News Architecture the last mile …

Laurent Le Meur (AFP)
News Architecture WP chairman, IPTC
Spring meeting, Vancouver / Mars 27, 2006

Agenda

- Minutes of the last meeting, matters arising
- Chairman's report:
  - NAR work status overview – **10mn**
- Report on NAR EP#1 – **30mn**
- *Lunch*
- *15h30 – 17h*
- NSTR report (LLM) – **25mn**
- CoCo report (MS) – **15mn**
- NMDF & NMAN ….

- Minutes (NAR0510)
- Matters arising
  - One action: AP to send information about their processing of news. Done.

NAR - introduction

- NAR = NewsML 2 Architecture
- NAR is *not* an IPTC standard
- Great introduction in
  - IPTC introduction to EP1 (DRAFT-NAR_1.0-doc-AboutNARexpPhase1_5)
  - IPTC Spectrum, jan.06
- NAR provides a generic framework on which IPTC standards are built:
  - news: representation and management of textual stories, pictures, audio & video clips and illustrated stories (text associated with images).
  - events: representation and management of news events
  - sports: representation and management of sports results and statistics.

News Architecture

- Several goals:
  1. Simplify the processing of news objects
  2. Manage news, events, sports results and other news-related information the same way
  3. Use the latest XML technologies
  4. Make it compact
  5. Make it storage-friendly
  6. Make it semantically rich
  7. Keep compatible with the current model (not the current syntax)

NAR work status

- Since the Autumn 05 meeting
  - Public version of the model and tech spec drafts
  - Schemata v0.6
  - Experimental Phase 1 (dec 1 to feb 15)
  - Weekly calls (with notes), rapid evolution, currently: study of common components
- Spring meeting (March 06):
  - Report on EP1
  - Decisions taken
  - Some open issues still to be tackled
  - Simplicity requires time …

Experimental phase 1

- Goals:
  - Allow IPTC members to get a grip on the NAR.
  - Test “real life” use cases vs the NAR
  - Bring back practical issues not spotted by the WP.
  - Help on the finalization of the NAR tech spec.

Three EP1 reports

- AFP: prototypes, Java, Open Source & XSLT
  - XML-Object binding (Java implementation of NAR objects)
  - NewsML 2 Persistence (RDBMS storage)
  - Navigation between concepts (GUI)
  - NewsML1->NewsML2 transform (open-source)
- Reuters: prototypes, XSLT
  - NewsML1->NewsML2 transform
  - NewsML2->RDF N3 transform (open-source)
- Kyodo News: review and tests
- Plus, from M.Steidl, a C# implementation of NAR objects

AFP EP1 report

- Study achieved by Ilm with 2 software developers
- Overall model clear easy to implement
- Still some issues
  - Multiplication of namespaces
  - Model of the Topic Item (metadata vs content)
  - Rigidity in metadata ordering
  - Complexity of NMDF structure
- Some minor points to (re)consider
  - Split of metadata between itemMeta and contentMeta
  - Presence of the subject/@about attribute
  - Validation of items in messages

Reuters EP1 report

- Study achieved by Dave Compton (Rtr’s NewsML Technical Owner)
- NewsML1 vs NewsML2 comparison
  - Representation is much more compact, including topics and packages, content hints (eg caption) are more easily associated with content
  - Multiplication of namespaces is questioned
  - Usage & meaning of some properties need clarification
  - Some new properties (eg contentClass) imply a vendor-dependant mapping
  - Some Rtr properties are still treated as extensions (not agreed as *standard)*

Kyodo News EP1 report

- Study achieved by Hiroshi Shinotsuka
  - Encountered problem for properly handling multiple namespaces with older tools (XMLSpy 2004)
  - Remarks on some NAR properties
  - Answers to some specific questions exposed in the model & tech spec drafts.
  - Proposes to add a <NewsML> root element
- NewsML1 -> NewsML2 conversion
  - Issue with converting 100 content-related DTD to XML schemas for proper validation of the result.

