



SOA Standards Landscape and Guide

Navigating the SOA Standards Landscape Around Architecture

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Agenda

- Goals
- Types of standards positioned
- Overview of and Guidance on Standards
- Positioning of standards
- SOA and SOA Governance Core concepts
- Conclusion

Navigating the SOA Standards Landscape Around Architecture

- The Open Group, OASIS, and OMG Joint whitepaper
 - The Open Group SOA WorkGroup
 - OASIS SOA Reference Model TC
 - OMG SoaML, SOA Governance RFP



- Goal: Readers of these standards should get the same fundamental understanding of SOA - Regardless of which standard they start with.



- Scope: Architectural Standards:
 - Reference Models, Reference Architectures, Ontologies, Governance, Maturity Models, Modelling Languages



- Out of Scope: SOA implementation, infrastructure, Business Architecture, information modelling standards

Our Target: Architectural Standards

Architectural Standards

Composite Industry Standards

Industry-Specific Standards

Horizontal Industry Standards
(cross-industry)

Information Technology Standards
(cross-industry)

Enterprise
Architectures

Terminology

Best Practices

Methodology

Models

Architectural standards:

- Address customer architecture and deployment considerations
- Directed toward IT architects
- Oriented toward consistency rather than interoperability

Infrastructure Standards:

- Normative
- Product driven
- Conformance
- Interoperability focused



The Value of Standards for SOA

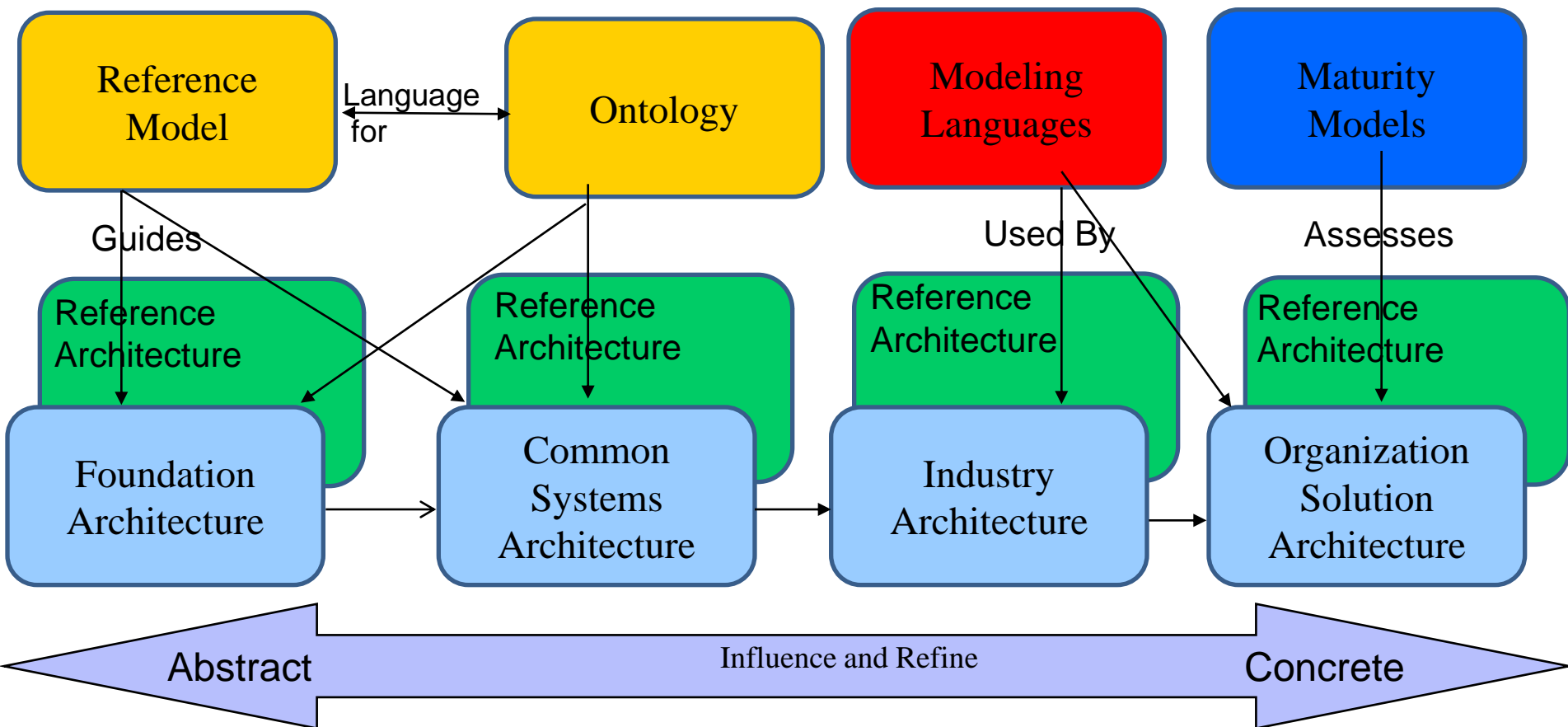
- Vendor neutral
- Common foundation of understanding
 - no mapping vendor terminology
- Best Practices from multiple vendors
- Reduces risk
 - knowledge more mature/validated
 - more vendor options



