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Standard Models for Legislation —
The Cost of Compliance

My Background

- ◆ **Technical publications**
- ◆ **XML markup in the Irish Parliament**
- ◆ **Legislation drafting and amendment in the USA**

Today's topic

How can we promote the adoption of standards?

OASIS LegalXML LEG-REG Compliance Technical Committee, 2004

“to establish a structured information framework that supports the ongoing, timely, proactive delivery of high-quality Legislative-Regulatory Content.”

OASIS LegalXML LEG-REG Compliance Technical Committee, 2005

“It was clear from the discussion,
however, that there was **no**
near-term realizable benefit
that the states participating in the
discussion would derive **from**
participating in the
standards effort.”

Compliance with a standard

- ◆ **Must be a clear value proposition to those who have to comply**

Legislation standards are hard

- ◆ **Legislation has multiple consumers and producers all with differing needs**
- ◆ **Reconciling these needs into a single ‘model’ of legislation is a tricky problem**

What is a 'correct' model?

- ◆ **We can make an infinite number of models of a single thing**
- ◆ **None will be objectively 'correct'**
- ◆ **The only viable measure of 'correctness' is *utility***
- ◆ **Does the model achieve something useful?**

Value

- ◆ **Benefits?**
- ◆ **Costs?**

Legislative food-chain

- ◆ **Drafting**
- ◆ **Consideration**
- ◆ **Promulgation**
- ◆ **Implementation**
- ◆ **Compliance**
- ◆ **Jurisprudence**

What is utility?

- ◆ **Utility at different stages in this food-chain will be determined by different factors**

Drafting

Information requirement	Data model implication	Problem domain
how statute relates to the subject under consideration	classification of live statutes by subject-matter	ontology
how the subject has been addressed historically within the jurisdiction	classification of historical statutes by subject-matter	ontology
how the subject has been addressed in other states	classification of external statutes by subject-matter using shared classification system	ontology
conformity to the drafting rules	models of stylistic rules (grammar checkers, controlled vocabularies, spellcheckers, etc) against which text can be validated	heuristics
		validation

Drafting

Information requirement	Data model implication	Problem domain
conformity to formatting rules	information exists to create correct visual formats	formatting
conformity to technical rules	must contain appropriate printing codes, correct encoding of text, provision numbering sequences	heuristics
conformity to structural rules	models of structural rules (SGML, XML, database schema) against which text can be validated	semantics
	availability of templates and boilerplate text fragments to assist in the creation of the structure	document management

Drafting

Information requirement	Data model implication	Problem domain
state of completion of the document	taxonomy of drafting operations and associated states	workflow
operations outstanding on the document		
which parts of the document have been approved and by whom		
what outstanding issues remaining to be resolved		

Drafting

Information requirement	Data model implication	Problem domain
intent ('thinking') behind the document and behind individual provisions	ability to comment on legislation, at document and sub-document level (explanatory memoranda, revisor's notes, etc.)	exegeisis
sources of information and opinion which are informing the draft legislation	comment fields and links to external and internal information sources	citation
translation	ability to author and display text in multiple languages	linking
		translation memory
		version control
inclusion of non-text information, diagrams, maps, etc.	reference external entities	object referencing

Consideration

Information requirement	Data model implication	Problem domain
understand status of the document within the legislative process (initiated, first consideration, withdrawn, etc)	metadata, or ability to identify state information within the text of the document	workflow
history of the document (how the document has been amended, and by whom, and it passes through the parliament)	ability to track and engross multiple sets of changes to the document	document management
manage proposed amendments to the document		version control
		change tracking
	merging	

Consideration

Information requirement	Data model implication	Problem domain
relationship to other legislation passing through the parliament	ability to map relationships between evolving documents	ontology
requirement to quote or reference document in other publications (e.g. the Journal, the Debate Record).	ability to map information relationships with other document types	ontology
	ability to exchange information across sectional boundaries	interoperability
operations or processes performed on the document (e.g. ratification by committee) will be referenced in the various documents of official record.	ability to map relationships with other legislative actions	ontology