Roadmap

see STA0601.1-RoadmapDiagram

- May 06
  - **New version of the model and tech spec**
  - **Schemata v0.7** (expected from RivCom)
- April (end)-August (end) 06: EP2 (=> motion)
  - **News Content WGs work of moving IPTC standards to the NAR**
  - **NAR refinements**
- September-October 06:
  - **EP2 conclusions and report**
  - **NAR final updates**
- Autumn meeting - October 06
  - **Formal approval of the NAR**
  - **Start of an IPTC standards Experimental Phase**

Motion of the NAR WP

- Request to launch a second experimental phase.
- Using updated public drafts & xml schemata
- Actors: NewsContent and NewsCodes WGs
- Start: 26 April 2006
- Feed back expected : 29 August 2006 latest.
- => Final evolution of the NAR after EP2

Lunch time?

Information Technology for News

Check: http://www.iptc.org/dev

NAR: Model

- "What it provides"
- Expressed as documentation + UML diagrams
- Introduction to:
  - A model for the creation of common components
  - A set of datatypes and common components
  - A conceptual model
  - A processing model
- two conformance levels ('core' and 'power')
  - Therefore, soon, two documents

NAR: technical specs

- "How it works"
- Expressed as documentation + XML samples
- Detailed definition of:
  - datatypes
  - common components
  - reusable items

Completed by

- The XML schemata
- A comparison of NewsML 2 with other standards
  - IPTC7901
  - IIM
  - NewsML 1
  - Dublin Code
  - Atom (and RSS)
- A glossary of terms
- Discussion papers with design decisions
- An XML Stylebook for a consistent look

Links with other initiatives

- Exchanges with
  - RDF in XHTML
  - RDF interest group
  - W3C TAG
  - W3C international
- Maybe sometime, a more formal IPTC-W3C liaison

NAR Items

- A set of simple object called Items.
- All managed the same way, all with the same sets of metadata.
- PackageItem: package -> grouping of all kinds of Items.
  - Can include NewsItems, TopicItems or other PackageItems.
- TopicItem: knowledge -> representation of a concept, dedicated structure for each type.
  - Participates to the creation of an news related ontology
- NewsItem: news -> a news report , any media type, any format.

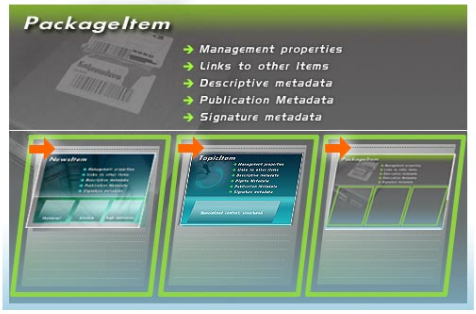
NewsItem

Courtesy ATC

TopicItem

Courtesy ATC

PackageItem



Courtesy ATC

NewsMessage

Courtesy ATC

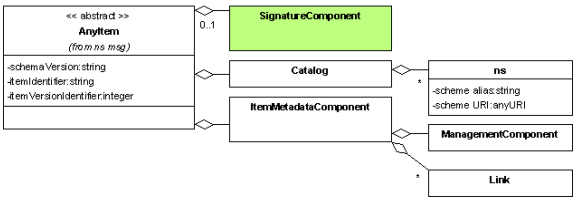
Tension

- On one side, search for
  - Simplicity (the KISS principle)
  - Usability
  - Pragmatism
  - Interoperability by using a least common denominator
  - Web compatibility
- On the other side, search for:
  - Satisfaction of high profile news providers
  - Great rigour in the structure and processing
  - Control of content creation and usage

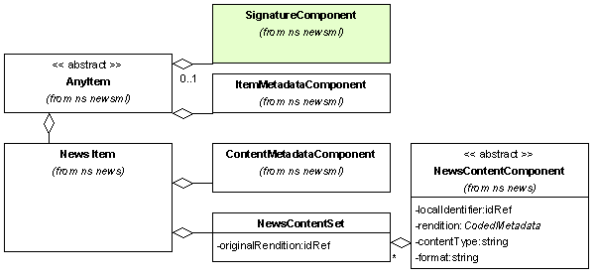
Conformance levels

- Two levels of complexity
  - "core" profile
  - "power" profile
- Provision for provider defined extensions
- Some modules of the framework belong to the "power" profile
  - Ex. rights, signature, metadata creator, multiple roles.
- The "core" profile is as easy to learn.
- The "power" profile offers top level features, and is a superset of the "core".

