

Status Report of the Study Group on MDR/MFI Implementations

**ISO/IEC JTC 1/SC 32/WG2 Interim Meeting
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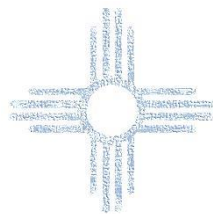
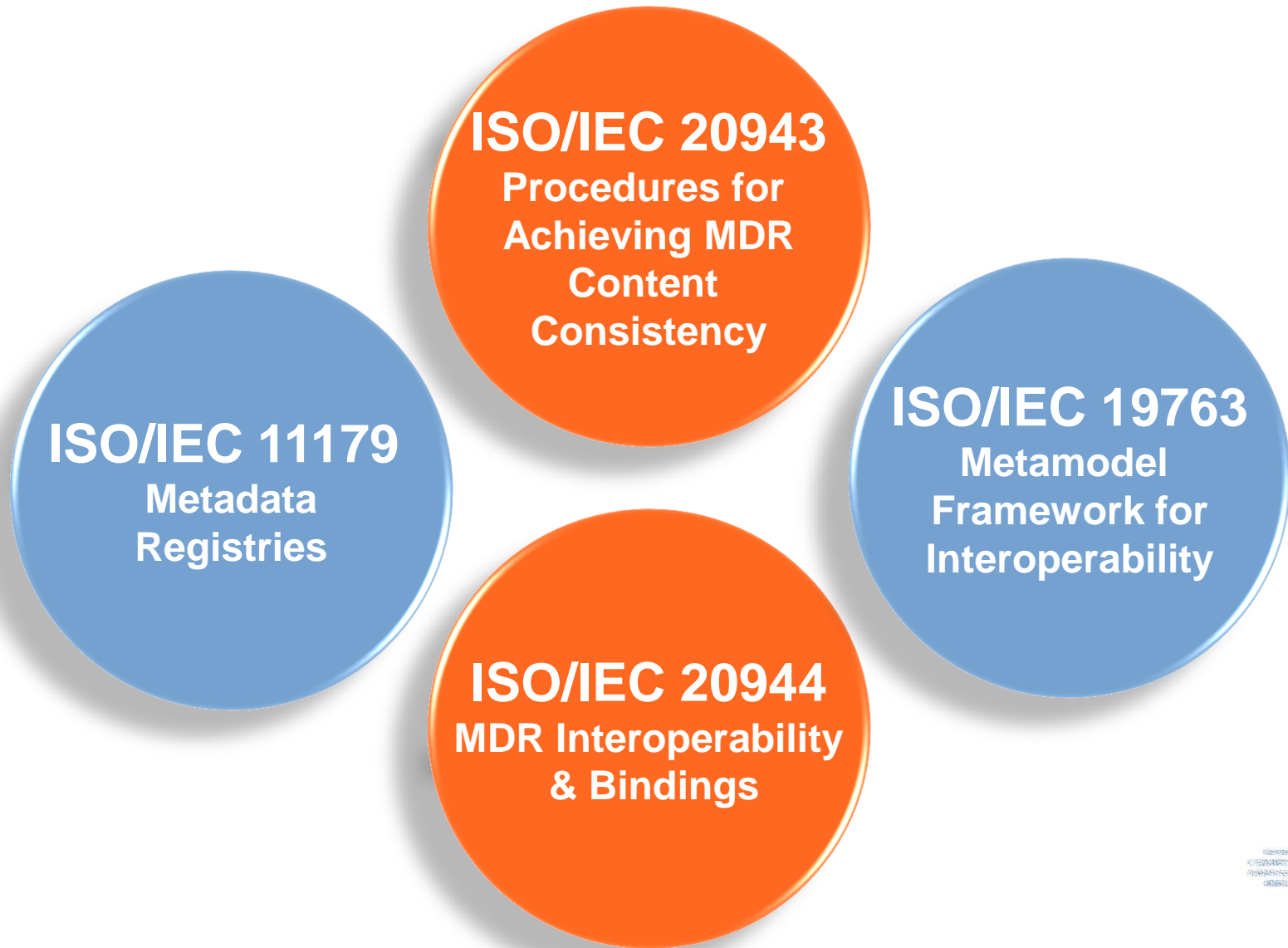
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Intro. to WG 2 Standards: Key Families



