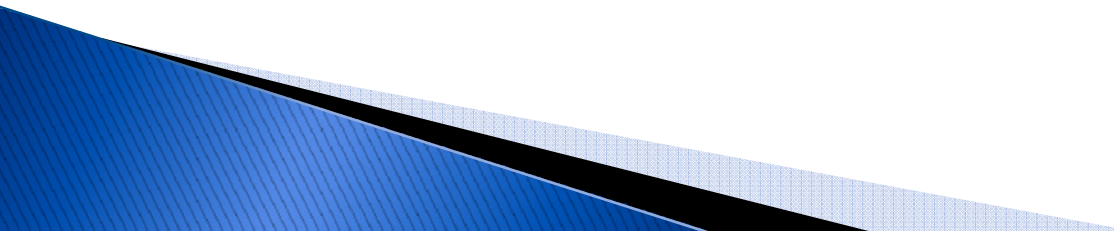


Agenda

- ▶ 1. Introduction to XBRL and XSB
 - ▶ 2. Overview of the strategic initiatives
 - ▶ 3. Background on modelling
 - ▶ 4. Proposed charter
 - ▶ 5. Structure of task force & resourcing needs
 - ▶ 6. Call to action
- 

1.1 – Where XBRL Fits In

Domain Projects

Business Reporting

Corporate Actions

SBR

Regulatory Frameworks

XBRL Standard

Dimensions

Formulas

Inline XBRL

Versioning

XBRL 2.1 Core Specification

XML Foundation

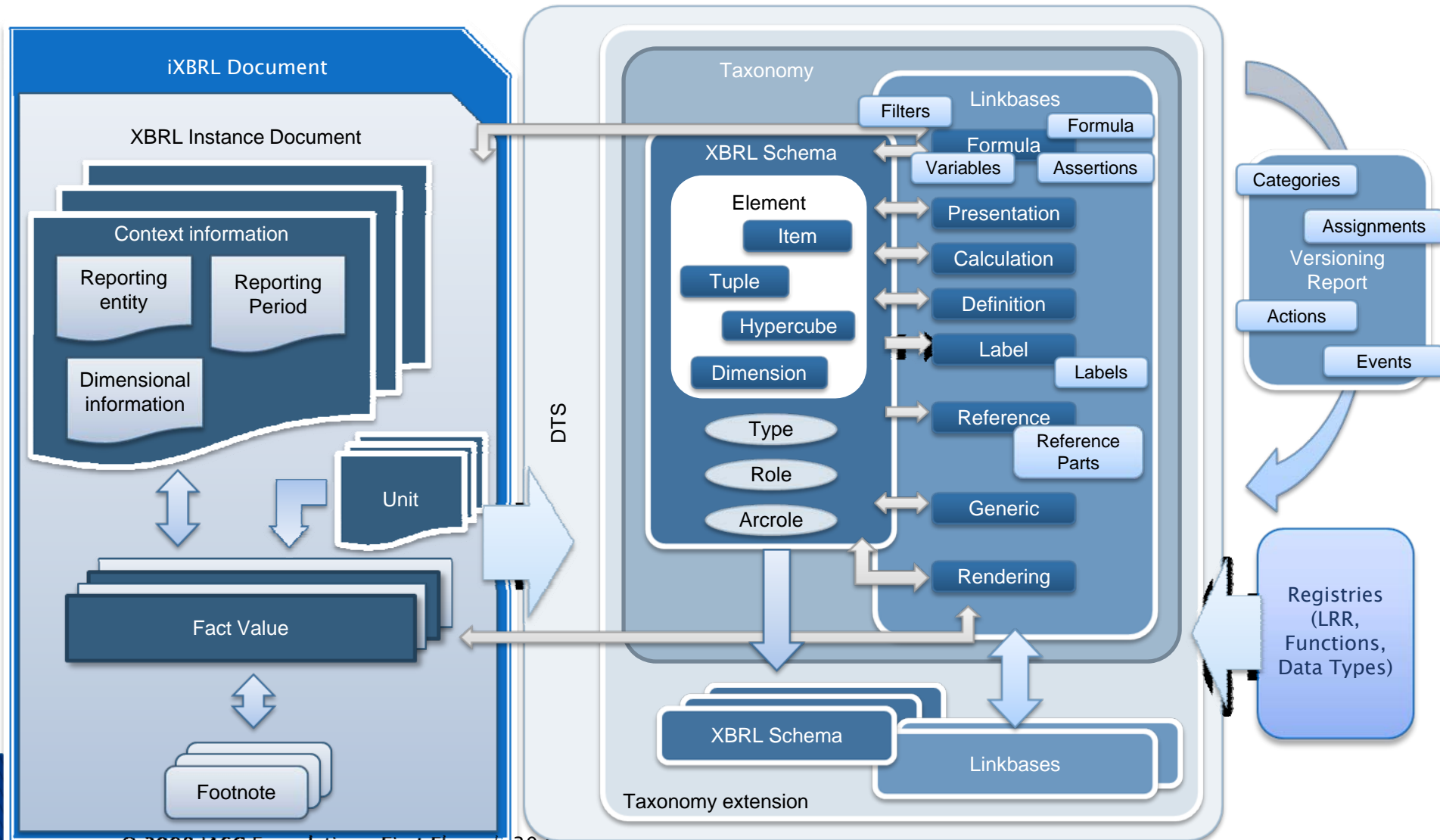
XML

XML Schema

XLink

XPath

1.2 – The XBRL Technology Stack



1.3 – The Role of The XSB

- ▶ The XSB plays a supervisory role over the technical work products produced by XII
- ▶ From charter, the XSB is responsible for:
 - The production of stable, high quality, interoperable specifications
 - The production of other supporting technical materials in support of XBRL-based business reporting

2.1 – Journey so far



2.2 – Initiatives Overview

Initiative		Primary Benefit	Discussion Document Goals		
			Make XBRL easier for developers	Improve XBRL comparability	Make XBRL data easier to consume
1	Create an abstract model	An abstract model provides a conceptual framework for understanding XBRL and gives developers a strong foundation for their implementations.	Yes	Yes	Yes
2	Produce training materials	High-quality training materials lend support to developers and those new to XBRL.	Yes	Yes	Yes
3	Define standard API signatures	API signatures assist developers with their implementation of XBRL solutions.	Yes		Yes
4	Reorganise existing specification	A reorganisation of the XBRL specification will make the specification easier to understand.	Yes		
5	Enhance data comparability	Data comparability widens the applicability of XBRL data across project and international boundaries.		Yes	Yes
6	Develop application profiles	Application profiles reduce the scope of XBRL implementations by breaking up the XBRL specification into components.	Yes		Yes

3.1 – Modelling vs. Meta-Modelling

- ▶ A model is an abstraction of some phenomena in the real world
- ▶ A meta-model is yet another abstraction, highlighting the properties of the modelling framework itself
- ▶ The XBRL spec is a meta-model, whereas XBRL taxonomies are the models
 - Similar pattern exist in other technologies such as XML, SQL, Object-Oriented Programming (OOP)