Promulgation

Information requirement	Data model implication	Problem domain
where the definitive copy of the legislation resides (e.g. the vellum/linen copy)	document addressing mechanisms	namespaces
from where other 'legitimate' copies of the legislation can be obtained	document addressing mechanisms	namespaces
when the legislation comes into effect	ability to identify enactment dates, sunset provisions, etc.	semantics
		version control
what existing laws are superseded (repealed) by the new law	ability to identify repealing clauses, etc.	semantics
		version control

Promulgation

Information requirement	Data model implication	Problem domain
what the mechanisms for enforcement and compliance will be	ability to link to secondary legislation, SIs, rules, regulations, etc.	citation
		namespaces
		ontology
publish the document in a variety of outputs	document format which is amenable to repurposing	formatting
		transformation

Promulgation

Information requirement	Data model implication	Problem domain
update consolidated codes where necessary	ability to understand how legislative text impacts upon consolidated codes	merging
		version control
publish explanatory commentary where necessary	ability to store and extract comments	exegesis
requirement to maintain the physical or electronic representation of the legislation in a way which preserves the representation as part of the legislature's historical record.	document format which is open and long-lived	data longevity

Implementation

Information requirement	Data model implication	Problem domain
understand the links between the ordinances of the legislation and the various real-world actions which flow from those ordinances.	ability to reference other documents in a hyperlinked repository of information	citation
		linking
		namespaces
		ontology

Compliance

Information requirement	Data model implication	Problem domain
understand how individual or institution should behave in order to comply with legislation	ability to reference the legislation from external documents.	citation
		linking
		namespaces
	ontology	
	ability to add layer of commentary to the legislation	exegesis
	ability to retrieve all legislation relevant to a particular industry segment	ontology
understand law at a particular date	understand what version of the law was current a particular point-in-time	amendment
		document management
		version control

Jurisprudence

Information requirement	Data model implication	Problem domain
access to judgements and interpretations associated with a law	ability to reference the legislation from external documents.	citation
		linking
		namespaces
		ontology
	ability to add layer of commentary to the legislation	exegesis

Problem domains

- ◆ **Change tracking**
- ◆ **Citation**
- ◆ **Content management**
- ◆ **Data longevity**
- ◆ **Exegesis**

Problem domains

- ◆ **Formatting**
- ◆ **Heuristics**
- ◆ **Interoperability**
- ◆ **Linking**
- ◆ **Merging**