Any Item



News Item



Management properties

- Driven by the shared processing model
- A set of properties in itemMeta, shared by all Items
  - Item Class (news, topic, package)
  - Content Class (text, photo … person, location ….)
  - Instance Of a recurring report (x) (= *thread*)
  - Provider
  - Date item created, modified, released, embargo ends, retired
  - Status (usable, withheld, canceled)
  - Conformance level (core, power)
  - Editorial signal (x) (important corr., major add., prev. announced)
  - Generator Tool
  - Profile Name
  - File Name

Management (power)

- Power extensions
  - Alternative location (x)
  - Original Identifier
  - Alternative Identifier (x)

Links

- Links between items
  - From a News Item (e.g. text) to a News Item (e.g. picture)
  - From a Topic Item (e.g. person) to a News Item (e.g. an occurrence of a biography).
- + Links from an Item to any other resource (on the Web)
- Different variants:
  - "navigation" (*see also*)
  - "derivation" (eg translation, wrap-up)
  - "attachment" (illustrated text -> illustration)

Admin. metadata (1)

- Date Content Created
- Location Content Created (x?)
- Accountable Person (*new*)
- Source of Information (x)
- Creator (x)
- Contributor (x)
- Significance for Audience
- Intended Audience (x)
- Service (x)
- Editorial Note (x)

Descript. Metadata

- Language (x)
- Genre (x)
- Subject (x)
- Assert (x)
- Slug Line (x)
- Title (x)
- Headline (x)
- Description (x)

Sample (1)

```
<news:item schema="0.x"
  guid="urn:newsml:iptc.org:20051220:story1"
  version="1“
  xml:lang="en-GB" >
  <xxxxx />
</news:item>
```

Syntax still to be agreed-on (not RFC3085 compliant)

Language declarations (text only)

Sample (2)

```
<news:item schema="0.x"
  guid="urn:newsml:iptc.org:20051220:story1"
  version="1“  xml:lang="en-GB"
  xmlns:news="urn:iptc:std:news:1.0:xmlns"
  xmlns="urn:iptc:std:newsml:2.0:xmlns" >
  <catalogRef href="…"/>
  <xxxxx />
</news:item>
```

Namespace declarations

Catalog reference for scheme alias declaration

Sample (3)

```
<news:item >
  <catalogRef />
  <itemMeta />
  <contentMeta />
  <xxxxx />
</news:item>
```

Item related metadata (item management) And item links

Content related metadata (administrative, descriptive, rights and publication)

Sample (4)

```
<news:item >
  <catalogRef />
  <itemMeta />
  <contentMeta />
  <news:contentSet>
    <news:inlineXml />
    <news:inlineData />
    <news:remoteContent />
  </news:contentSet>
</news:item>
```

Wrapper for *alternative* representations of news content

Inline XML: an XML structure from an external namespace

Inline data: raw text (eg CDATA) of encoded binary data

Content referenced via a URL

Welcome to a sweet tasting sequel of:

Cracking the CoCo-Nut

NewsML2 Architecture WP
Common Components WG

Michael Steidl
(as stand-in for Johan Lindgren)
IPTC Spring Meeting 2006

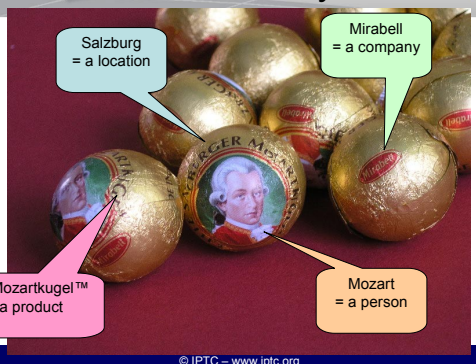
Work since the last meeting

- These aggregate Common Components were discussed
  On a first level:
  - Address CoCo
  - Location CoCo
  - Partial Date/Time CoCo

