



A Generic Approach for Compliance Assessment of Interoperability Artifacts

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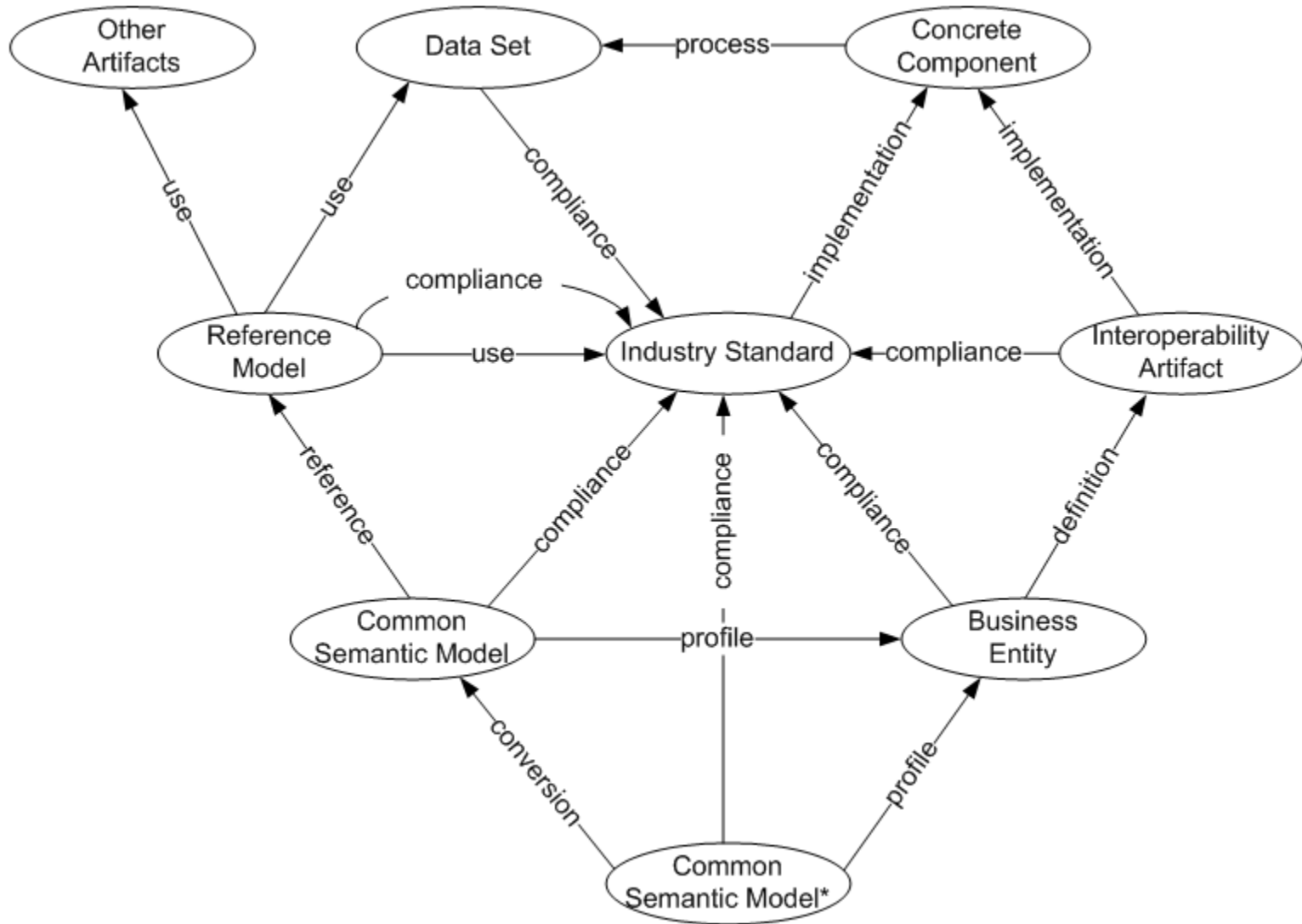
Presentation Outline

- Standardization Realities
 - Several Industry Standards
- Interoperability Meaning Diagram
- Role of Common Semantic Model
 - Industry Standards as Reference Models
- Interoperability Compliance Arithmetic's
 - Definitions
 - Rules
- Compliance Definitions and Rules Framework
- Compliance Assessment Perspective
- Conclusion and Recommendations