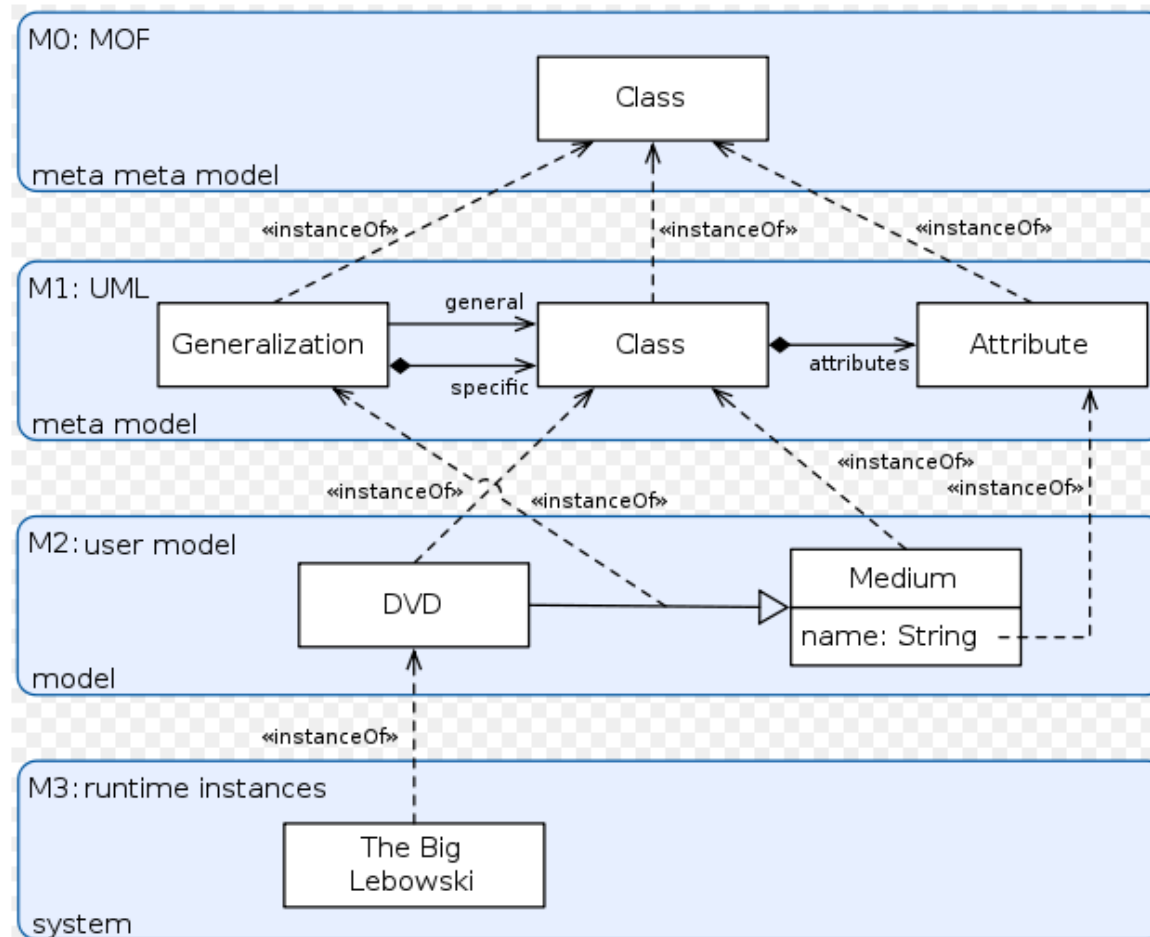
3.2 – XBRL as a Modelling Framework

- ▶ Key concept: XBRL is a framework for modelling various domains
 - Domains can be financial reporting, business reporting, GL, corporate actions, even water quality reporting, etc.
- ▶ XBRL itself is not a model, but a meta-model
 - XBRL models a domain through a taxonomy
 - XBRL taxonomies model the real world

