IPTC Standards DRAFT

NewsML 2 Architecture

Version 1.0

Technical Specification

Document Revision 18

IPTC address:
Postal mail: Royal Albert House, Sheet Street, Windsor, Berkshire, SL4 1BE, United Kingdom
Web: www.iptc.org
email: office@iptc.org

Document file name (+ Word file extension ".doc"): **DRAFT-NAR_1.0-spec-TechSpec_18**

Document URN: urn:iptc:std-draft:NAR:1.0:spec:TechSpec:18
(More information on IPTC URNs in RFC 3937)

Specification Versioning History

Ver	Issue Date	Approved by	Remark
1		IPTC Standards Committee	UNDER REVIEW

Document Revision History

Rev	Issue Date	Editor	Remark
1	2005-11-03	Misha Wolf	Created from the News Metadata Framework Technical Specification. Descriptive Component integrated.
2	2005-11-04	Misha Wolf	Administrative Component integrated.
3	2005-11-09	Misha Wolf	A general clean-up done.
4	2005-11-10	Misha Wolf	Management Component integrated.
5	2005-11-11	Misha Wolf	A number of datatypes added. A general clean-up done.
6	2005-11-17	Misha Wolf	A general clean-up done.
7	2005-11-18	Misha Wolf	Link, Item Metadata Component, Content Metadata Component and Any Item integrated.
8	2005-11-21	Misha Wolf	News Item integrated.
9	2005-11-22	Misha Wolf	Package Item integrated.
10	2005-11-22	Misha Wolf	News Message integrated.
11	2005-11-23	Misha Wolf	Topic Item integrated.
12	2005-11-25	Misha Wolf	General clean-up done.
13	2005-11-28	Misha Wolf	General clean-up done.
14	2005-11-29	Misha Wolf	Revised Package Item integrated. Definitions added to Schemes chapter.
15	2005-11-29	Misha Wolf	Package Item tweaked.
16	2005-11-30	Misha Wolf	Revised Link integrated.
17	2005-12-04	Misha Wolf	General clean-up done. Prepared for public review.
18	2005-12-16	Misha Wolf	Minor changes made (see Change Log of this version).

Acknowledgements

This document is the result of a team effort by members of the International Press Telecommunications Council, with input and assistance from other contributors. It incorporates work by the following (ordered by family name): Mark Birbeck (x-port.net), Dave Compton (Reuters), Jay Cousins (RIVCOM), Honor Craig-Bennett (Press Association), Arnaud Descamps (RelaxNews), Takahiro Fujiwara (East), Darko Gulija (HINA), Paul Harman (PA), Alan Karben (XML Team), Jeremy Lebrett (Reuters), Laurent Le Meur (AFP), Johan Lindgren (TT), Jayson Lorenzen (BusinessWire), Stuart Myles (Dow Jones), Michael Steidl (IPTC), Miles Whitehead (Reuters), Ulf Wingstedt (CNET) and Misha Wolf (Reuters).

Table of contents (high-level)

Table of contents (detailed)

Table of types

Table of elements

Table of element groups

Table of attributes

An attribute is listed more than once if different uses of the attribute specify substantially different semantics. In such cases, each use is identified in parentheses.

Table of schemes

Schemes are explained in the Schemes chapter. Many other IPTC-defined schemes are available at http://www.iptc.org/NewsCodes/

1 Introduction

1.1 Abstract

This Technical Specification is based on the IPTC NewsML 2 Architecture Model [NAR-MD]. Both documents form part of the programme of work called IPTC Roadmap 2005.

All IPTC NewsML2 specifications are complemented by the IPTC NewsML 2 Architecture Glossary [NAR-GL] which provides an extensive set of terms and definitions.

1.2 Status of this document

This document is development by the IPTC NewsML 2 Architecture Working Party (NAR WP).

Comments from IPTC members which are intended to be visible to IPTC members only should be sent to the mailing list described at:

http://groups.yahoo.com/group/iptc-news-architecture-dev/

Public comments should be sent to the mailing list described at:

http://groups.yahoo.com/group/newsml-2/

Public versions of this document and of related IPTC documents are available at:

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

1.3 RFC 2119 key words

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY" and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC 2119].

1.4 Notation

XOR indicates "Exclusive Or". Thus "a XOR b" means "either a or b, but not both".

{...} indicates a tuple.

1.5 Colours

@@ A very urgent issue or action

An urgent issue or action

A non-urgent issue or action

Available at the power conformance level only (also indicated by the presence of a "Δ" sign)

A warning

A request for feedback

2 Element and Attribute Namespaces

2.1 Namepaces defined by the IPTC

Namespace URIs for element and attribute names defined by the IPTC SHOULD be defined according to RFC 3937 [RFC 3937]. The namespaces [XMLNS] given below MUST be used for the names of elements and attributes defined by this specification. The default prefixes given below SHOULD be used for the names of elements and attributes defined by this specification.

Description	Namespace	Prefix
NewsML framework	`urn:iptc:std:newsml:2.0:xmlns`	`newsml`
News Item	`urn:iptc:std:news:1.0:xmlns`	`news`
Topic Item	`urn:iptc:std:topic:1.0:xmlns`	`topic`
Package Item	`urn:iptc:std:package:1.0:xmlns`	`pkg`
Message	`urn:iptc:std:message:1.0:xmlns`	`msg`

In this Specification, the namespace prefix **newsml** has been omitted except in definitions.

Should we place a punctuation character (eg "-") at the end of each namespace URN?

Should we change our namespace policy to not use URNs?

Please let us have your views on the above questions.

2.2 Namepaces not defined by the IPTC

Description	Namespace	Prefix
Digital signature	`http://www.w3.org/2000/09/xmldsig#`	`ds`

3 Schemes

3.1 Definitions

3.1.1 Nodes, Graphs, Links and Tuples

node An object (ie a point) in a graph.

graph A set of nodes, optionally connected by lines, called edges. The connecting lines can be directed or undirected.

edge A line connecting two nodes of a graph. An edge may be directed or undirected.

link A directed edge (also called arc or arrow).

directed graph A graph connected using links.

tuple A set of values. The word tuple is a generalisation of the sequence: couple, triple, quadruple, quintuple, sextuple, etc. Tuples are conventionally written as a comma-separated list of items, enclosed within braces, eg {scheme alias, code}.