Problem domains

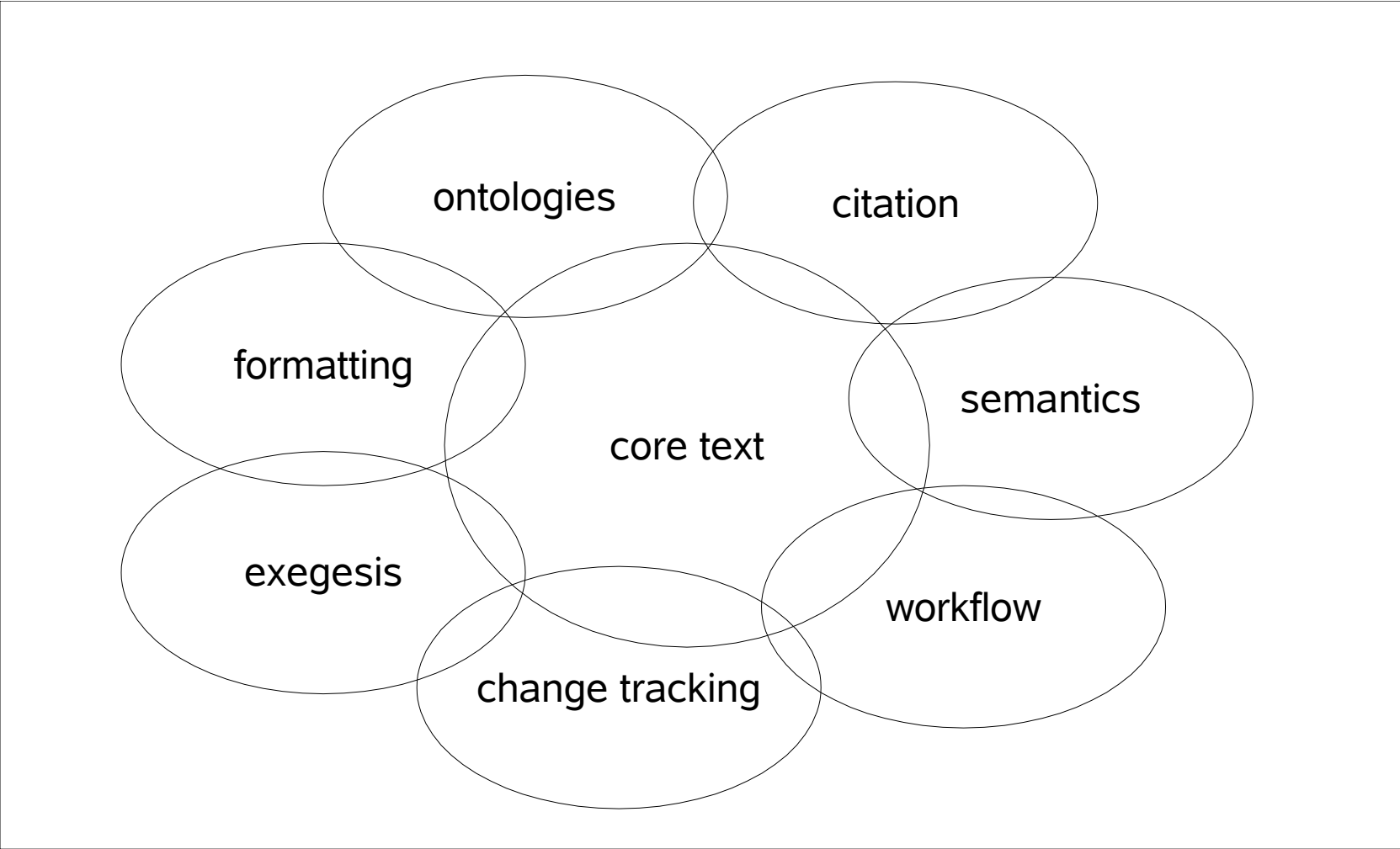
- ◆ **Namespaces**
- ◆ **Object referencing**
- ◆ **Ontology**
- ◆ **Semantics**
- ◆ **Transformation**

Problem domains

- ◆ **Translation memory**
- ◆ **Validation**
- ◆ **Version control**
- ◆ **Workflow**

**Before, we did all this
stuff with a
word-processor,
paper and scissors ...**

**... now we need a
plane-load of experts!**



Where do I start?

“An ontology is an explicit specification of a conceptualization. The term is borrowed from philosophy, where an Ontology is a systematic account of Existence.”

<http://www-ksl.stanford.edu/kst/what-is-an-ontology.html>

Where do I start?

“Before you study OWL you should have a basic understanding of XML, XML Namespaces and RDF.”

http://www.w3schools.com/rdf/rdf_owl.asp

**How do we promote and implement
a standard?**

Success factors?

