



National IT and Telecom Agency

Ministry of Science
Technology and Innovation

Danish standardisation experiences

– the road to Model Based Standardisation



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Once upon a time...



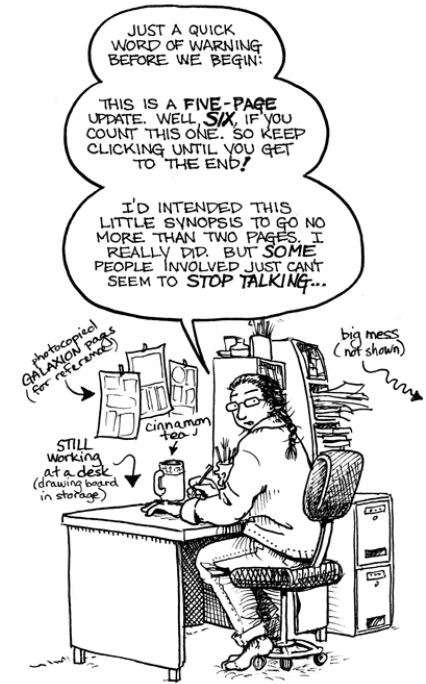
- Early adopters
 - XML chosen as common format in 2001
 - Danish eProcurement Project started in 2003
 - Reg/Rep (InfoStrukturBasen) online in 2003
 - Reference Catalogue / NIF online in 2003

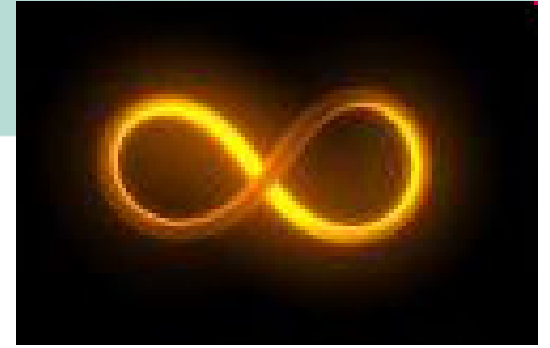
- Ambition to drive digitization of Denmark using the public sector as a lever.
 - February 1, 2005: Law stating that all invoices to the public sector have to be sent electronically.
 - June 2, 2006: Parliamentary decision mandating use of open standards in public sector it systems



The story so far...

- **Strong XML focus**
 - Standards are XML syntax with related metadata
- **Decentralised development**
 - No national support programs
 - No dedicated funding
- **Project based development**
- **National XML flavour**
 - Danish NDR differs significantly from international NDRs





As I'm sure we can all agree...

- **Consensus as overriding governance principle**

- **OIO Committee**
 - Domain specific subcommittees

- **No central driving agency**
 - Slow development
 - Limited uptake

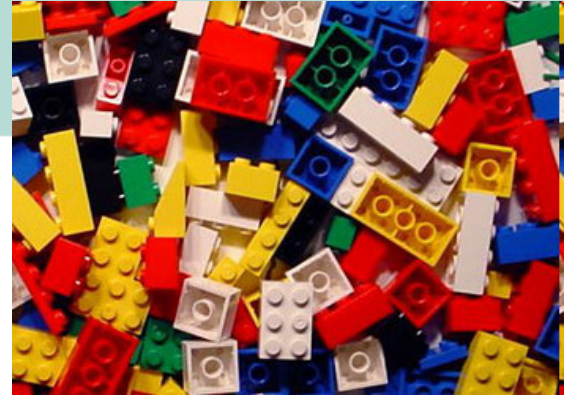


National NDR as development tool

- **Big and complex**
 - Approx 120 rules
 - Difficult to understand
 - Open to interpretation
- **Specific to Denmark**
 - Inspired by CCTS + UBL NDR + ISO naming
 - Differs much on schema structure
 - Poor tool support
- **Not a How-to**
 - Rule checklist not suited to instruct
 - Only partial example support



Lego™ approach



- **One (1) element per schema file**
 - Uncommon structuring
 - No tool support
 - Mismatch between Danish and adopted schemas

- **Searchable through file system**

- **Easy reuse of elements**
 - Difficult to get overview

- **Separate metadata file per element**
 - Outdated relation between element and metadata



Control is good, trust is...?

- **Central quality control**
 - OIO Secretariat
 - Public review

- **Seen as hampering development**
 - Time consuming
 - Adds cost

- **Adds little real life value**
 - Projects go on regardless
 - Reuse just starting now





Now where did I put that...