3.1.2 Concepts and Taxonomies

concept Anything that one may wish to refer to, eg Diplomacy, Paris, the Euro, OECD, the Japanese language, the IMF, Oil, Madonna, Olympic Games. Thus concept here has a broader meaning than is usual. This is because we are dealing with the idea of Paris, rather than with Paris itself, the idea of Oil, rather than Oil itself, and so on.

concept type A concept type allows the logical grouping of all similar concepts, regardless of the schemes the concepts belong to. Examples of concept type might be: Person, Organisation, Language, Business Sector, News Subject or Geography. A concept type is itself a concept and, as such, is represented by a code in a scheme.

taxonomy In a broad sense, taxonomy is the science of classification, but is often taken to mean a particular classification. In the context of NewsML 2, a taxonomy is a collection of concepts, with associated codes. A taxonomy may support typed relationships between concepts. Such a taxonomy is sometimes known as an ontology or thesaurus.

3.1.3 Codes, Controlled Vocabularies and Schemes

code A character sequence which forms a member of a controlled vocabulary.

controlled vocabulary A set of codes, managed by some authority (eg a person or an organisation), employing some mechanism (eg an XML Schema, a Web page, an RFC, or a collection of TopicItems). Each code in a controlled vocabulary represents a concept.[1]

[1] There are some cases where codes within controlled vocabularies do not represent concepts, but these are unlikely to be used by IPTC standards. An example is a controlled vocabulary containing permitted names for babies.

anonymous controlled vocabulary	A controlled vocabulary that is not a scheme.
scheme	A controlled vocabulary which is not an anonymous controlled vocabulary. Each scheme is identified by a scheme URI.

3.1.4 URIs and Aliases

scheme URI	The URI which identifies the scheme.
scheme alias	A character sequence which is used as an abbreviation for a scheme URI. A scheme alias is similar to an XML Namespace prefix.
concept URI	A URI which identifies a concept. A concept URI is obtained by appending the code representing this concept to the scheme URI corresponding to the scheme to which the code belongs.
compact URI	A URI represented by a string of the form sss:ccc, where sss is a scheme alias and ccc is a code. Examples are iso4217:USD, rfc3066:zh-Hant, nc:15062000, nasdaq:msft and cusip:594918104. A compact URI is not the same as a QName (qualified name) [XMLNS], though there are substantial similarities. The two main differences are: (i) the code does not have to be a valid XML name (eg, can start with a digit), and (ii) the scheme alias does not have to be declared using a namespace declaration.

3.2 Examples of Schemes Used in News

Many IPTC-defined schemes are available at http://www.iptc.org/NewsCodes/. The best known of these are the Subject Codes (eg "15062000", ie Swimming). This Specification defines a number of small schemes. The many other schemes used within the news industry include:

- BCP-47 (eg "zh-Hant", ie Traditional Chinese)
- CUSIP (eg "037833100", ie Apple Computer)
- ISBN (eg "0-321-18578-1", ie The Unicode Standard, Version 4.0)
- ISIN (eg "US0378331005", ie Apple Computer)
- ISO-3166-Alpha-2 (eg "CS", ie Serbia and Montenegro)
- ISO-4217-Alpha (eg "JPY", ie Japanese Yen)
- ISSN (eg "0261-3077", ie The Guardian)
- NYSE (eg "A", ie Agilent Technologies)
- SEDOL (eg "0263494", ie BAE Systems)
- Valoren (eg "1203203", ie UBS)

There are many other schemes used within the news industry , including GICS, ICB and RIC.

3.3 Issues

3.3.1 Scheme URIs

3.3.1.1 URNs

Considering scheme URIs, should we
[disallow | allow | encourage | require]
that
[provider-defined URIs | IPTC-defined URIs | URIs referenced by IPTC standards]
[are | are not]
URNs?

Please let us have your views on the above question.

3.3.1.2 PURLs

Considering scheme URIs, should we
[disallow | allow | encourage | require]
that
[provider-defined URIs | IPTC-defined URIs | URIs referenced by IPTC standards]
[are | are not]
PURLs?

Please let us have your views on the above question.

3.3.1.3 Terminating character

If scheme URIs are not URNs, should we
[disallow | allow | encourage | require]
that these URIs end with
["/" | "#" | "/#" | "?"]
?

Please let us have your views on the above question.

3.3.1.4 Dereferencing

Considering scheme URIs, should we
[disallow | allow | encourage | require]
that
[provider-defined URIs | IPTC-defined URIs | URIs referenced by IPTC standards]
[do | do not]
refer to
[GRDDL Web pages | RDDL Web pages | arbitrary Web pages]
?

If scheme URIs reference RDDL Web pages, which version of RDDL should be used?

If scheme URIs reference GRDDL or RDDL Web pages, which resources should we
[disallow | allow | encourage | require]
such pages te link to?

Please let us have your views on the above questions.

3.3.2 Scheme alias declarations

3.3.2.1 Introduction

Scheme alias declarations are global to the Item in which they appear and cannot be overridden. This includes the Package Item. Consequently, the alias declarations required to understand links within a Package Item must not clash, ie the same alias must not be declared to be equivalent to two different URIs. **Can two different aliases be declared to be equivalent to the same URI?**

Please let us have your views on the above question.

Does the rule "the alias declarations required to understand links within a Package Item must not clash" cause problems with Package Items assembled from Items supplied by different providers?

The names of the element and attributes used for scheme alias declarations are borrowed from Schematron.

3.3.2.2 Declaration mechanism

Should we replace the alias declaration mechanism borrowed from Schematron with the xmlns attribute used for QNames [XMLNS]?

Note the interaction between this question and the one below, relating to XInclude.

Please let us have your views on the above question.

3.3.2.3 Use of XInclude

Should we
[disallow | allow | encourage | require]
the use of XInclude for importing (remote) alias declarations?

