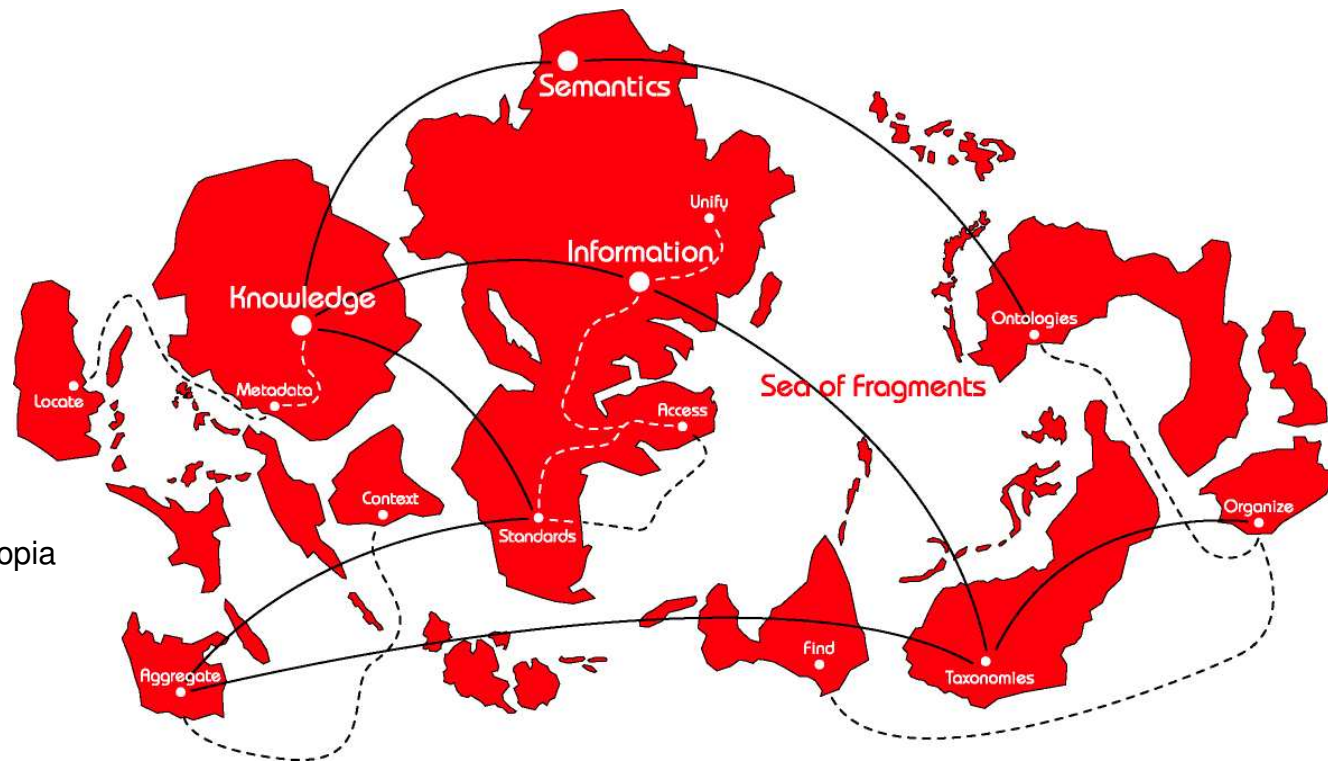


A Tale of Two Models

Models processing, reference, application, data etc.



Lars Marius Garshol

Development Manager, Ontopia
<larsga@ontopia.net>

In the beginning...there was no model

- **ISO 13250:2000 was published in January 2000, and defined**
 - terminology, and
 - an SGML- and HyTime-based syntax for topic maps, using architectural forms
- **What this meant was that**
 - there was no model,
 - the interpretation of the syntax was only loosely defined,
 - there wasn't one single syntax, but an infinite number of them, so
 - each implementation had its own XML version of the syntax

Then, topicmaps.org said, “let there be XML”