Nomenclature

- **Reference Models** – an abstract framework for understanding significant relationships among the entities of some environment
- **Ontologies** – an explicit formal specification of the terms in the domain and relations among them
- **Reference Architectures** – models the abstract architectural elements in the domain independent of the technologies, protocols, and products that are used to implement the domain, providing a template, based on the generalization of a set of past successful solutions.
- **Maturity Models** – Represents a means of and scale for both evaluating and assessing the current state of maturity
- **Modeling Languages** – Include a metamodel and notation that may be used to provide a standard means of representing artifacts in tools and in communicating information between tools and automated environments
- **Concrete/Solution Architectures** – An instantiation of a reference architecture

Types of Architectural Standards



The Open Group

The Open Group SOA WG

Complete:

- *Definition of SOA*
- SOA Case Studies
- SOA Source Book

OSIMM

Current:

- *Ontologies for SOA*
- *SOA Reference Architecture*
- *SOA Governance*
- SOA/TOGAF Practical Guide
- SOInfrastructure
- SOA and Security
- Legacy Evolution

OASIS

OASIS SOA RM TC

Complete: *SOA RM*

Current: *SOA RA*

OASIS
OpenCSA

OASIS
SEE TC

OASIS
SOA-Tel TC

OASIS
SOA
EERP TC

OMG

OMG ADTF

Complete: *SoaML* ODM

Current: IMM *SOA Gov RFP* EMP RFP AMP RFP

OMG BMI

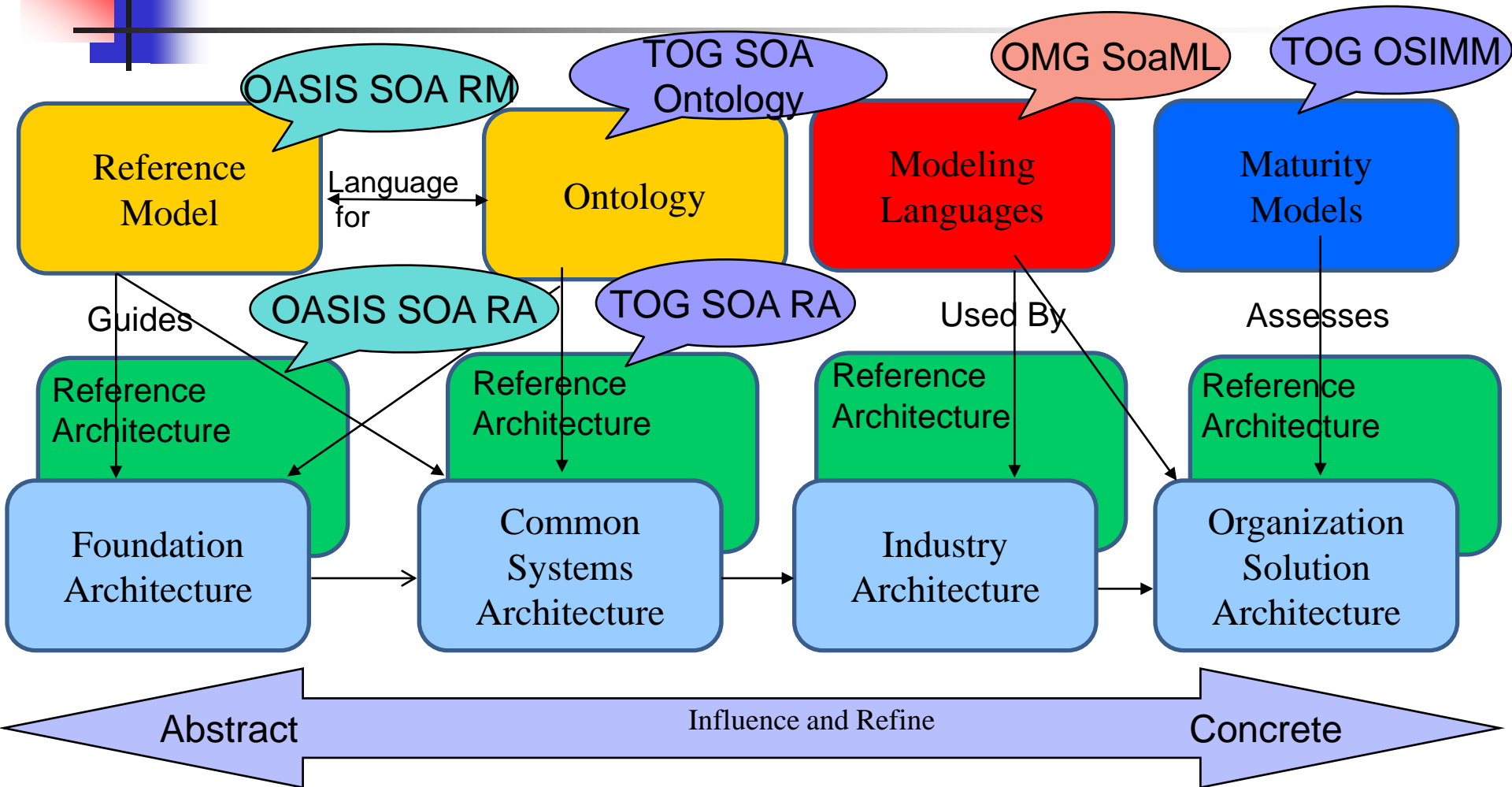
Complete: *BPMN V2* *BMM*

Current: VDM RFP

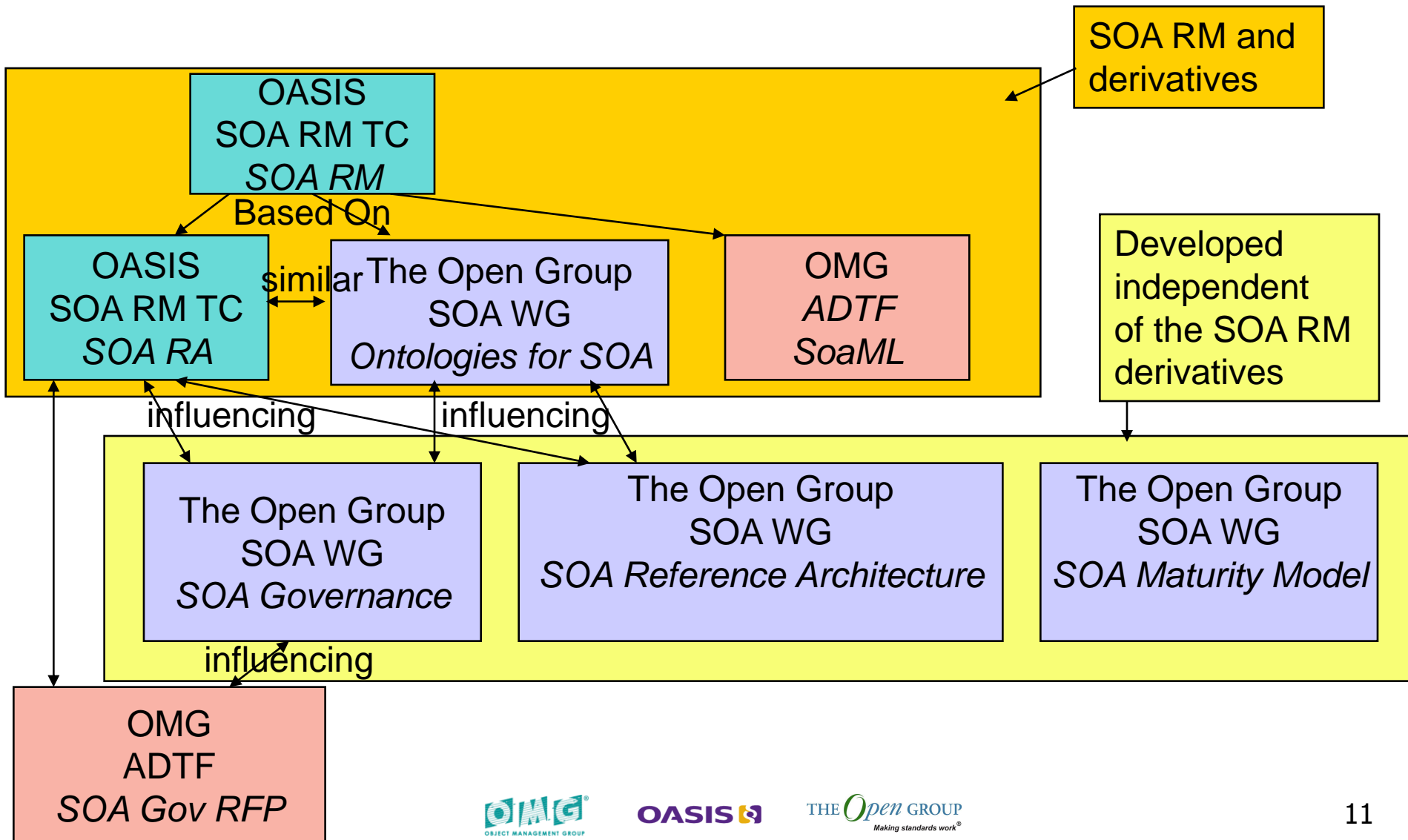
OMG C4I

Complete: *UPDM*

Available Types of Architectural Standards



Influence of Specifications





Summary of Architecture Standards Concept Standards

- OASIS SOA Reference Model (SOA RM) Standard
 - For: Understanding Core SOA concepts
 - Vocabulary and common understanding and 'essence' of SOA
 - Establishes foundation for other to follow on SOA standards
 - <http://docs.oasis-open.org/soa-rm/v1.0/soa-rm.pdf>
- The Open Group Ontology
 - For: Formalizing and understanding Core SOA concepts
 - Formalizes and refines OASIS SOA RM
 - Extends model with concepts for architecture, governance
 - OWL representation to facilitate tools and automation
 - [Latest Draft: http://www.opengroup.org/projects/soa-ontology/doc.tpl?gdid=16940&lastver=Y](http://www.opengroup.org/projects/soa-ontology/doc.tpl?gdid=16940&lastver=Y)



Summary of Architecture Standards

Reference Architecture Standards

- **OASIS SOA Reference Architecture for Foundation SOA**
 - For: Understanding elements of SOA, Considerations for cross ownership boundaries, Completeness of SOA architectures and implementations, SOA governance
 - View-based abstract reference architecture foundation that models SOA from an ecosystem/paradigm perspective
 - Views: Service Ecosystem, Realizing SOA, Owning SOA
 - <http://docs.oasis-open.org/soa-rm/soa-ra/v1.0/soa-ra-cd-02.pdf>
- **The Open Group SOA Reference Architecture**
 - For: Understanding elements of SOA, Deployment of SOA in enterprise, Basis for an industry or organizational reference architecture, Implication of architectural decisions, Positioning of vendor products in SOA context
 - intended to support the understanding, design, and implementation of common system, industry, enterprise, and solution architectures leveraging principles of SOA
 - Layered architecture using consumer and provider perspectives with cross cutting concerns and architectural building blocks.
 - <http://www.opengroup.org/projects/soa-ref-arch/uploads/40/19713/soa-ra-public-050609.pdf>