Should the IPTC
[disallow | allow | encourage | require]
the use of XInclude for importing (remote) alias declarations specified by the IPTC?

If the IPTC makes use of XInclude, should the IPTC provide such data as XML or solely within documentation (eg HTML or PDF)? Note that this raises issues relating to capacity, resilience and the possibility of Denial of Service (DoS) attacks.

If we were to make use of XInclude, we would presumably not want to have to retrieve the XIncluded data every time we filtered/routed a broadcast headline stream. Could we overcome this by having a strict policy on the URIs used to retrieve XIncluded data, banning certain classes of changes to the data without a corresponding change to the URI?

Please let us have your views on the above questions.

3.4 Elements and Attributes Used in Scheme Alias Declarations

3.4.1 Catalog

Name	**newsml : catalog**	Model	element
Base datatype	BaseMDType		
Additional children	ns (0 .. ∞)		
Definition	Acts as a wrapper for scheme alias declarations.		

XML examples	`<catalog>`
	`  <ns prefix="nc" uri="http://www.iptc.org/NewsCodes#"/>`
	`</catalog>`		

3.4.2 Namespace

Name	**newsml : ns**	Model	element
Base datatype	BaseMDType		
Additional attributes	prefix (required) uri (required)		
Definition	Is used to specify equivalence between a scheme alias and a URI.		
Equivalence	Is semantically equivalent to XML's xmlns attribute [XMLNS].		
XML examples	`<ns prefix="nc" uri="http://www.iptc.org/NewsCodes#"/>`		

Important: The URI used above is an example only and should not be used in real declarations.

3.4.3 Scheme Alias

Name	**newsml : prefix**	Model	attribute
Base datatype	xs : NCName		
Definition	Contains the string to be used as the scheme alias.		
XML examples	See above.		

3.4.4 Scheme URI

Name	**newsml : uri**	Model	attribute
Base datatype	IRIType		
Definition	Contains the scheme URI.		
XML examples	See above.		

Do we want to ban, eg, fragment identifiers?

3.5 Example Showing the Use of Scheme Aliases and URIs

```
<news:item>
   <ds:Signature/>
   <catalog>
      <ns prefix="nc" uri="http://www.iptc.org/NewsCodes#"/>
      <ns prefix="lang" uri="http://www.isi.edu/in-notes/bcp/bcp47.txt#"/>
      <ns prefix="curr" uri="http://en.wikipedia.org/wiki/ISO_4217#"/>
      ...
   </catalog>
   <itemMeta>
      ...
   </itemMeta>
   <contentMeta>
      <created>2005-10-23T12:34:56Z</created>
      <infoSource code="org:iptc"/>
      <creator code="afp:llm"/>
      <contributor code="greekMythology:muse"/>
      <significance>100</significance>
      <audience code="aud:implementors"/>
      <service code="service:tech"/>
      <edNote>Eat it after reading!</edNote>
      <language code="lang:zh-Hant"/>
      <genre code="spec:tech"/>
      <subject code="curr:JPY"/>
      <subject code="nc:04008018"/>
      <headline>How to Succeed in Business Without Really Trying</headline>
      <description>Something or other ...</description>
      ...
   </contentMeta>
   <news:contentSet>
      ...
   </news:contentSet>
</news:item>
```

Important: The scheme URIs used above are examples only and should not be used in real declarations.

4 Simple Types

4.1 Compact URI Type

Name	**CURIEType**	Model	datatype
Base datatype	xs : string		
Definition	A scheme alias, followed by a colon (":"), followed by a code. A string of this type cannot contain white space characters, and cannot contain more than one colon.		
Notes	For information about CURIEs, see the RDF/A Primer [RDF/A Primer].		

Should we add any further constraints?

4.2 IRI Type

Name	**IRIType**	Model	datatype
Base datatype	xs : anyURI		
Constraints	**We should constrain this to align with RFC 3987, Internationalized Resource Identifiers (IRIs) [RFC 3987].**		
Definition	Identical to xs : anyURI.		
Notes	May be: – a URI with a fragment identifier, – a URI without a fragment identifier, – a fragment identifier.		

Check the Notes against XML Schema.

4.3 Date and Time Type

Name	**DateTimeType**	Model	datatype
Base datatype	Union of **xs : date** and **xs : dateTime**		
Definition	Specifies a date (required) and a time (optional).		
Notes	The date consists of: – the year, in four digit notation, – the numeric representation of a month, in two digit notation, – the number of the day in the month, in two digit notation. The time consists of: – the hour, in two digit (24 hour) notation, – the minutes, in two digit notation, – the seconds, in two digit notation, – the time zone offset relative to UTC or the letter "Z" representing UTC (required).		

This does not match the XML Schema definition. For example, XML Schema makes the time zone offset optional, and allows fractions of seconds.

Should we require both date and time (incl time zone)?

4.4 Integer (1..100) Type

Name	**Int100Type**	Model	datatype
Base datatype	xs : integer		
Definition	An integer in the range 1..100.		

4.5 SlugLine Separator Type

Name	**SlugLineSeparatorType**	Model	datatype
Base datatype	xs : string		
Definition	A string of length 1.		

5 Widely Used Attributes

5.1 Concept Type

5.1.1 Definition

Name	**newsml : type**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies the concept type of the element's value.		
XML examples	`<subject type="type:person" code="cartoon:Asterix"/>`		

5.1.2 Related scheme

Scheme alias	**type**	Model	scheme
Container	type		
Values	Possible values include: **abstractConcept** (such as politics), **businessSector**, **geography**, **language**, **organisation**, **person**, **service**.		
Default value	--		

Resolve the relationship between type and contentClass.

Define a taxonomy for the 'type' scheme. Consider the use/extension of existing 'type' taxonomies used in the Semantic Web.