- **Approx. 8000 OIOXML elements**
- **Very limited search possibilities**
- **Uneven level of detail in metadata descriptions**
- **Difficult navigation in models**



What do we need?

- **More focus on semantic content of data**
 - – less on syntax
- **Cheaper development and deployment**
 - Better XML with less effort
 - Tool support
- **Less bureaucracy**
- **More direct user involvement**





The way forward...

■ Web 2.0 approach

- Digitaliser.dk is community based with
 - Tagging, Groups, Commenting, Resource management
 - Open API supported by PoC tools

■ Focus on semantics

- Atomic semantic definitions used to build many things: information models, message models, taxonomies, ontologies, ...
- XML: Production schema generated from semantic definitions

■ Self management

- I'll show you mine if you show me yours

■ Fewer rules – more iterations

- “Next best shot” method
- Direct dialogue between resource owner and interested parties





Let's work together...

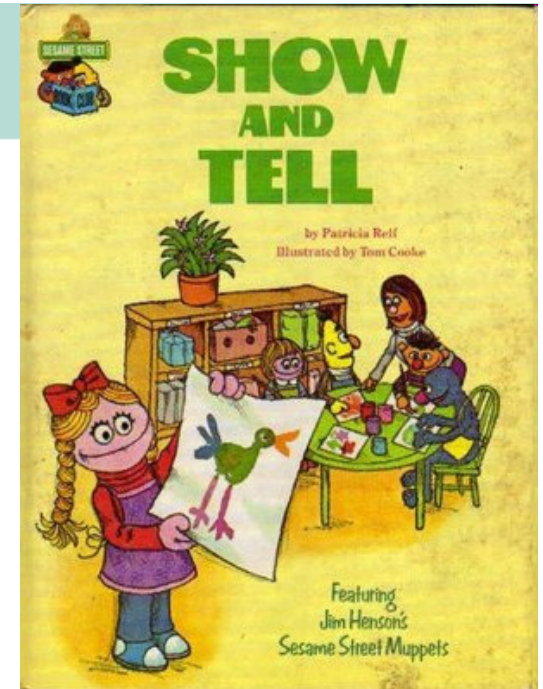
- **Web 2.0 approach**
- **Digitalisér.dk is community based**
 - Tagging
 - Groups
 - Commenting
 - Resource management
- **Open API**
 - PoC tools
 - Third party applications
 - Integration with common tools





I'll show you mine...

- **Less requirement for formal OIO approval**
 - Exhibits non-approved XML alongside approved
 - User requested approval
- **Self management**
 - Test your own schema
 - Allow references to external validations
- **Use what you can, build what you need**
 - Open source approach
 - Reuse to be tool supported





Easy does it...

- **Fewer rules – more machine validation**
 - As many rules as possible machine validated
 - 60% in NDR 3.2 up to at least 90% in NDR 4.0
 - Split into NDR for schema rules and MDR for modeling rules

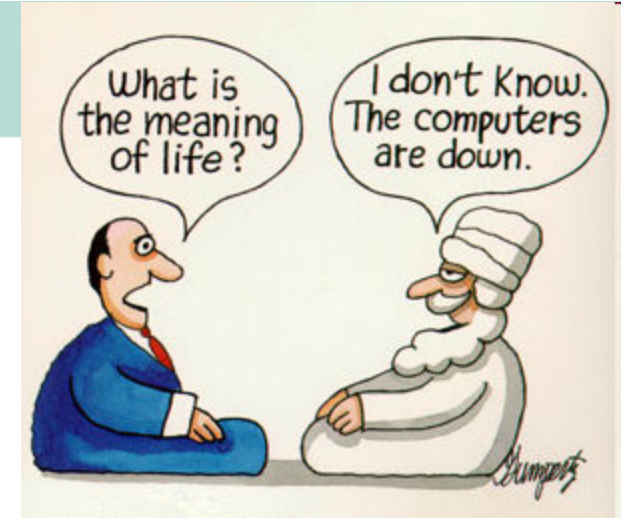
- **Fewer iterations – more versions**
 - Tools enable developer to self test without submission to NITA
 - “Next best shot” method
 - Direct dialogue between resource owner and interested parties