- **XTM 1.0, published February 2001, defined**
 - terminology,
 - a conceptual model (annex B), and
 - an XML-, XLink-, and URI-based syntax
- **This was much better, because**
 - now there was a syntax based on the standards people use, and
 - there was a fixed syntax

Back to ISO

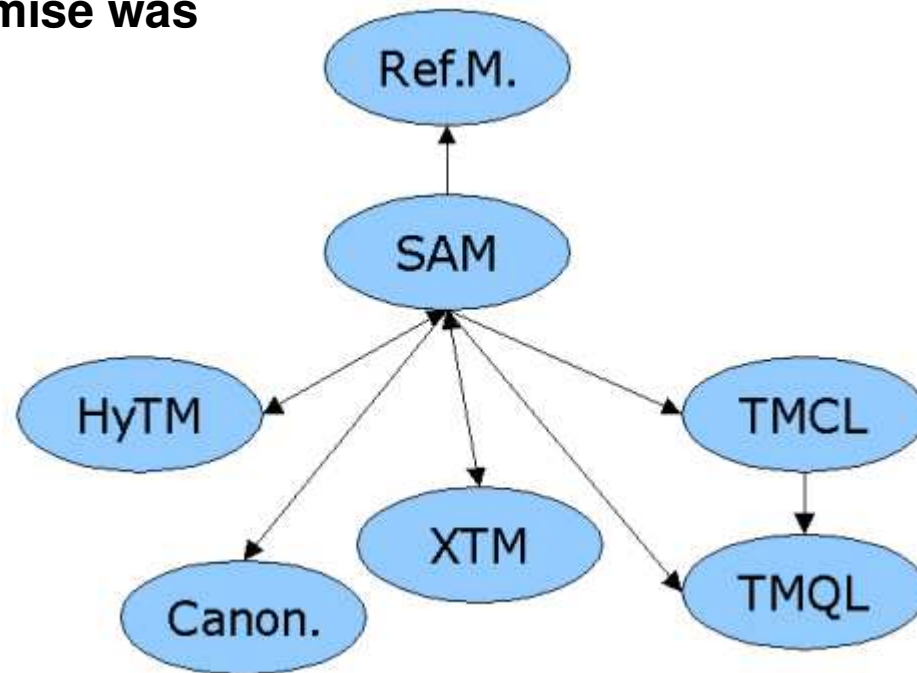
- **At this point it was agreed that the XTM 1.0 DTD should be incorporated into ISO 13250**
- **ISO published this in 2003 as ISO 13250:2003**
- **The committee decided to create**
 - TMQL – Topic Maps Query Language, and
 - TMCL – Topic Maps Constraint Language
- **However,**
 - we had no explanation of how the two syntaxes fit together,
 - no firm definition of how to interpret the syntaxes, and
 - we were creating a query and a schema language, both of which needed something other than the syntax to operate on

Problems

- **At this point, two models were proposed**
- **PMTM4**
 - graph-based model, consisting of three kinds of nodes,
 - informally described
- **The infoaset-based model**
 - data model using the infoaset formalism from the XML Infoaset,
 - relatively formal description, with precise mapping from XTM syntax
- **The goals these two models tried to accomplish were completely different, hence the conflict**
- **The infoaset-based model was about**
 - defining the standard precisely,
 - so that it would be possible to implement it,
 - so that different implementations would do the same thing, and
 - to create a basis for TMQL and TMCL