5.2 Confidence

Name	**newsml : confidence**	Model	attribute
Base datatype	Int100Type		
Definition	Specifies the confidence with which the metadata has been assigned. Maximum confidence is indicated by the value 100.		
XML examples	`<subject confidence="80" code="cartoon:Asterix"/>`		

5.3 Creator of the metadata

Name	**newsml : creator**	Model	attribute
Base datatype	CURIEType		
Definition	If the element is empty, specifies which entity (person, organisation or system) will create the (meta)data. If the element is non-empty, specifies which entity (person, organisation or system) has created the (meta)data.		
Equivalence	Is semantically equivalent to the Dublin Core element of the same name [DCMIT].		
XML examples	`<title creator="afp:llm">Hello world</title>`		

5.4 Date of creation of the metadata

Name	**newsml : created**	Model	attribute
Base datatype	DateTimeType		
Definition	The date (and, optionally, the time) when the (meta)data was created.		
Equivalence	Is semantically equivalent to the Dublin Core element of the same name [DCMIT].		
XML examples	`<title created="2005-09-30">Hello world</title>`		

5.5 Identification of the Object being Described

Name	**newsml : about**	Model	attribute
Base datatype	IRIType		
Definition	Explicitly specifies the object being described. Is used when the object being described is not the containing Item.		
Equivalence	Is semantically equivalent to **rdf : about**.		

XML examples	`<title>While in New Orleans, <span id="a3">President George Bush</span> said that ...</title>`
	`<subject about="#a3" code="pres:41" confidence="50">`
	`  <sameAs code="uspres:ghwb"/>`
	`  <title>President George Herbert Walker Bush</title>`
	`</subject>`
	`<subject about="#a3" code="pres:43" confidence="50">`
	`  <sameAs code="uspres:gwb"/>`
	`  <title>President George W. Bush</title>`
	`</subject>`		

5.6 Language of some part of an XML document

Name	**xml : lang**	Model	attribute
Base datatype	xs : language		
Definition	Specifies the language of some or all of an XML document. The legal values of this attribute are determined by Internet BCP 47 [BCP 47].		
XML examples	`<title xml:lang="fr">Natation</title>`		

5.7 Local identifier

Name	**newsml : id**	Model	attribute
Base datatype	xs : id		
Definition	The local identifier of an element.		
XML examples	`<title id="123">Hello world</title>`		

5.8 Markup

Name	**newsml : markup**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies the presence, and the nature, of markup in the textual content of this element. The absence of this attribute indicates that no markup is present.		
Values	???		
XML examples	`<title markup="markup:xhtml">Hello world</title>`		

5.9 Media

Name	**newsml : media**	Model	attribute
Base datatype	??? (a single string or a sequence of comma-separated strings)		
Definition	Specifies the target media type(s), as defined by the Cascading Style Sheets specification [CSS].		
Warning	The CSS media types should not be confused with MIME media types [MIME media types], which are very different.		
Values	Example values drawn from CSS are: **all, aural**, **handheld**, **print**, **screen**. The default value of this IPTC attribute is **all**.		
Equivalence	Is semantically equivalent to: – the CSS construct of the same name [CSS], – the HTML attribute of the same name [HTML], – the (proposed) XHTML 2 attribute of the same name [XHTML2].		
Warning	In HTML (but not in XHTML 2), the default value of this attribute is **screen**.		
XML examples	`<title media="handheld">Hello world</title>`		

5.10 Metadata Value from an Anonymous Vocabulary

Name	**newsml : content**	Model	attribute
Base datatype	xs : string		
Definition	The metadata value.		
XML examples	`<subject content="swimming"/>`		

5.11 Metadata Value from an Identified Scheme

Name	**newsml : code**	Model	attribute
Base datatype	CURIEType		
Definition	The value of the metadata element (and the subject of any assertions made by child elements of the metadata element).		
XML examples	`<subject code="nc:15062000"/>`		

5.12 Reference

Name	**newsml : href**	Model	attribute
Base datatype	IRIType		
Definition	???		
XML examples	`<link href="http://www.iptc.org/content/image.jpg" rel="rel:seeAlso" size="5123123"> <title>A big picture</title> </link>`		

5.13 Relationship

Name	**newsml : rel**	Model	attribute
Base datatype	CURIEType		
Definition	Names a relationship.		
XML examples	`<link href="urn:newsml:iptc.org:20050101:aStory" rel="rel:derivedFrom" version="2"> <title>Derived from version 2</title> </link>`		
	`<topic:link rel="rel:seeAlso" code="pop:Genesis"/>`		

5.14 Relevance

Name	**newsml : relevance**	Model	attribute
Base datatype	Int100Type		
Definition	Specifies the relevance of the metadata to the piece of news to which it is attached. A high relevance indicates that this piece of metadata truly expresses what the piece of news is about, while a low relevance indicates a low correlation between the metadata and the essence of the piece of news. Maximum relevance is indicated by the value 100.		
XML examples	`<subject relevance="80" code="cartoon:Asterix"/>`		

5.15 Role

Name	**newsml : role**	Model	attribute
Base datatype	CURIEType		
Definition	Is used to refine the semantics of the (meta)data element.		
XML examples	`<description role="desc:caption">The world</title>`		

5.16 Size

Name	**newsml : size**	Model	attribute
Base datatype	xs : positiveInteger		
Definition	Specifies the size in bytes of the remote content or of the resource that is the target of a link.		
Notes	A user agent MAY check in advance whether the size is acceptable due to possible download time, storage size or cost constraints.		
XML examples	`<news:remoteContent size="123123"` `href="http://www.iptc.org/content/image.jpg"/>`		

	`<link href="http://www.iptc.org/content/image.jpg"`
	`rel="rel:seeAlso" size="5123123">`
	`<title>A big picture</title>`
	`</link>`		

5.17 Version

Name	**newsml : version**	Model	attribute
Base datatype	xs : positiveInteger		
Definition	The version of an Item.		