Intro. to WG 2 Standards: MDR Family

❖ Objective

- ✓ Addresses the **semantics of data**, the **representation of data**, and the **registration** of the descriptions of that data
- ✓ Accurate **understanding of the semantics** and a **useful depiction of the data**

❖ Scope

- ✓ Standard description of data
- ✓ Common understanding of data across organizational elements and between organizations
- ✓ Re-use and standardization of data over time, space, and applications
- ✓ Harmonization and standardization of data within an organization and across organizations
- ✓ Management of the components of data
- ✓ Re-use of the components of data

Intro. to WG 2 Standards: MDR Family (cnt.)

❖ Current Status

- ✓ Part 1: Framework
 - Current status : Edition 3 CD2 (2013.7.17)
- ✓ Part 2: Classification
 - Current status : International Standard (Edition 2 / 2005.11.15)
- ✓ Part 3: Registry metamodel and basic attributes
 - Current status : International Standard (Edition 3 / 2013.2.12)
- ✓ Part 4: Formulation of data definition
 - Current status : Edition 3 WD (2007.12.6)
- ✓ Part 5: Naming and identification principles
 - Current status : Edition 3 CD3 (2013.7.14)
- ✓ Part 6: Registration
 - Current status : International Standard (Edition 2 / 2005.1.15)

Intro. to WG 2 Standards: MFI Family

❖ Objective

- ✓ Enable effective **information sharing** in both private and public sectors.

❖ Scope

- ✓ **Sharing of the information** that is used by different communities through the **interoperability of systems** is a **registry**, or a network of **inter-connected registries**
- ✓ Provides for the **discovery** and **sharing** of **meta-information**, such as **metadata or models**
- ✓ The **Metamodel Framework for Interoperability** (MFI) provides the specifications for such **registries**

Intro. to WG 2 Standards: MFI Family (cnt.)

❖ Current Status

- ✓ Part 1 : Reference model
 - Current status : Edition 2 WD2 (2013.7.14)
- ✓ Part 3 : Metamodel for ontology registration
 - Current status : International Standard (Edition 2 / 2010.8.6)
- ✓ Part 5 : Metamodel for process model registration
 - Current status : Edition 1 CD6 (2013.7.17)
- ✓ Part 6 : Registry Summary
 - Current status : Edition 1 CD3 (2013.10.18)
- ✓ Part 7 : Metamodel for service registration
 - Current status : Edition 1 CD4 (2013.7.17)
- ✓ Part 8: Metamodel for role and goal registration
 - Current status : Edition 1 CD4 (2013.10.17)
- ✓ Part 9 : On Demand Model Selection (ODMS)
 - Current status : Edition 1 PDTR4 (2013.7.17)
- ✓ Part 10: Core model and basic mapping
 - Current status : Edition 1 CD3 (2013.7.14)
- ✓ Part 12: Metamodel for information model registration
 - Current status : Edition 1 CD 3 (2013.7.14)
- ✓ Part 13: Metamodel for forms registration
 - Current status : Edition 1 CD (2013.8. 1)

Intro. to WG 2 Standards: 20943

❖ Objective

- ✓ Standard is a **multipart technical report** for standard specifies the structure of a registry in the form of a conceptual model(11179-3)
- ✓ Procedures for achieving **metadata registry (MDR) content consistency**

❖ Scope

- ✓ Data elements
- ✓ XML structured data
- ✓ Value domains
- ✓ Overview
- ✓ Metadata mapping procedure
- ✓ Framework for generating

Intro. to WG 2 Standards: 20943 (cnt.)