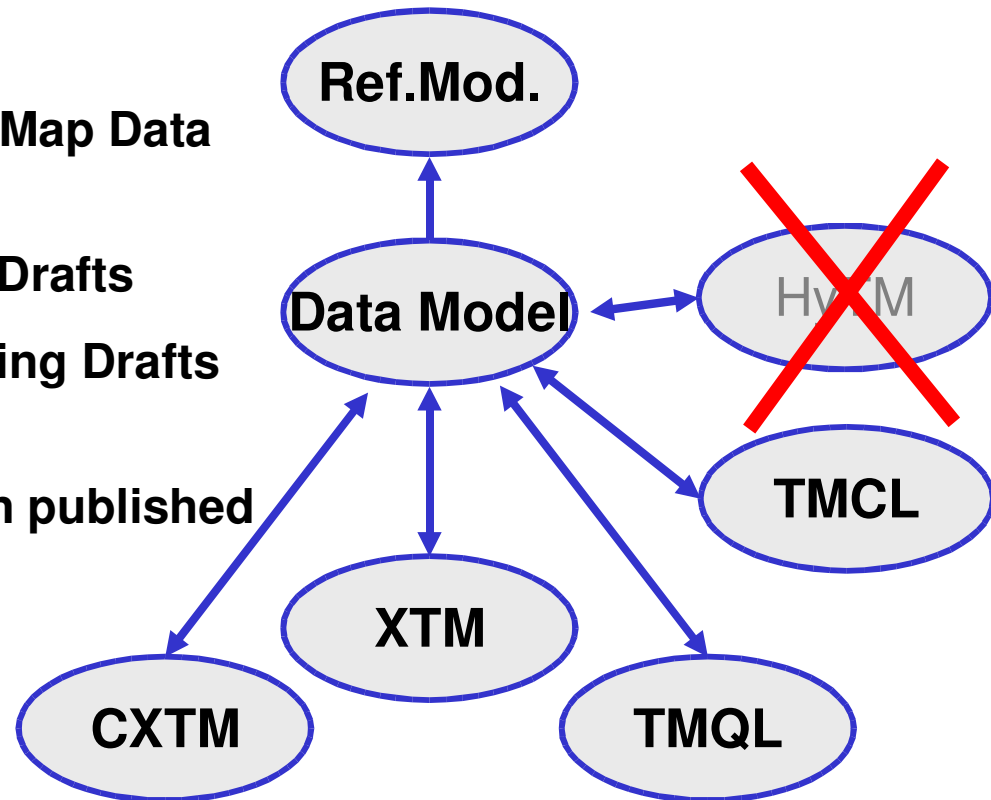
The compromise

- **In Berlin in May 2001 a compromise was agreed**
- **We would have both models**
 - a reference model, and
 - a standard application model
- **This would satisfy both sides**



The current state of affairs

- HyTM has been removed
- SAM has been renamed “Topic Map Data Model” or “TMDM”
- TMDM and XTM are Committee Drafts
- The first TMCL and TMQL Working Drafts are expected soon
- A CXTM Working Draft has been published

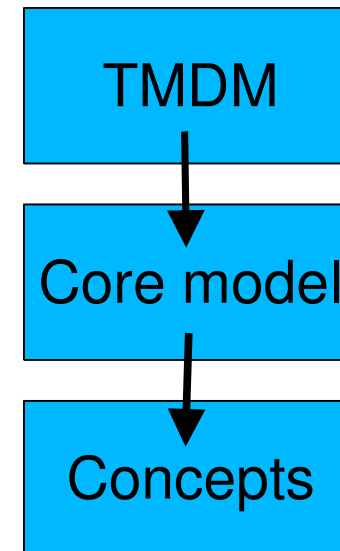


The Reference Model Workshop

- **Held in Montréal, last weekend, to agree on way forward**
- **Four proposals were evaluated**
 - Existing Reference Model (Newcomb & Durusau)
 - Tau model (Barta)
 - BAM: Basic Assertion Model (Bogachev)
 - Quads (Garshol)
- **Much time was also spent on requirements,**
 - which led to improved mutual understanding and the beginnings of a consensus

Workshop decision on deliverables

- **ISO 13250-5 – Topic Maps – Reference Model**
 - Concepts, vocabulary, and design rationale
 - Core model (mathematical, assertions)
 - Recommendations for mapping any IKRs (informative annex)
- **ISO 13250-2 – Topic Maps – Data Model**
 - Existing TMDM
 - Mapping of TMDM to core model



Concluding personal note

- **Personally, I think that none of the models matter that much**
- **To me, they are all means to three ends**
- **We need to define**
 - XTM,
 - TMQL, and
 - TMCL
- **We use the models to do this, but no user will ever interact with the models *in any other way***
- **So, where we are now is that we're in good shape to do the things that really matter**