XML examples	`<news:item schema="1.0"`
	`guid="urn:newsml:iptc.org:20050101:topStory" version="2"/>`
	`<link href="urn:newsml:iptc.org:20050101:aStory"`
	`rel="rel:derivedFrom" version="2">`
	`<title>Derived from version 2</title>`
	`</link>`		

5.18 Version Information

Name	**newsml : versionInfo**	Model	attribute
Base datatype	xs : string		
Definition	The version of the generator tool or profile.		
XML examples	`<generator versionInfo="1.0.1">Hina generator for NewsML</generator>`		

5.19 Why Present

5.19.1 Definition

Name	**newsml : why**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies why the metadata has been included.		
XML examples	`<subject why="why:derived" code="cartoon:Asterix"/>`		

5.19.2 Related scheme

Scheme alias	**why**	Model	scheme
Container	why		
Values	**direct** (directly extracted from the content by a tool and/or by a person, eg Paris or Merck) **ancestor** (an ancestor of some other concept, eg the concepts France and Europe are ancestors of the concept Paris) **derived** (by look-up in some taxonomy/database, eg the concept Pharmaceutical Industry Sector may be derived from the concept Merck)		
Default value	**direct**		

6 Widely Used Elements

6.1 Bag and Bit

The bag element is used to express a new concept, composed from multiple existing concepts. The description of each existing concept is placed in an bit child element of the bag element. Examples of possible bags are:

- Women's 100m Swimming Final {Women + Swimming + 100m + Final}
- Positive pre-announcement by Citigroup {Citigroup + Pre-announcement + Positive}
- Microsoft's share price has moved up {Microsoft + Share price + Up}
- the Clintons {Bill Clinton + Hillary Clinton}

6.1.1 Bag

Name	**newsml : bag**	Model	element
Base datatype	BaseMDType		
Additional children	bit (1 .. ∞)		
Related constraints	The only properties supported by a metadata element *containing* a bag are id, creator, created and title (and about, if applicable to the element in question).		
Definition	Groups together multiple existing concepts, to express a new concept.		
Equivalence	Is semantically equivalent to **rdf : bag**.		
XML examples	See example below.		

6.1.2 Bit

Name	**newsml : bit**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (optional) confidence (optional) relevance (optional) why (optional)		
Definition	Stands in for a formal metadata element, when multiple concepts need to be collected together in a bag.		
Equivalence	Is semantically equivalent to **rdf : li**.		
XML examples	See example below.		

6.2 Child Of

6.2.1 Definition

Name	**newsml : childOf**	Model	element
Base datatype	CodeMDType		
Additional attributes	rank (optional)		
Definition	Specifies a concept that is a parent of the concept represented by this metadata element. The value is placed in the code attribute of this element.		

XML examples	`<subject code="nc:15062000">`
	`  <title>Swimming</title>`
	`  <childOf code="nc:15000000">`
	`</subject>`		

6.2.2 Family Rank

Name	**newsml : rank**	Model	attribute
Base datatype	xs : integer		
Definition	Specifies the rank of the concept represented by this metadata element among the children of a given parent concept. Is used when it is important that the children of a particular element are displayed in a user interface in a predefined order. For example, the major currencies could be given a rank of "1", while all other currencies could be given a rank of "2". Items of the same rank are ordered alphabetically by Title if this is available. If the Title is not available, the items are ordered by code value. Items without a rank are treated as if they all have the same rank, which is higher than the rank of all other items. The same concept may have different ranks in different families. A lower rank results in a placement earlier in a display.		
Warning	Is suitable for use in a collection of Topic Items representing a scheme. SHOULD NOT be used in the metadata of an Item (eg of a News Item).		

XML examples	`<subject code="nc:15062000">`
	`  <title>Swimming</title>`
	`  <childOf code="nc:15000000" rank="1">`
	`</subject>`
	`<subject code="nc:15081000">`
	`  <title>Croquette</title>`
	`  <childOf code="nc:15000000" rank="2">`
	`</subject>`		

6.3 Same As

Name	**newsml : sameAs**	Model	element
Base datatype	CodeMDType		
Definition	Specifies a concept that is a semantically equivalent to the concept represented by this metadata element. The value is placed in the code attribute of this element.		
Equivalence	Is semantically equivalent to the OWL property of the same name [OWL].		

XML examples	`<subject code="myplaces:cemetery">`
	`  <sameAs code="yourplaces:graveyard"/>`
	`</subject>`		

7 Metadata Element Types

7.1 Base Metadata Element Type

Name	**BaseMDType**	Model	datatype
Base datatype	--		
Additional attributes	id (optional) creator (optional) created (optional) any other attributes from any namespaces (optional)		
Definition	The basis for many other types and elements.		

7.2 Code Metadata Element Type

Name	**CodeMDType**	Model	datatype
Base datatype	BaseMDType		
Additional attributes	code (required)		
Additional children	title (0 .. ∞)		
Definition	A foundation for elements taking a CURIEType as their value, but not allowing the full functionality of the CodePlusMDType.		

7.3 Code Plus Metadata Element Type

Name	**CodePlusMDType**	Model	datatype
Base datatype	BaseMDType		
Additional attributes	type (optional)		
Additional children	title (0 .. ∞) sameAs (0 .. ∞) childOf (0 .. ∞) **other specified IPTC elements**		
Definition	A foundation for metadata elements whose values are typically codes but can be other kinds of values.		

Specify the additional IPTC elements that should be added as children of this type (eg person, organisation and various typed relations).

Specify which of the Structured Metadata Elements should allow child elements from non-IPTC namespaces.

7.4 Date Time Metadata Element Type

Name	**DateTimeMDType**	Model	datatype
Base datatype	BaseMDType		
Content	DateTimeType		
Definition	A foundation for elements taking a DateTimeType as their value.		

7.5 Integer (1..100) Metadata Element Type

Name	**Int100MDType**	Model	datatype
Base datatype	BaseMDType		
Content	Integer100Type		
Definition	A foundation for elements taking an Integer100Type as their value.		

7.6 IRI Metadata Element Type

Name	**IRIMDType**	Model	datatype
Base datatype	BaseMDType		
Additional attributes	href (required)		
Definition	A foundation for elements taking an IRIType as their value.		

7.7 String Metadata Element Type

Name	**StringMDType**	Model	datatype
Base datatype	BaseMDType		
Content	xs : string		
Definition	A foundation for elements taking an xs : String as their value.		