❖ Parts and Current status

- ✓ Part1 : Data Elements
 - Current status : International Standard (2003.8.1)
- ✓ Part2 : XML Structured Data
 - Current status : Project on hold (2003.9.3 / hold pending revisions to ISO/IEC 11179-3 in Edition 3)
- ✓ Part3 : Value Domains
 - Current status : International Standard (2003.3.1)
- ✓ Part4 : Overview
 - Current status : On hold (Temporarily on hold while resource work on other project)
- ✓ Part5 : Metadata Mapping Procedure
 - Current status : TR (2013.10.30)
- ✓ Part6 : Framework for generating ontology
 - Current status : TR (2013.10.30)

Intro. to WG 2 Standards: 20944

❖ Objective

- ✓ Provides the **bindings** and their **interoperability** for **metadata registries**, such as those specified in the **ISO/IEC 11179 series** of standards

❖ Scope

- ✓ **Treating data (and metadata) interoperability** as a series of layered technical specifications (e.g., standards), from application-independent layers to application-specific layer(s).
- ✓ The **simplification of interoperability specializations**, also known as **bindings**
- ✓ The use of **rule-based bindings** to simplify the normative wording of the **standards**.
- ✓ Involving the **harmonization** of bindings within a category

Intro. to WG 2 Standards: 20944 (cnt.)

❖ Parts and Current status

- ✓ Part 1 : Framework, common vocabulary and common provisions for conformance
 - International Standard (published at 2013.1.8)
- ✓ Part 2 : Coding Bindings
 - International Standard (published at 2013.1.8)
- ✓ Part 3 : API Bindings
 - International Standard (published at 2013.1.8)
- ✓ Part 4 : Protocol Bindings
 - International Standard (published at 2013.1.8)
- ✓ Part 5 : Profiles
 - International Standard (published at 2013.1.8)

Key Issues & Problems

❖ No Overall Reference Model

- ✓ No guideline for using all/part of the WG 2 standards together
- ✓ It's not easy to understand the standards and relationships between them
- ✓ It's a barrier for encouragement of using the standards