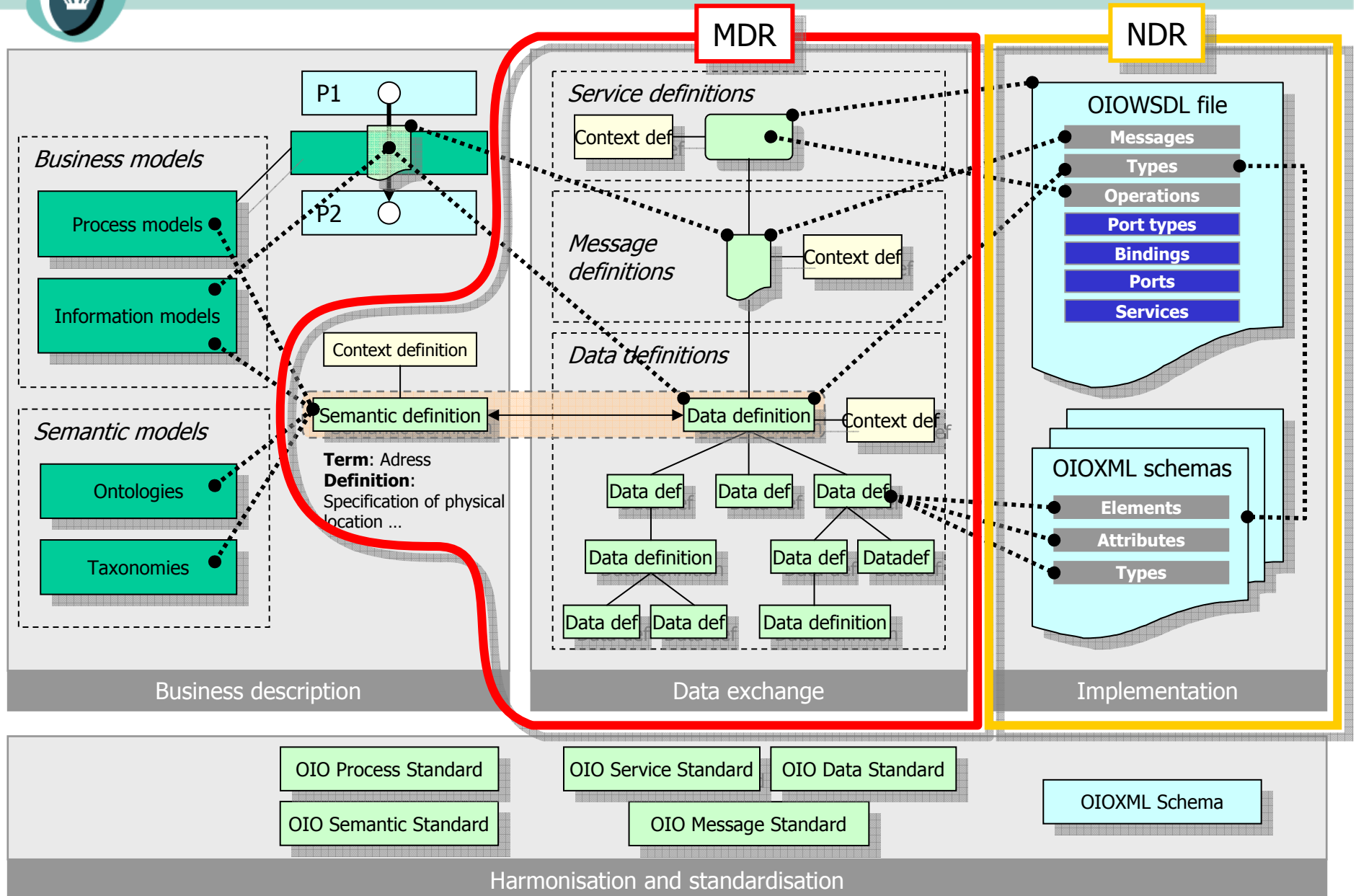
What do you mean?

- **Atomic semantic definitions**
 - Supported by data definitions
- **Semantic definitions used to build many things**
 - Information models
 - Message models
 - Taxonomies, ontologies, ...
 - Service definitions
- **Automated XML generation**
 - Production schema generated from data definitions related to semantic definitions
 - Syntax always traceable back to the semantics





Product Vision





Where are we today?

- **Web 2.0 reg/rep online**
 - Digitaliser.dk continuously improved
- **Work proceeding on next generation of NDR / MDR**
- **Tools available for**
 - Upload
 - NDR Validation
 - Schema generation from data definitions
- **PoC integrations with standard tools underway**
- **User community alive and growing**





Thank you for your time!

Learn more about the Danish approach at:
<http://en.itst.dk/architecture-and-standards/>

See our new repository (in Danish) at:
<http://www.digitaliser.dk/>

Learn more about MBS at:
<http://www.digitaliser.dk/group/41979>

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