7.8 Label Type

Name	**newsml : LabelType**	Model	datatype
Base datatype	BaseMDType		
Additional attributes	role (optional) markup (optional) media (optional) xml : lang (optional)		
Additional children	mixed content, including any or all of the following: – text – the elements **abbr**, **em**, **l**, **span**, **strong** from the XHTML Text Module – the element **a** from the XHTML Hypertext Module – the element **ruby** from the XHTML Ruby Module – all attributes from the XHTML Core Attributes Module – all attributes from the XHTML Hypertext Attributes Module – all attributes from the XHTML I18N Attribute Module – all attributes from the XHTML Bi-directional Text Attribute Module – all attributes from the XHTML Metainformation Attributes Module		
Definition	A container holding a small piece of text, optionally with markup from a limited repertoire.		

XML examples	`<title id="foo"`
	`creator="afp:llm"`
	`created="2005-05-11T12:34:56"`
	`markup="markup:xhtml"`
	`role="title:short"`
	`media="all"`
	`xml:lang="en">`
	`Hello world`
	`</title>`		

Is this a good selection of elements and attributes?

Which version of XHTML should we use? In which namespace should these elements be?

Note: The modules, elements and attributes listed above are taken from the XHTML 2 Working Draft [XHTML2]. Owing to the work-in-progress status of XHTML 2, we are – during the experimental period – restricting the content of LabelType to elements from the namespace of the XHTML 1 Recommendation [XHTML1].

8 Metadata Examples

8.1 Examples of a structured metadata element without a ‘bag’ element

```
<subject code="scheme:code"/>

<subject code="scheme:code" type="scheme:code"/>

<subject code="scheme:code"><title>Swimming</title></subject>

<subject id="foo" about="#bar"
   creator="scheme:code"                          <!-- Creator -->
   created="2005-05-11T12:34:56"                  <!-- Created -->
   code="scheme:code"                             <!-- Value -->
   type="scheme:code"                             <!-- Concept type -->
   confidence="50"                                <!-- Confidence (%) -->
   relevance="50"                                 <!-- Relevance (%) -->
   why="scheme:code">                             <!-- Why present -->
   <childOf code="scheme:code"/>                  <!-- A parent -->
   <childOf code="scheme:code"/>                  <!-- A parent -->
   <sameAs code="scheme:code"/>                   <!-- An equivalent -->
   <sameAs code="scheme:code"/>                   <!-- An equivalent -->
   <title xml:lang="fr">Natation</title>          <!-- A title -->
   <title xml:lang="en">Swimming</title>          <!-- A title -->
</subject>
```

8.2 Example of a structured metadata element with a ‘bag’ element

```
<subject id="foo" about="#bar"
   creator="afp:llm"                                <!-- Creator -->
   created="2005-05-11T12:34:56">                   <!-- Created -->
   <title xml:lang="en">Women’s Swimming</title>    <!-- A title -->
   <bag id="yo"
      creator="scheme:code"                         <!-- Creator -->
      created="2005-05-11T12:34:56">                <!-- Created -->
      <bit
         creator="afp:llm"                          <!-- Creator -->
         created="2005-05-11T12:34:56"              <!-- Created -->
         code="scheme:code"                         <!-- Value -->
         type="scheme:code"                         <!-- Concept type -->
         confidence="50"                            <!-- Confidence (%) -->
         relevance="50"                             <!-- Relevance (%) -->
         why="why:direct">                          <!-- Why present -->
         <childOf code="scheme:code"/>              <!-- A parent -->
         <childOf code="scheme:code"/>              <!-- A parent -->
         <sameAs code="scheme:code"/>               <!-- An equivalent -->
         <sameAs code="scheme:code"/>               <!-- An equivalent -->
         <title xml:lang="en">Women</title>         <!-- A title -->
      </bit>
      <bit
         creator="scheme:code"                      <!-- Creator -->
         created="2005-05-11T12:34:56"              <!-- Created -->
         code="scheme:code"                         <!-- Value -->
         type="scheme:code"                         <!-- Concept type -->
         confidence="50"                            <!-- Confidence (%) -->
         relevance="50"                             <!-- Relevance (%) -->
         why="why:direct">                          <!-- Why present -->
         <childOf code="scheme:code"/>              <!-- A parent -->
         <childOf code="scheme:code"/>              <!-- A parent -->
         <sameAs code="scheme:code"/>               <!-- An equivalent -->
         <sameAs code="scheme:code"/>               <!-- An equivalent -->
         <title xml:lang="en">Swimming</title>      <!-- A title -->
      </bit>
   </bag>
</subject>
```

9 Management Component

9.1 Definition

Name	**managementComponent**	Model	group
Base datatype	--		
Additional children	itemClass (1) contentClass (1) instanceOf (0 .. ∞) provider (0 .. 1) itemCreated (0 .. 1) modified (0 .. 1) released (0 .. 1) embargoed (0 .. 1) retired (0 .. 1) pubStatus (0 .. 1) conformance (0 .. 1) signal (0 .. ∞) generator (0 .. 1) profile (0 .. 1) fileName (0 .. 1) altLoc (0 .. ∞) origId (0 .. 1) altId (0 .. ∞)		
Definition	A set of properties associated with the management of the Item.		

9.2 Item Class

9.2.1 Definition

Name	**newsml : itemClass**	Model	element
Base datatype	CodeMDType		
Definition	Identifies the Item's class (ie namespace).		
Notes	Can only come from a vocabulary defined by the IPTC.		
Equivalence	Is semantically equivalent to the **NewsItemType** of NewsML 1.		
XML examples	**???**		

Should the values be hardwired into the XML Schema?

9.2.2 Related scheme

Scheme alias	**itemClass**	Model	scheme
Container	itemClass		
Values	Possible values include: **news**, **topic**, **package**.		
Default value	--		

9.3 Content Class

9.3.1 Definition

Name	**newsml : contentClass**	Model	element
Base datatype	CodeMDType		
Definition	Indicates the structure of the Item and the nature of its content.		
Equivalence	???		
XML examples	???		