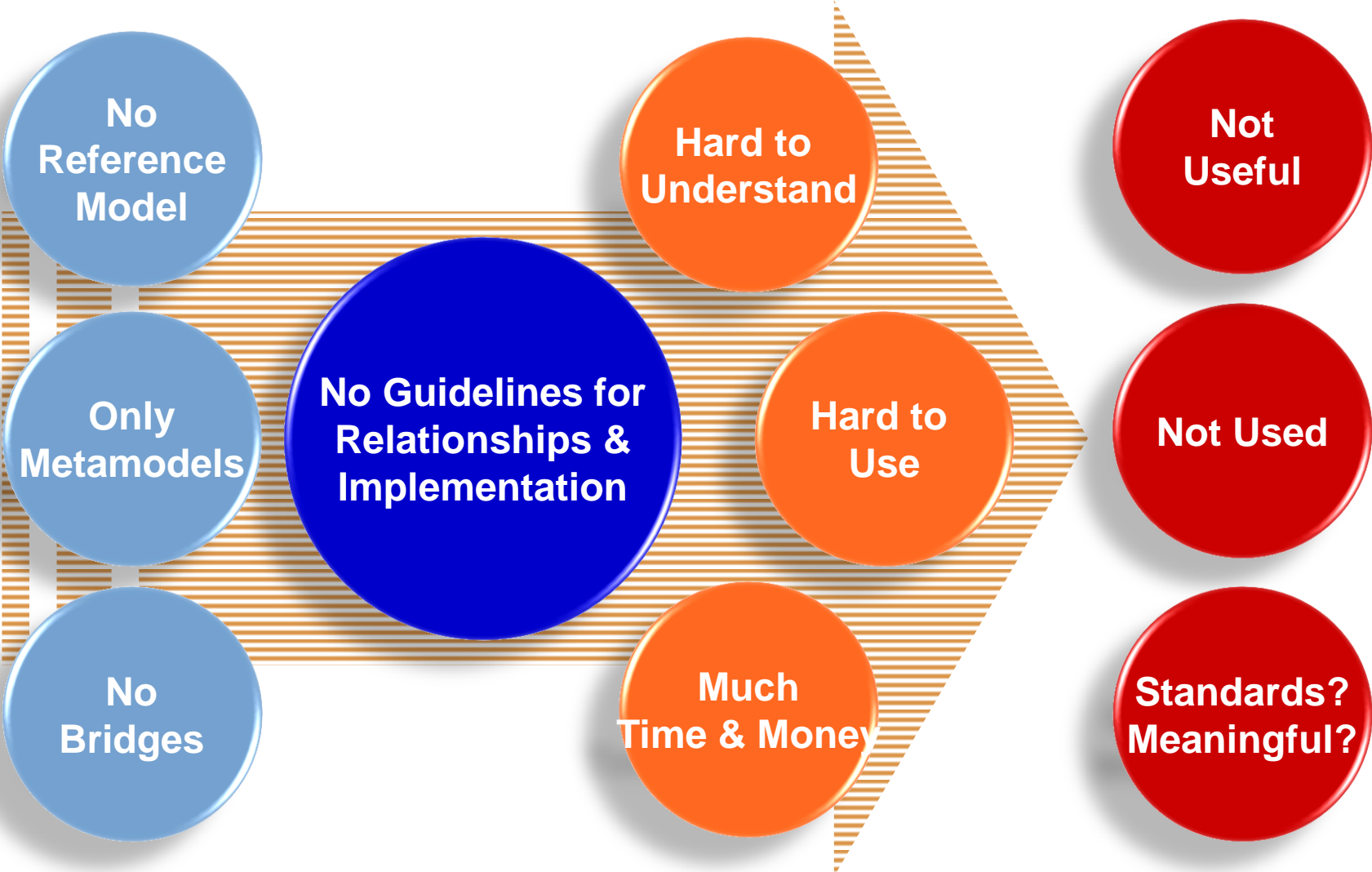
❖ No Implementation Model

- ✓ Most of standards developed from WG 2 are conceptualized and abstracted, and only metamodels are provided
- ✓ Developers suffer from designing and implementing the standards
- ✓ We cannot validate and verify implementations, i.e., we cannot guarantee the implementations are strictly follow the standards
 - Various implementations have been/will be developed, and thus it makes another Heterogeneity (Inconsistency) Issue
- ✓ It requires much cost to develop implementations of the standards

Key Issues & Problems (cnt.)

- ❖ **Little Standardized Interfaces (Bridges) between Them**
 - ✓ No guideline of protocols to share and exchange information between the standards as well as outer services
 - ✓ We can just leave the interfaces to developers OR provide normalized (standardized) interfaces to them
 - Which is a best direction?
 - ✓ **It's a barrier for encouragement of using the standards**
 - ✓ **Developers can suffer from designing and implementing interfaces, and It also requires much cost to develop their interfaces**

Key Issues & Problems (cnt.)