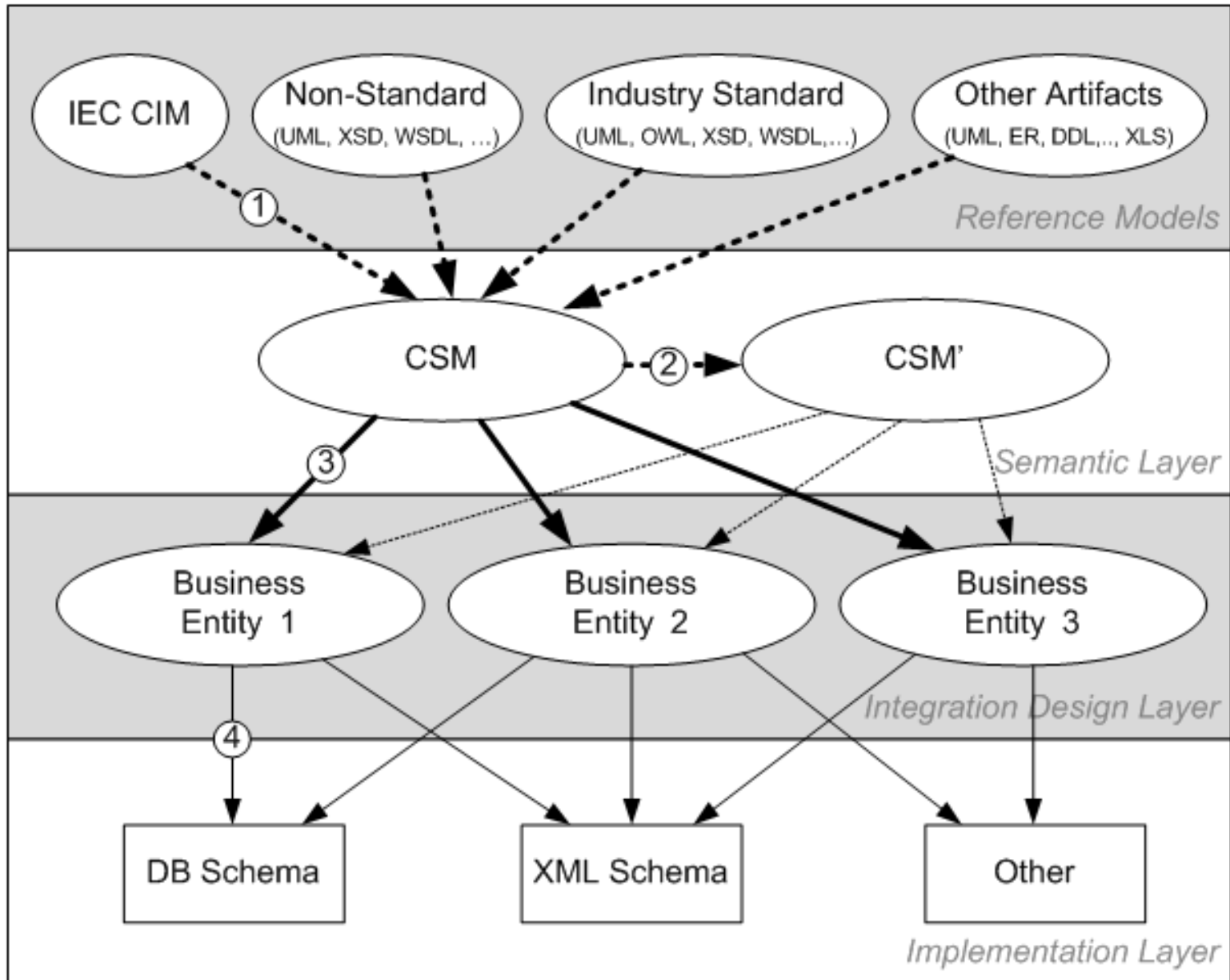
Standardization Realities

- Lack of consistent and clear compliance rules
- Industry Standards are not consistently leveraged on large scale integration projects
- Misperception of Standards' Usage and compliance makes implementations more difficult
- A lot of ambiguities at the different levels
- A need to promote more aggressively use of Industry Standards