Resolve the relationship between type and contentClass.

9.3.2 Related scheme

Scheme alias	**contentClass**	Model	scheme
Container	contentClass		
Values	Possible values include: – **alert**, **text**, **photo**, **graphic**, **animation**, **audio**, **video** for news or packages, – **person**, **organisation**, **event**, **location** for topics, – **composite** (indicating a package of more than one kind of media).		
Default value	--		

9.4 'Instance Of' Relationship

Name	**newsml : instanceOf**	Model	element
Base datatype	CodeMDType		
Definition	An indication that this Item is an instance of the specified recurring report (also known as a fixture).		
Equivalence	???		

XML examples	`<instanceOf code="rr:753">`
	`  <title xml:lang="fr">Bulletin du Matin</title>`
	`</instanceOf>`		

9.5 Content Provider

Name	**newsml : provider**	Model	element
Base datatype	StringMDType		
Definition	The entity responsible for the management of the Item.		
Notes	– May be an organisation or a person. – The format of this property is provider dependent. The best practice is to identify a provider by its domain name. – This property is not modified if the Item is syndicated (distributed) without modification.		
Equivalence	Is semantically equivalent to the **PublicIdentifier** of NewsML 1. **(add XPath)**		
XML examples	**???**		

9.6 Date Item Created

Name	**newsml : itemCreated**	Model	element
Base datatype	DateTimeMDType		
Definition	The date and time on which the first version of the Item was created.		
Notes	This isn't the date the content was created, but rather the date it was wrapped in the Item with a new identifier and specific metadata.		
Equivalence	Is semantically equivalent to: – the Dublin Core element **created** [DCMIT], – the **FirstCreated** property of NewsML 1.		
XML examples	`<itemCreated>2005-01-23T12:34:56Z<itemCreated>`		

9.7 Date Item Modified

Name	**newsml : modified**	Model	element
Base datatype	DateTimeMDType		
Definition	The date and time on which the current version of the Item was modified (ie revised).		
Notes	Each modification of this property requires an increment in the Item version.		
Equivalence	Is semantically equivalent to the **LastRevisionCreated** property of NewsML 1.		
XML examples	`<modified>2005-01-23T12:34:56Z<modified>`		

9.8 Date Item Released

Name	**newsml : released**	Model	element
Base datatype	DateTimeMDType		
Definition	The date or date-and-time at which the provider's system is to transmit the current version of the Item to the intended recipients.		
Notes	There is no guarantee that this date or date-and-time is the actual transmission date or date-and-time.		
Equivalence	???		
XML examples	`<released>2005-01-23T12:34:56Z<released>`		

9.9 Date Item Embargo Ends

Name	**newsml : embargoed**	Model	element
Base datatype	DateTimeMDType		
Definition	The date or date-and-time until which all versions of the Item are embargoed.		
Notes	The Item must not be published before this date or date-and-time.		
Equivalence	Is semantically equivalent to the value of the NewsML 1 property: `StatusWillChange[FutureStatus="Usable"]/DateAndTime`		
XML examples	`<embargoed>2005-01-23T12:34:56Z<embargoed>`		

Should we make the time and time zone offset mandatory?

9.10 Date Item Retired

Name	**newsml : retired**	Model	element
Base datatype	DateTimeMDType		
Definition	The date or date-and-time after which all versions of the Item are retired.		
Notes	The Item should not be referenced after this date or date-and-time.		
XML examples	`<retired>2005-01-23T12:34:56Z<retired>`		

9.11 Publishing Status

9.11.1 Definition

Name	**newsml : pubStatus**	Model	element
Base datatype	CodeMDType		
Definition	The publishing status of the Item.		
Notes	– The normative values in the exchange between a news agency and news recipients are **usable**, **withheld** and **canceled** (note the spelling). – Additional values can be used in other types of workflow (eg inside an organisation).		
Equivalence	Is semantically equivalent to the **Status** property of NewsML 1.		
XML examples	`<pubStatus code="pubStatus:usable"/>`		

9.11.2 Related scheme

Scheme alias	**pubStatus**	Model	scheme
Container	pubStatus		
Values	**usable**, **withheld**, **canceled** (note the spelling).		
Default value	--		

9.12 Conformance Level

9.12.1 Definition

Name	**newsml : conformance**	Model	element
Base datatype	CodeMDType		
Definition	The conformance level with which the Item is compliant.		
Notes	Can only come from a vocabulary defined by the IPTC.		
XML examples	`<conformance code="conformance:core"/>`		

Should this be a direct attribute of the Item?

Should the values be hardwired into the XML Schema?

9.12.2 Related scheme

Scheme alias	**conformance**	Model	scheme
Container	conformance		
Values	**core**, **power**.		
Default value	--		

9.13 Editorial Signal

9.13.1 Definition

Name	**newsml : signal**	Model	element
Base datatype	CodeMDType		
Definition	An indication that the content is of particular interest.		
Notes	– Users should be alerted of the reception of an Item containing a signal by some UI mechanism (sound or display). Examples of possible display mechanisms are a red colour for the title, an exclamation mark or a coloured flag, plus a tooltip showing the value of the title child element (if present). – The administrative edNote may be used to convey additional human-readable information related to the processing of the content.		
Equivalence	Has similarities to the **Urgency** property of NewsML 1.		
XML examples	**???**		

9.13.2 Related scheme

Scheme alias	**signal**	Model	scheme
Container	signal		
Values	Possible values include: – **importantCorrection** (the previous version of the content should be discarded), – **majorAddition**, – **previouslyAnnounced** (announced as part of an advisory).		
Default value	--		

9.14 Generator Tool

Name	**newsml : generator**	Model	element
Base datatype	StringMDType		
Additional attributes	versionInfo (optional)		
Definition	The name of the software tool used to generate the Item.		
XML examples	`<generator>Hina generator for NewsML 1.0.1</generator>`		

9.15 Profile

Name	**newsml : profile**	Model	element
Base datatype	StringMDType		
Additional attributes	versionInfo (optional)		
Definition	The name of the structural template (aka profile) used for the generation of the Item.		
Notes	A profile is closely associated with the structure of an Item and usually implies specific processing.		
XML examples	???		