Summary of Architecture Standards

SOA Governance Standards

- The Open Group Governance Framework Standard
 - For: understanding SOA governance in organizations
 - SOA Governance concepts and method for customizing an organization specific governance regimen from the governance framework
 - SOA Governance reference model and vitality method
 - <http://www.opengroup.org/bookstore/catalog/c093.htm>
- OASIS SOA Reference Architecture for Foundation SOA – Governance
 - For: understanding SOA governance across ownership boundaries where there is no single authoritative entity
 - General Governance and SOA Governance concepts
 - <http://docs.oasis-open.org/soa-rm/soa-ra/v1.0/soa-ra-cd-02.pdf>



Summary of Architecture Standards Maturity Models, Modeling languages

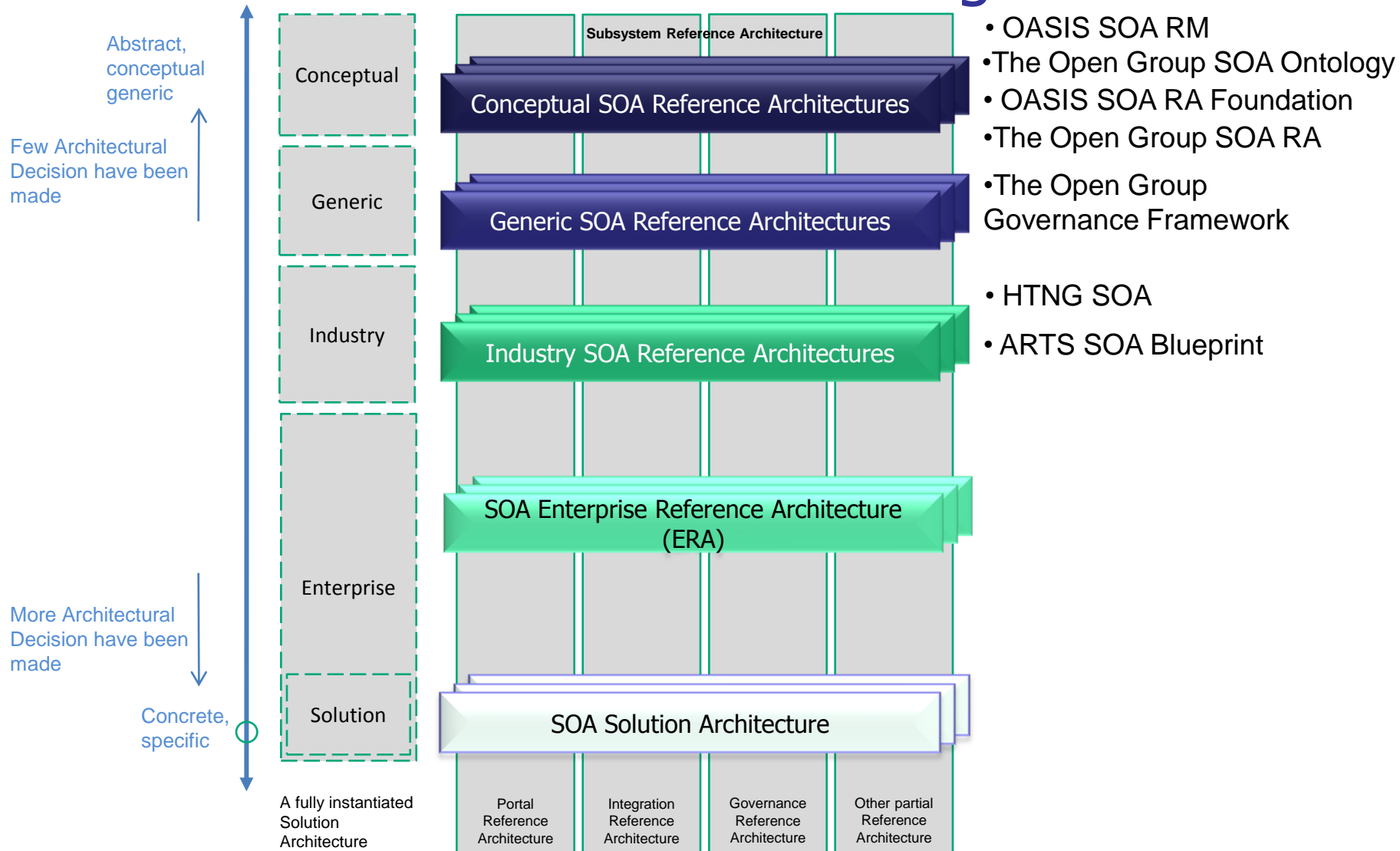
Maturity Models

- The Open Group Service Integration Maturity Model (OSIMM) Standard
 - For: Understanding the level of SOA maturity in an organization
 - Means to assess an organization's maturity within a broad SOA spectrum
 - Process to create a roadmap for incremental adoption
 - <http://www.opengroup.org/bookstore/catalog/c092.htm>