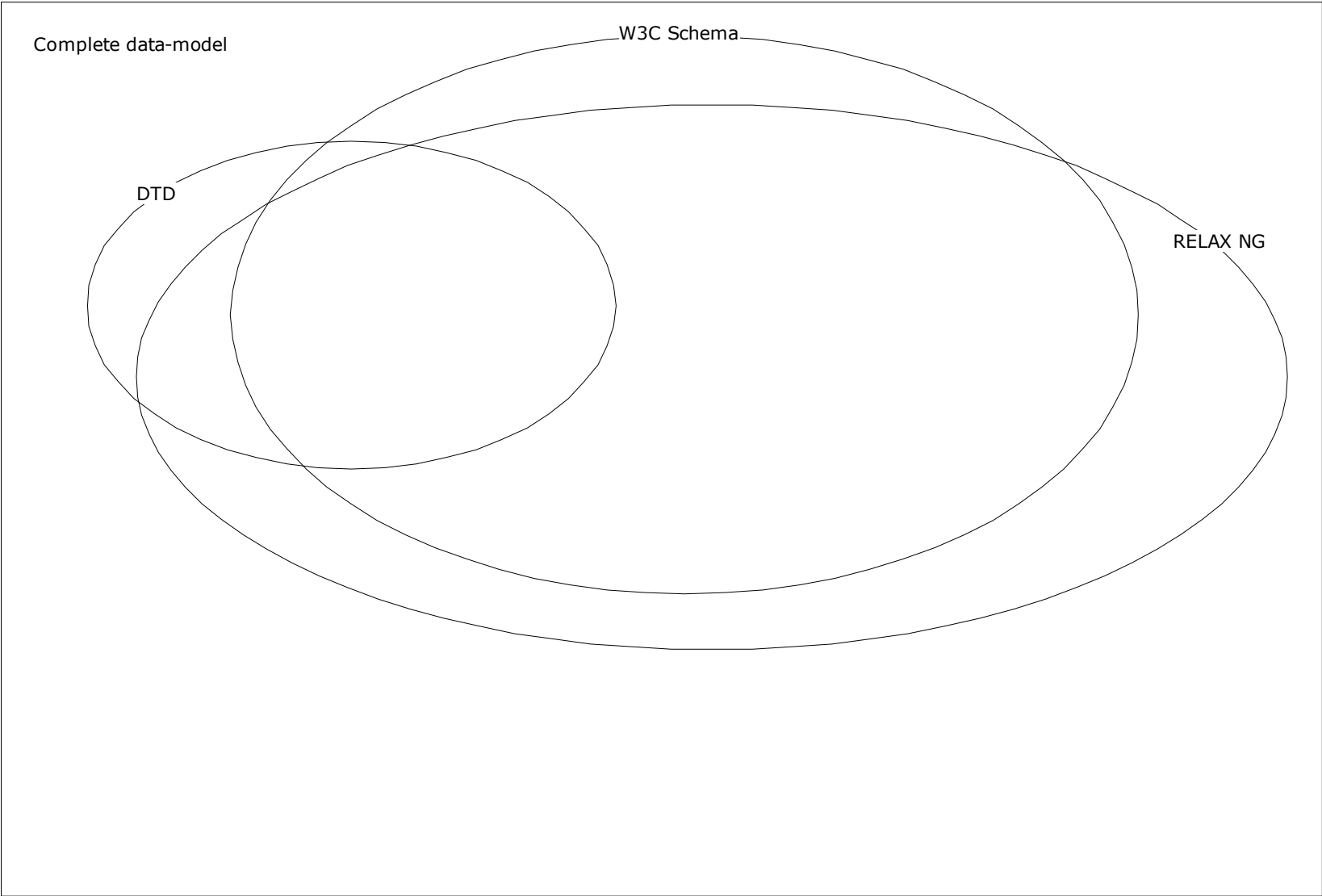
Modular standards

- ◆ **May add or subtract layers of complexity at different stages of the process**
- ◆ **example — Akoma Ntoso has detailed and general models**

Multiple expressions of a single model

- ◆ **DTD**
- ◆ **DTD++**
- ◆ **W3C Schema**
- ◆ **RelaxNG**
- ◆ **UML**
- ◆ **Relational**