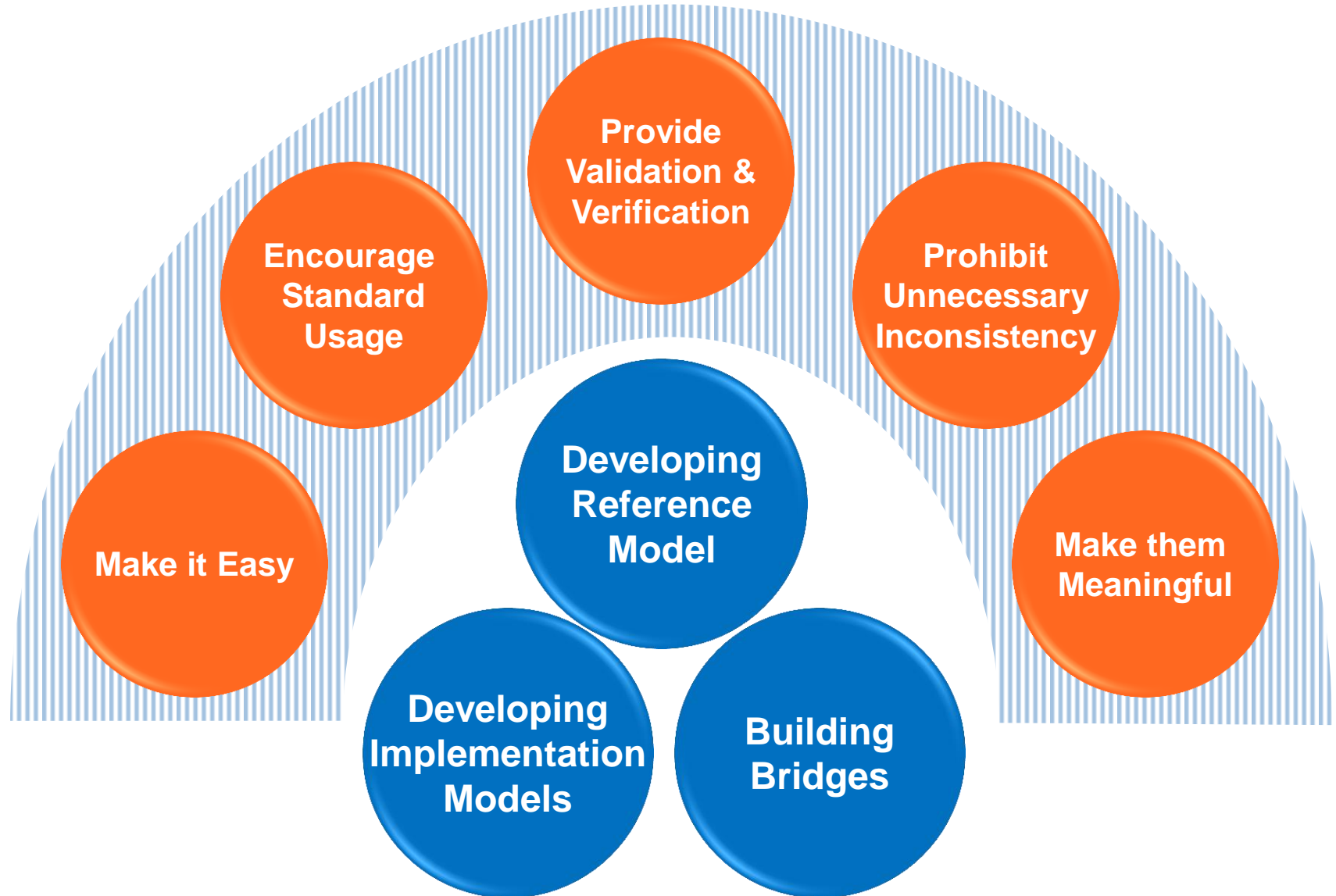
Requirements? What Should We Do?