Modeling Languages

- OMG SoaML Standard
 - For: Understanding representing SOA artifacts in UML
 - Supports services modeling extensions to UML
 - Metamodel and UML profile
 - <http://www.omg.org/cgi-bin/doc?ad/08-11-01>

Reference Architecture Continuum and Positioning



Architecture Pattern
(MVC, for example)

Partial Reference Architecture covering
specific subsystem such as presentation,
integration or security

End-to-end Technical
Reference
Architecture covering
only IT aspects of a
solution

End-to-end Reference
Architecture covering
business and IT aspect of a
solution

Narrow
coverage

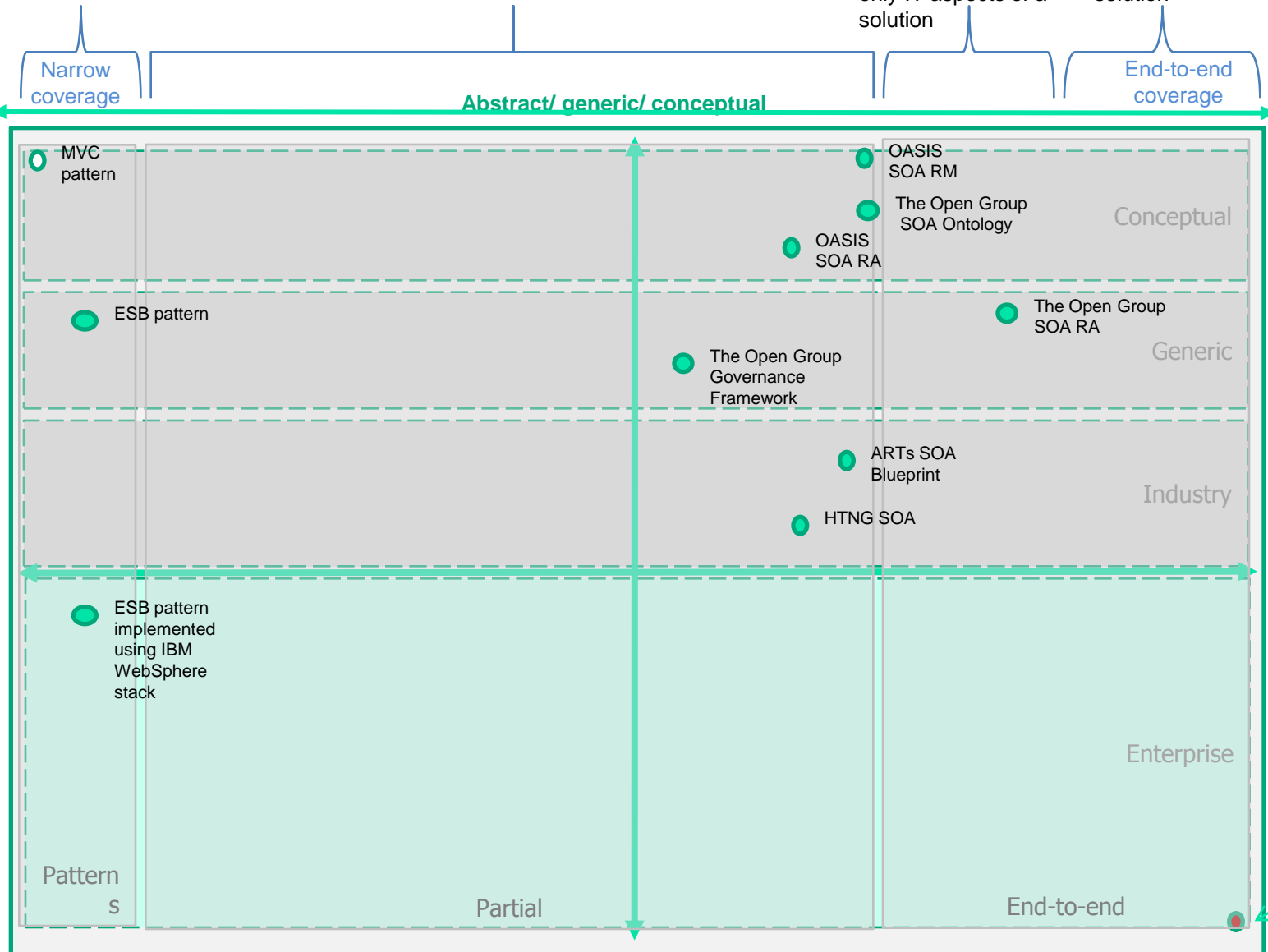
Abstract/ generic/ conceptual

End-to-end
coverage

Narrow
Architecture
pattern

Comprehensive
Full
enterprise
solution
architecture

Realised
Enterprise e2e
Solution
Architecture





SOA and SOA Governance Concepts

- SOA

- Service
- Visibility
- Interaction
- Effect
- Service Description
- Policies and Contracts
- Execution Context

- SOA Governance

- Governance Framework
- Governance Reference Model
- EA Governance
- People
- Technology
- Guiding Principles
- Roles
- Governing Process
- Governed Processes
- Vitality



Guidance and usage of technical products

- Use **OASIS RM** for general understanding of SOA
- Use **TOG SOA Ontology** for more formal language and broader scope
- Use **OASIS SOA RA** for considering abstract components that will be included in SOA design especially when addressing considerations for cross-ownership boundaries
- Use **TOG SOA RA for** principles, patterns, building blocks and decisions for needed for SOA solutions
- Use **TOG SOA Governance** for guidance on the deployment of SOA governance in the enterprise
- Use **OSIMM** to understand what SOA features you are using and how to evolve your adoption of SOA
- Use **OMG SoaML** to create instances of services models that can be reused, integrated and possibly transformed into platform implementations
- OSIMM can provide guidance into which specifications are most relevant to you



