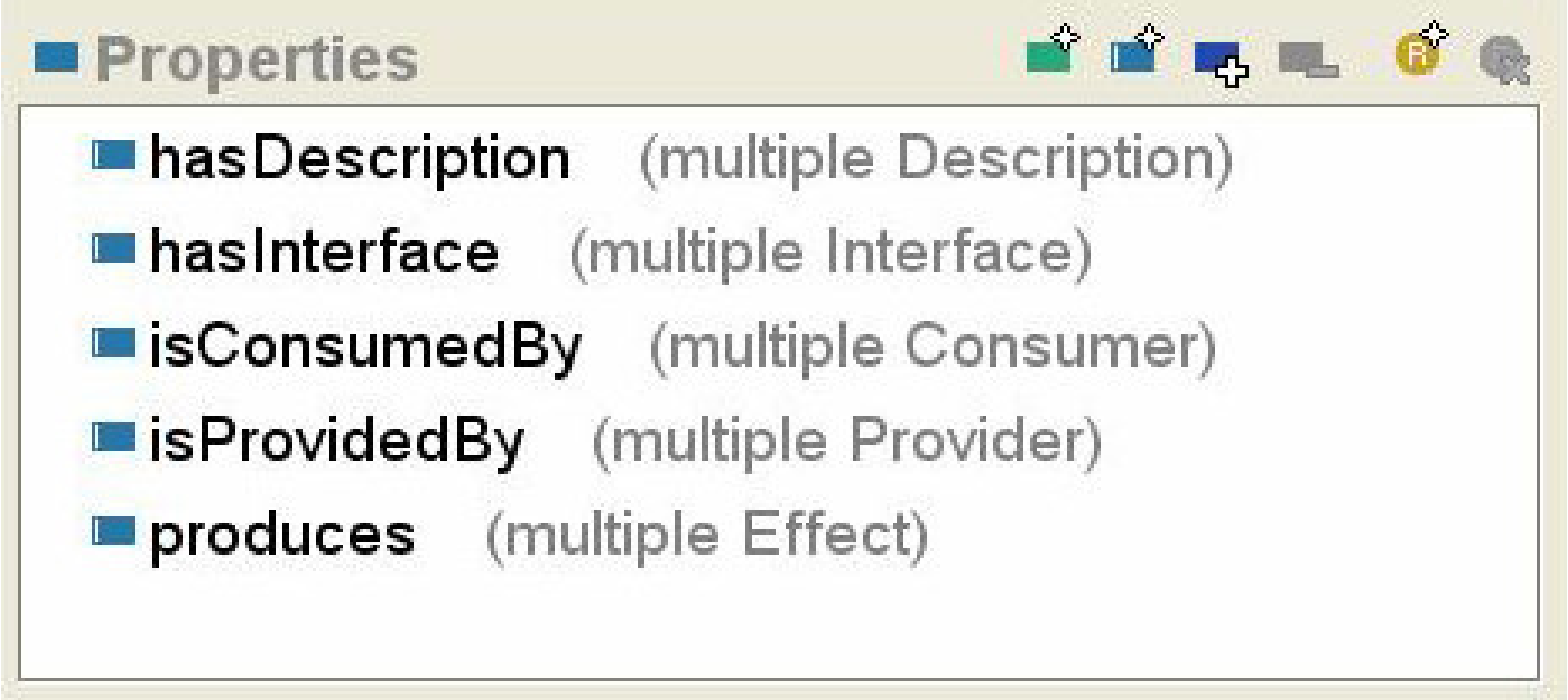
Properties for Class *Building Block*

Name	Cardinal...	Type	Other Facets
continuum	single	Symbol	allowed-values={Architecture,Solution,Operatic...
description	single	String	
domain	required...	Symbol	allowed-values={Enterprise,Business,Data,Apr...
input elements for bu...	required...	String	
major version	required...	Integer	default=0
minor version	required...	Integer	default=0
output elements for b...	required...	String	
phase	required...	Symbol	allowed-values={Foundation,Common_Systerr...
status	required...	Symbol	allowed-values={Waiting,In_Process,Complete...
:NAME	single	String	

These properties are inherited by
Service

metaplexity associates

Additional SOA Properties for *Service*



metaplexity associates

Summary

- TOGAF provides an effective architecture development method and proven modeling techniques for creating enterprise models
- TOGAF Building blocks are the fundamental elements for expressing architecture models
- The TOGAF Ontology provides a clear articulation of the artifacts used in TOGAF models
- The TOGAF Ontology clarifies the meaning of terminology that can be confusing and misinterpreted
- TOGAF modeling techniques can be applied to Service Oriented Architecture problems

metaplexity associates


Thank You!