❖ **There might be Many Questions**

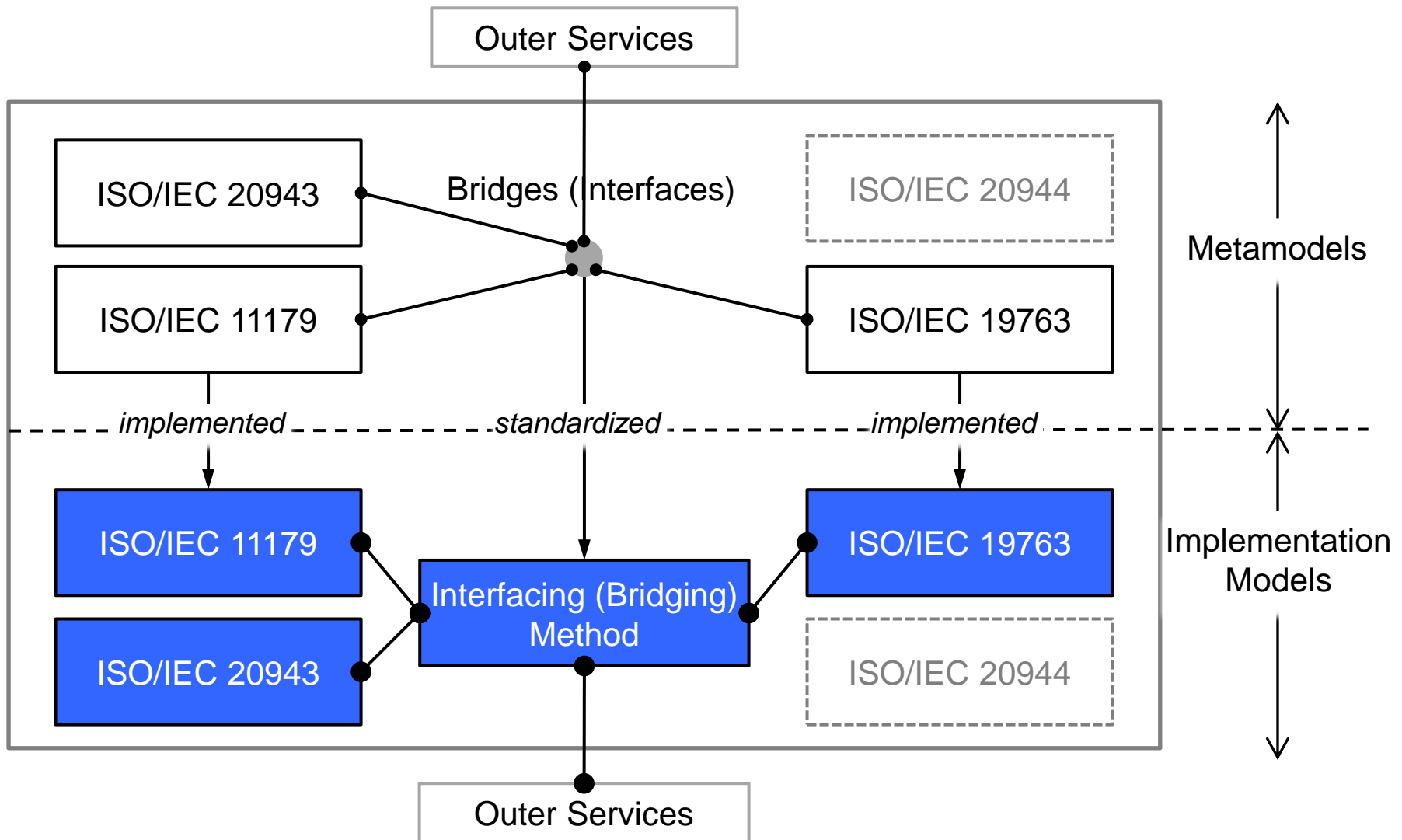
- ✓ How to provide easy understanding about the standards and their relationships?
- ✓ How to validate and verify the metamodels?
- ✓ How to make it easy to implement the standards?
- ✓ How to provide interfaces between the standards or with other services
- ✓ How to guide for establishing a concrete framework with all/a part of the standards?

❖ **In a Word, How to make WG2 Standards to be Used in an Easy and Right Way and to facilitate their Usage**

Requirements? What Should We Do? (cnt.)