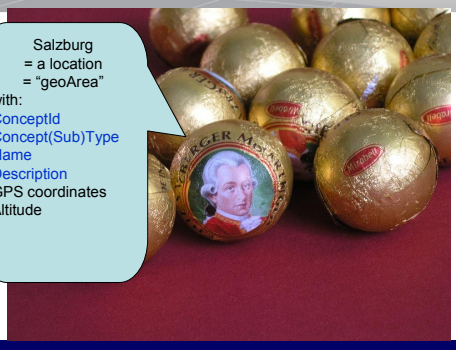
  On a second level:
  - ContactInfo Coco reusing Address

  On a 2+ level:
  - Person CoCo, reusing PartialDate and ContactInfo
  - Organisation CoCo, reusing PartialDate and ContactInfo
  - POI (Point of Interest) CoCo, extending Location and reusing PartialDate and ContactInfo.

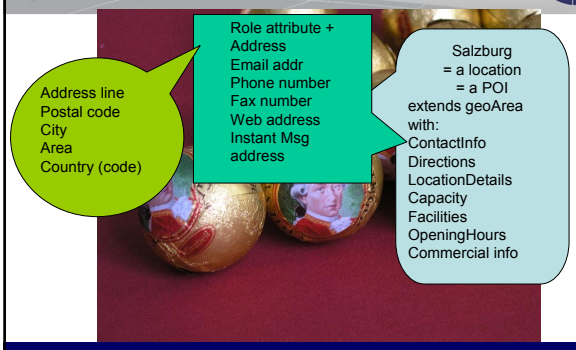
What's exactly …



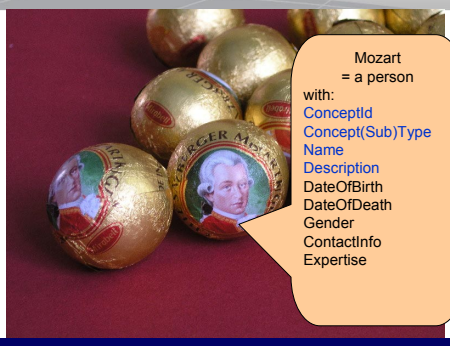
What's exactly a Location/POI



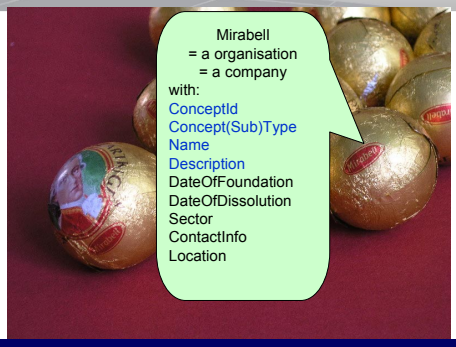
What's exactly a Location/POI



What's exactly a Person

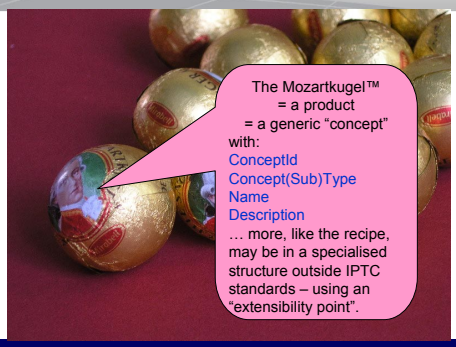


What's exactly a Company



Mirabell
= a organisation
= a company
with:
ConceptId
Concept(Sub)Type
Name
Description
DateOfFoundation
DateOfDissolution
Sector
ContactInfo
Location

What's exactly …



The Mozartkugel™
= a product
= a generic "concept"
with:
ConceptId
Concept(Sub)Type
Name
Description
… more, like the recipe, may be in a specialised structure outside IPTC standards – using an "extensibility point".

CoCo Summary

- These concept and entity components are "plug-ins" to the TopicItem
- They all share a basic set of properties:
  ConceptId, Concept(Sub)Type, Name, Description
  (I called it the "Super CoCo" one time)
- Where ever sensible their structures are aligned (e.g. between person and organisation)
- There is a strict relationship between the "contentClass" property of the TopicItem and the plug-in CoCo.
- These CoCos were designed to cover a very wide range of applications: organisations, persons, locations of all kinds
- Specialisation is controlled by the (sub)type
- A set of code schemes for role, type and the like attributes to properties is required to maintain semantic equivalence !