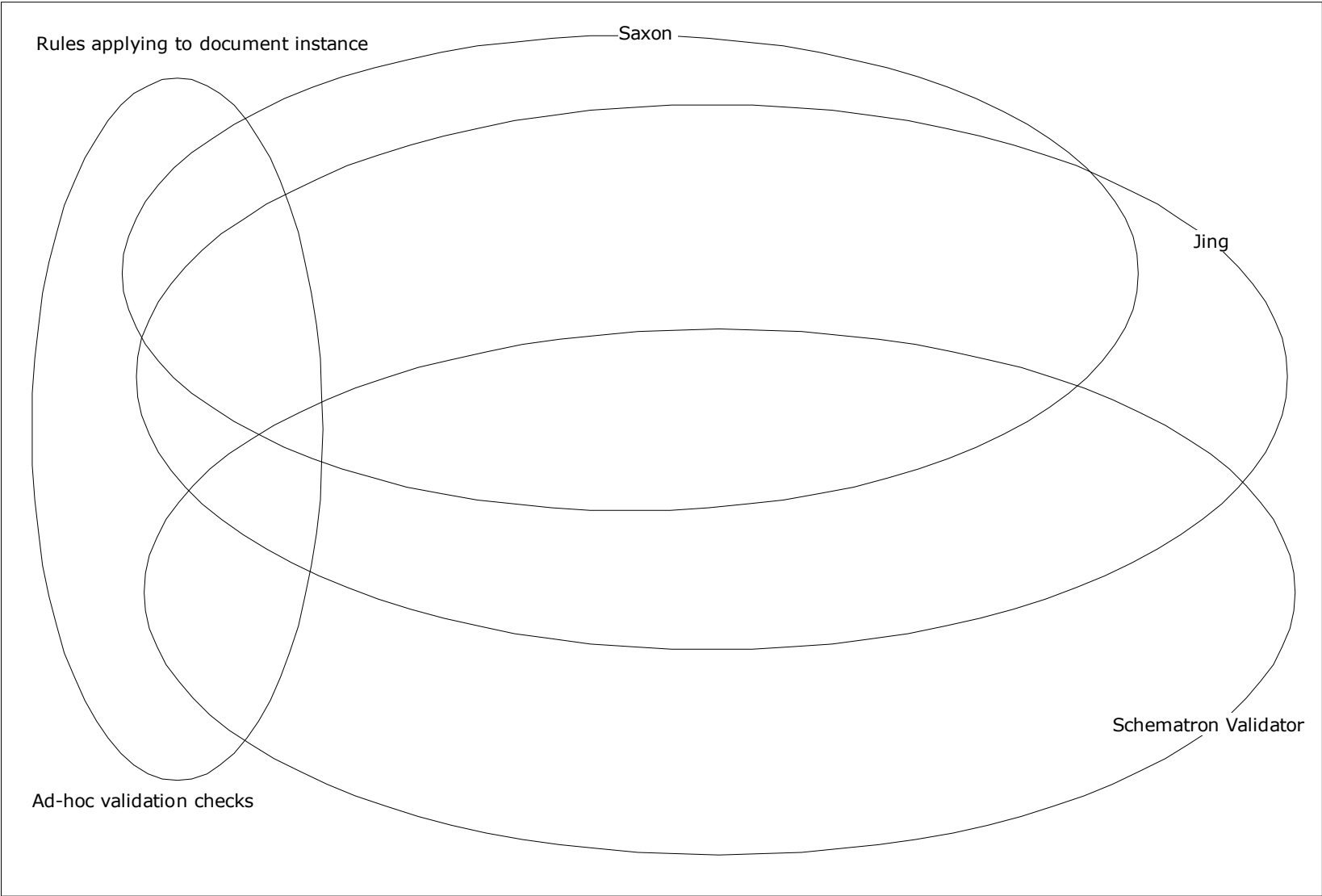
V Legislative XML Workshop



Multiple validation methods

- ◆ **Schema-based**
- ◆ **Heuristics-based**

V Legislative XML Workshop



Important of transformation

- ◆ **Consider transformation from task-optimised markup to canonical markup**
- ◆ **Consider isomorphic models optimised for different tasks — e.g. profiled ODF and XHTML**
- ◆ **Constrained editing environments don't have to be XML-based**

Implementation model

- ◆ **Find areas with the greatest need for interoperability**
- ◆ **Phase rollout**
- ◆ **Learn from each stage**
- ◆ **Find and support the evangelists**

Explanation

- ◆ **Non-geeks (real people) need examples, not abstraction**
- ◆ **Don't promote the model without the tools, you'll just confuse people**
- ◆ **Talk to people in their own vocabulary**

The real key

**Make it easy
for the
end-users**