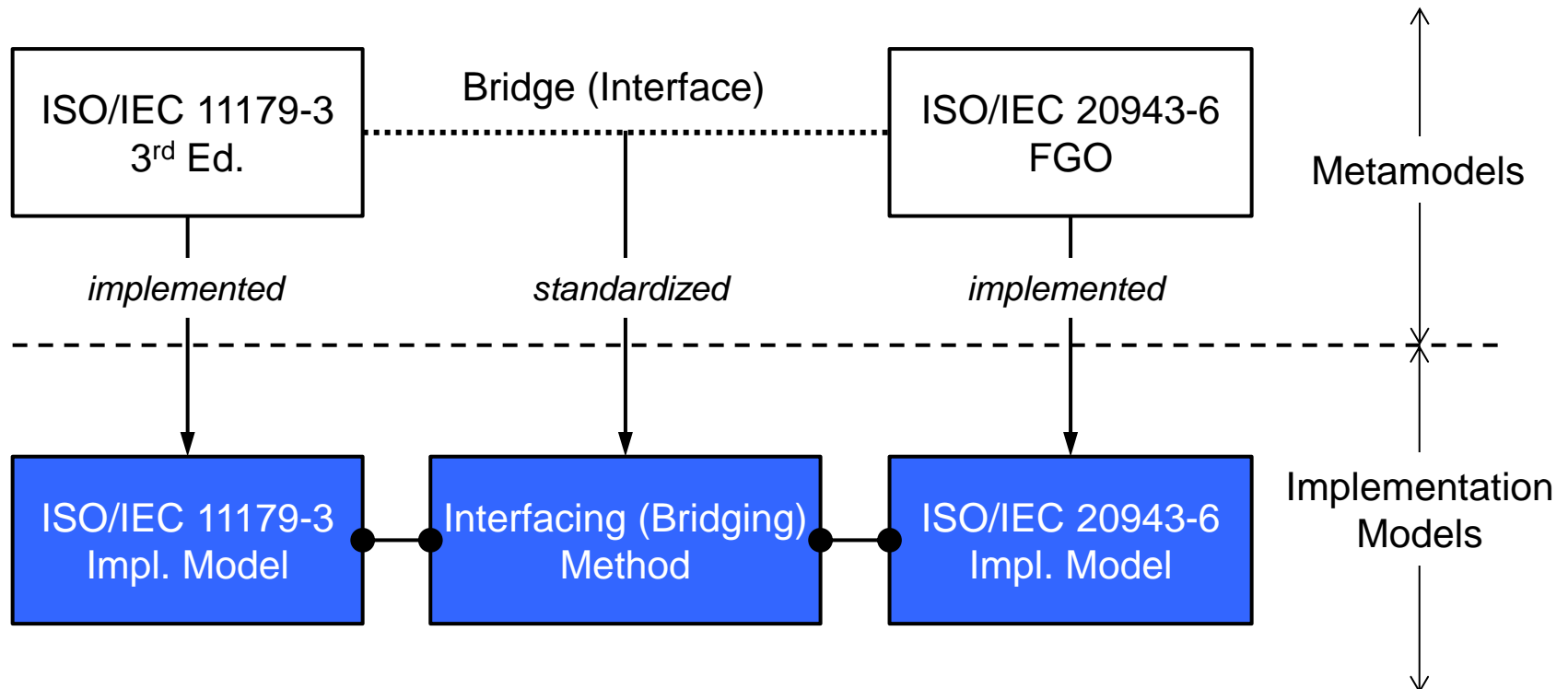


How to Achieve: Overall Model



How to Achieve: 11179-3 & 20943-6

- ❖ Implementation models and interfaces should be provided



Conclusion and Discussion

❖ **Consequently, WG 2 should try:**

- ✓ to help users' understanding
- ✓ to encourage the WG 2 standards usability in an easy and right way.

❖ **To Achieve the goal, WG 2 should basically develop:**

- ✓ Reference Model
- ✓ Implementation Models
- ✓ Bridges (Interfaces)

❖ **Discussion**

- ✓ Development Schedule and Order
- ✓ Organizing Study Groups
- ✓ Additional Requirements

Thank you for attention!

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