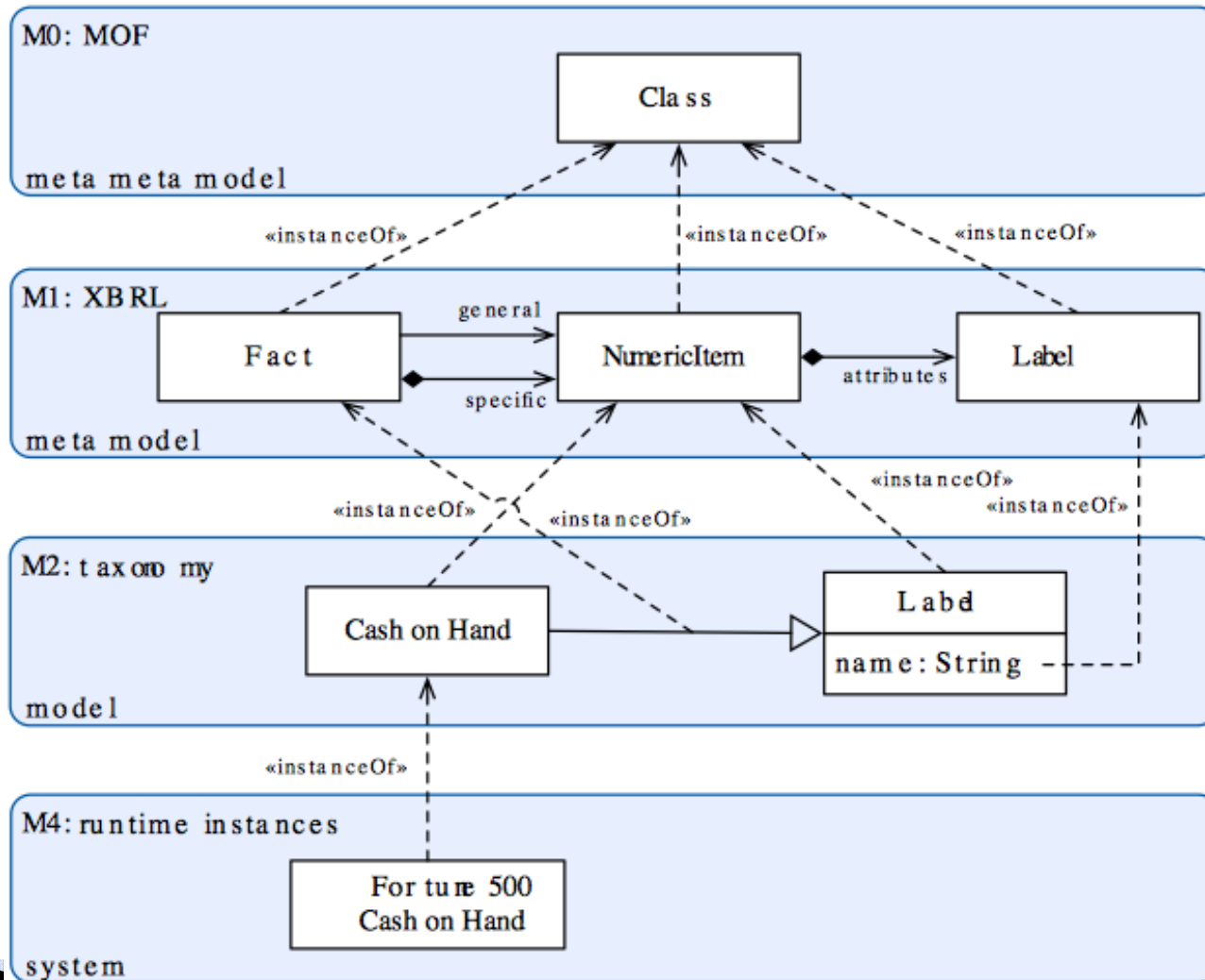
3.3 – UML as a Modelling Framework

- ▶ Likewise, UML is a framework for modelling software infrastructures
 - Many types of diagrams such as use case, class, object, sequence, deployment, etc.
- ▶ XII's relationship to XBRL is as OMG's to UML
- ▶ OMG has defined the Meta-Object Facility (MOF) as a means to describe UML itself
 - XSB wishes to do the same for XBRL specification

3.4 – OMG's Meta-Object Facility (MOF)



3.5 – XBRL Equivalent



3.6 – Examples of Meta-models

- ▶ Software industry has an established history of defining and using meta-models
- ▶ Recent success story is SWIFT's development of the ISO20022 standard:
 - UML metamodels were developed to define and describe interbank communication models
 - Systems are highly-interoperable since it is not permissible to change the communication model without changing the UML metamodel
 - [NOTE: scheduled to approach SWIFT for more detail]

4.1 – Why a Meta-Model?

- ▶ To apply a technology, developers need to understand the framework first:
 - XML: elements, attributes, entities
 - SQL: tables, rows, columns, keys, indexes
 - OOP: classes, methods, properties, inheritance
 - XBRL: facts, units, periods, dimensions
- ▶ The XSB would like to capture the meta-model for XBRL:
 - To assist developers in learning and applying XBRL
 - To serve as the foundation for domain modelling

4.2 – The Goals

- ▶ The primary model will capture the semantics of XBRL:
 - Core spec and Dimensions are mandatory
 - Model should be void of syntactic details
 - Should be portable across technologies, like SQL and OOP
- ▶ A secondary model will bind the primary model to XML
 - This bridges the gap from model to current spec

4.3 – Out of Scope

- ▶ Domain (taxonomy) modelling is not an objective
 - Parallel modelling efforts will be considered with BPB involvement
- ▶ Formulas, Versioning, Rendering
 - XSB will consider

4.4 – Proposed Charter

- ▶ The abstract modelling group will be responsible for delivering a UML model which captures the semantics of the XBRL 2.1 core specification and the Dimensions 1.0 specification. The UML model will capture the fundamental structures and design of XBRL and XBRL Dimensions as standalone UML artifacts, decoupled from any specific XML syntactical details. These artifacts are likely to include use case diagrams, class diagrams, object diagrams, sequence diagrams and other such diagrams as may be later defined by the group. These diagrams will be developed with a specific focus towards software engineering, as a means of establishing a common framework for communicating and understanding the XBRL technology.