CoCo: Semantic equivalence: e.g. "name"

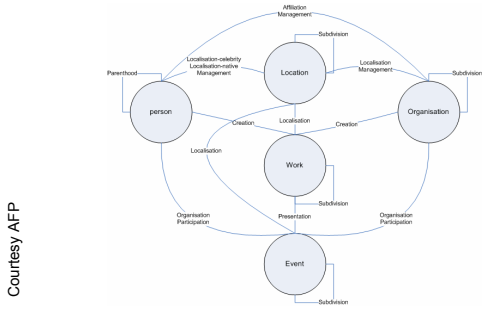
The examples below show how the very generic container <name> can be made more specific by using the role and part attributes. BUT: there should be an agreement on the codes used for these attributes, at least for one culture, to provide interoperability.

```
<name>Pablo Picasso</name>
<name part="pt:given">Pablo</name>
<name>part="pt:family">Picasso</name>
<name part="pt:full" role="stl:formal">Pablo Diego José Santiago Francisco de Paula
    Juan Nepomuceno Crispin Crispiniano de los Remedios Cipriano de la Santisima
    Trinidad Ruiz Picasso</name>

<name>Marilyn Monroe</name>
<name role="scp:original">Norma Jeane Mortenson</name>
<name role="scp:baptismal">Norma Jeane Baker</name>
<name role="scp:married">Norma Jeane Dougherty</name>
<name role="scp:work scp:usual">Marilyn Monroe</name>

<name>Theodor Herzl</name>
<name role="scp:western">Theodor Herzl</name>
<name role="scp:hebrew">Binyamin Ze'ev Herzl</name>

<name>Zinédine Zidane</name>
<name role="stl:informal">Zizou</name>
<name part="pt:full" role="stl:formal">Zinédine Zidane</name>
<name part="pt:full" role="stl:formal prp:sort">Zidane, Zinédine </name>
```


Relationships btw concepts

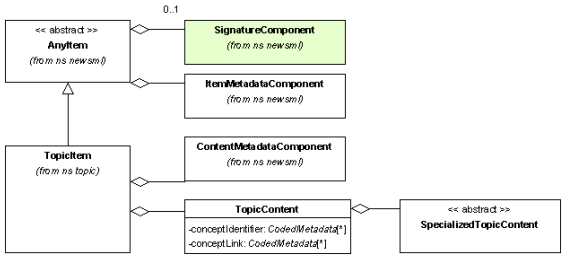
- Named relationships between concepts
  - A thesaurus of Themes can be created.
  - A Person may be related to an Organisation
  - An Organisation may be related to a Location
  - A Location may be related to an Event
  - An Event may be related to a Person
- These are semantic, directional relationships.
- RDF: these are "triples" (subject, predicate, object)
- A "weight" could be added on the relation

Semantic News



Courtesy AFP

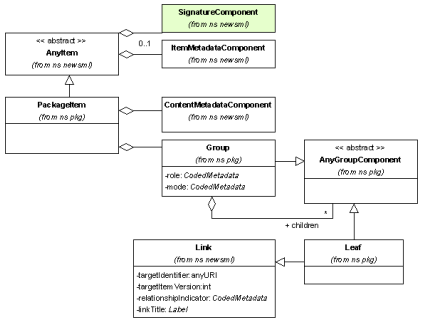
Topic Item



Topic Item

- This is the current focus of the group
- Proposals for the enhancement of the model are under discussion

Package Item



Metadata handling

- A mechanism for controlling values in schemes
- Scheme alias/code pairs -> CURIE (foo:bar)
- A Catalog (local or remote) maps scheme aliases to URIs
- CURIE -> full URI = concept identifier
- URI -> directory or database -> Topic Item
- Topic Item -> description of the concept

How to use the model

- Specialized content WG will choose:
- Is it news (a point of view)?
  - Check structure and processing of NewsItem
  - Create a class of NewsItem
- Is it knowledge (a hub of information on a concept)?
  - Check structure and processing of TopicItem
  - Create a class of TopicItem
- Is it something different?
  - Derive a new item class from AnyItem
  - Ex: AssignmentItem (EventsML)

Thank you for your time

IPTC Information Technology for News

Check: http://www.iptc.org/dev