Interoperability Meaning Diagram



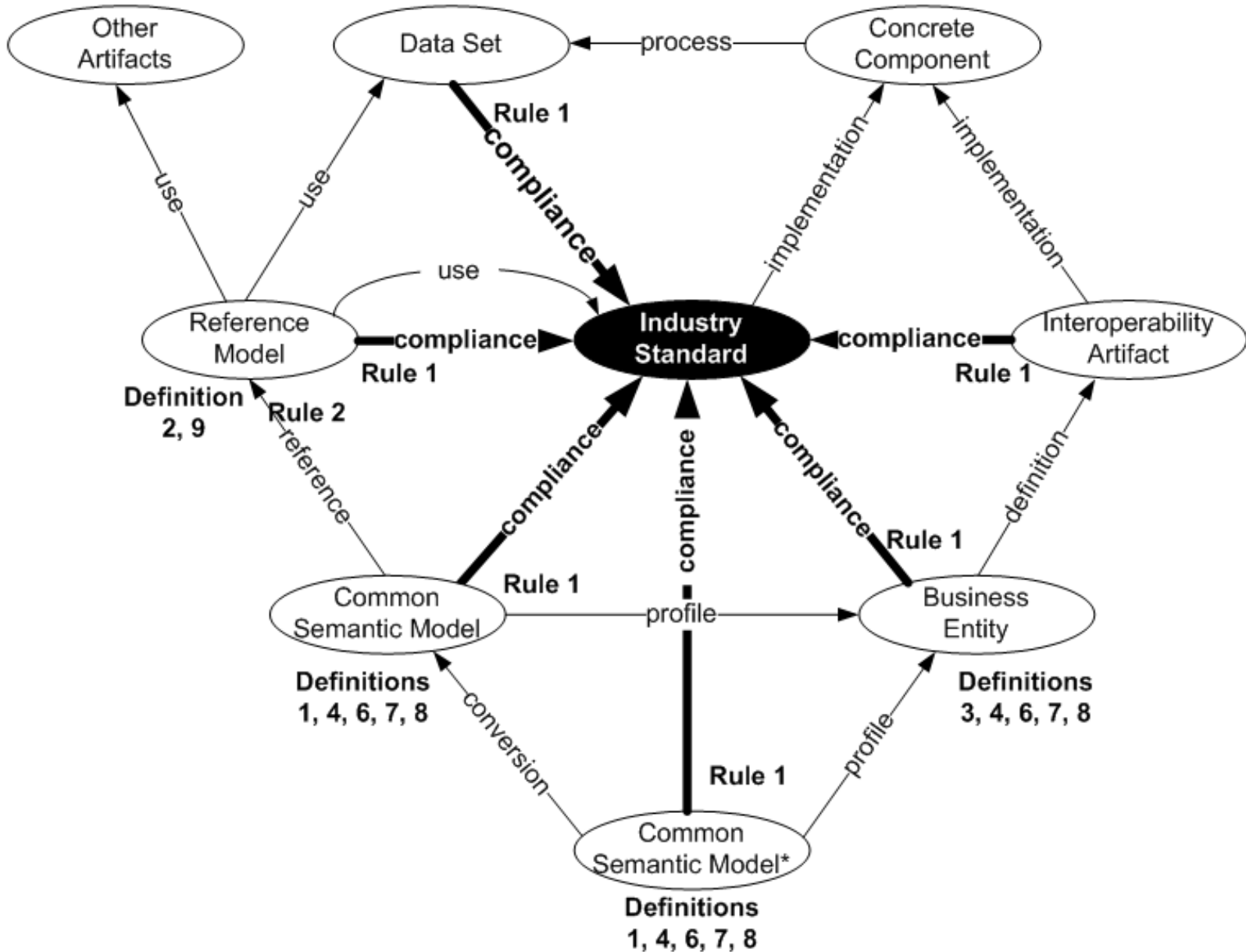
Role of Common Semantic Model



Interoperability Compliance Arithmetic's

- CSM Definition
- Reference Model Definition
- CSM Business Entity Definition
- Extended CSM Definition
- Mapping / Transformation Definition
- Compliance Indicator
 - Business Entity and /or Interoperability Artifacts
 - Composite Indicator
 - Full Compliance Indicator

Compliance Framework



- CSM Definition

CSM is a 4-tuple: $S = (E, A, P, D)$, where:

- *E is set of Entities in CSM:
 $E = \{e_i | 1 \leq i \leq n, e_i \in E\}$*
- *A is set of Attributes in CSM:
 $A = \{a_j | 1 \leq j \leq m, a_j \in A\}$*
- *D is set of Data Types in CSM
 $D = \{d_k | 1 \leq k \leq o, d_k \in D\}$*
- *R is set of Relationships in CSM
 $R = \{r_l | 1 \leq l \leq q, r_l \in R\}$*
- *S – common semantic model*
- *n – number of entities in CSM*
- *m – number of attributes in CSM*
- *o – number of properties in CSM*
- *q – number of relationships in CSM*

Compliance Assessment Perspective

- Compliance rules can be used to assess semantic compliance level to industry standards of the following interoperability entities:
 - Reference Model
 - Common Semantic Model
 - Business Entity (profile)
 - Interoperability Artifact
 - Data Set

Conclusion

- Semantic compliance rules are proposed
- An attempt to demystify Industry Standards usage and compliance assessment
- Proposed rules can be used to assess components' integration readiness
- Higher compliance levels decreases chances of projects' delays and leads to more effective and less expensive integration

Questions

- Contact Information

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