Conclusions and Questions

- Common concepts across so many specifications may be indications of SOA maturity
- Specifications can be complimentary
 - SoaML can be used with any of the Reference Architectures
- Pick the specification that's right for your needs
- Secondary goals
 - Establish collaboration between the standards bodies
 - Encourage consistency across the standards addressing the various aspects of SOA.
- Joint White Paper available at:
 - The Open Group: <http://www.opengroup.org/bookstore/catalog/w096.htm>
 - Direct: <http://www.opengroup.org/onlinepubs/7699909399/toc.pdf>
 - OASIS: <http://www.oasis-open.org/apps/org/workgroup/soa-rm/download.php/35255/W096.pdf>
 - OMG: <http://www.omg.org/cgi-bin/doc?ad/2009-12-11>



Thank You!



Additional Slides



Goals: SOA Harmonization Group: So many questions

Problem – There are so many standards on SOA. What are they all for and which ones do I use?

- Questions we were all being asked:
 - What standards are out there?
 - How are these standards meant to be used?
 - How do these specifications relate to each other?
 - Are these standards in conflict?
 - Which ones are best for my situation?
 - Should I wait till the dust settles?

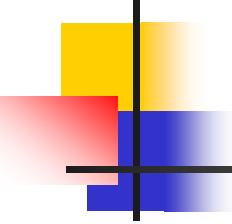
Solution – A joint whitepaper answering these questions

- Goal: Readers of these standards should get the same fundamental understanding of SOA ... Regardless of which standard they start with.

Goals: SOA Harmonization Group: Answering the questions

- The Open Group, OASIS, and OMG Joint whitepaper
 - The Open Group SOA WorkGroup
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 - OMG SoaML, SOA Governance RFP
- Scope: Architectural Standards:
 - Reference Models,
 - Reference Architectures
 - Ontologies
 - Governance
 - Maturity Models
 - Modelling Languages
- Out of Scope: SOA implementation, infrastructure, Business Architecture, information modelling standards





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