9.16 File Name

Name	**newsml : filename**	Model	element
Base datatype	StringMDType		
Definition	The recommended file name for this Item.		
Notes	This information is useful if the news provider uses an application that mandates specific file names (a rather bad habit).		
XML examples	???		

9.17 Alternative Location

9.17.1 Definition

Name	**newsml : altLoc**	Model	element
Base datatype	IRIMDType		
Additional attributes	representation (optional)		
Definition	An IRI which, when dereferenced, provides an alternative representation of the Item.		
Notes	– The IRI appears as the value of the href attribute. – The IRI supplied must be one that can be dereferenced.		
XML examples	`<altLoc href="http://www.example.org/foo" representation="representation:full"/>`		

9.17.2 Representation

9.17.2.1 Definition

Name	**newsml : representation**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies the way the target Item is represented at this location.		
Notes	This representation may be different from the "current" representation (eg the current representation may only contain the abstract of a story and the remote Item may also contain the full story, only available by subscription).		
XML examples	See above.		

Is representation a good name? Would type or form be better?

9.17.2.2 Related scheme

Scheme alias	**representation**	Model	scheme
Container	representation		
Values	Possible values include: – **partial**, – **full**.		
Default value	--		

9.18 Original Identifier

9.18.1 Definition

Name	**newsml : origId**	Model	element
Base datatype	StringMDType		
Definition	The original non-RFC 3085 identifier of the content.		
Additional attribute	type (optional)		
Notes	If the content of the Item was originally assigned a non-RFC 3085 compliant identifier, eg an IIM UNO, Atom Entry Identifier or Digital Object Identifier, this identifier may be placed in the origId element once a new RFC 3085 compliant identifier has been assigned to the Item.		
Equivalence	???		
XML examples	???		

9.18.2 Identifier Type

Name	**newsml : type**	Model	attribute
Base datatype	xs : string		
Definition	Identifies the context within which the identifier has been allocated.		
Notes	For example, the name of a system or of a URI scheme.		
XML examples	See above.		

9.19 Alternative Identifier

Name	**newsml : altId**	Model	element
Base datatype	StringMDType		
Additional attribute	type (optional)		
Definition	An alternative non-RFC 3085 identifier of the content.		
Notes	– If, during its processing, the content of the Item has been assigned more than one non-RFC 3085 compliant identifier, each identifier other than the original identifier may be placed in an altId element. – If the original identifier of the content is not RFC 3085 compliant, then it should be placed in origId rather than in this element.		
Equivalence	???		
XML examples	???		

10 Administrative Component

10.1 Definition

Name	**administrativeComponent**	Model	group
Base datatype	--		
Additional children	contentCreated (0 .. 1) location (0 .. 1) infoSource (0 .. ∞) creator (0 .. ∞) contributor (0 .. ∞) significance (0 .. 1) audience (0 .. ∞) service (0 .. ∞) edNote (0 .. ∞)		
Definition	Metadata about administrative facets of the content. This metadata cannot be inferred from "consuming" (reading, listening to, watching) the content.		

10.2 Date Content Created

Name	**newsml : contentCreated**	Model	element
Base datatype	DateTimeMDType		
Definition	Specifies the date (and time) on which the content was created.		
Notes	– In the case of a photo or live footage for audio and video, this date (and time) is always the same as the date (and time) of the event covered by the content. – In the case of text and any audio and video report about an event, this date (and time) can be different from the date (and time) of the event covered by the content. – This date (and time) may be slightly different from the date (and time) of the creation of an Item holding the content.		
Equivalence	Is semantically equivalent to: – the Dublin Core element **created** [DCMIT], – the **DateCreated** property of the IPTC Core [IPTC Core].		

XML examples	`<created>2005-09-30</created>`
	`<created>2005-09-30T12:01:02Z</created>`
	`<created>2005-09-30T12:01:02-10:00</created>`		

10.3 Location Content Created

Name	**newsml : location**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (optional)		
Definition	Identifies the location from which the content originates.		
Notes	– This information applies especially to news, and may also be expressed as free text in the "dateline" of a story, along with a date of content creation and a source (for more information, see [NAR-MD]). – The rules for determining the location are provider-dependent. – The location is typically determined differently for different types of content: – *Text*: The practices of news providers either identify the location the content relates to or the location the content was created by a reporter or a writer. If a correspondent is resident in town A but writes about an event in town B the name of town A or B can be used. But the provider's policy should be available as written document. – *Photo*: The location of origin of content is the place shown in the photo image. – *Graphics*: The location of origin of content should be the editorial office from where this graphics are distributed. – *Audio and video*: In the case of raw footage the location of origin of the content should be the place of event, if people can be heard/are shown from different places the news provider can decide by its own policy, but this policy should be available as written document.		
Equivalence	Is semantically equivalent to: – the **Location** property of the IPTC Core [IPTC Core], – the Location of Origin of NewsML 1 (`//DescriptiveMetadata/Location[@HowPresent="Origin"]`)		
XML examples	`<location code="city:Timbuctu"/>`		

10.4 Source of Information

Name	**newsml : infoSource**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (optional) role (optional)		
Definition	Identifies an entity which originated some information used to create or enhance the content.		
Notes	– The role attribute, if present, is used to specify the role of the information source. – If an entity plays more than one role, the infoSource element has to be included multiple times, with different values of role.		
Equivalence	Is **not** semantically equivalent to the Dublin Core element called **source**. These two elements have quite different semantics.		
XML examples	`<infoSource code="dpasrc:HansMayer"/>`		

10.5 Creator

Name	**newsml : creator**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (optional) role (optional)		
Definition	Identifies an entity which created the content. This should preferably be a person (eg a photographer for photos, a graphic artist for graphics, or a writer for textual news) but if it is not appropriate to identify a person, an organisation may be identified instead.		
Notes	– The role attribute, if present, is used to specify the role of the creator in the creation of the content. – If an entity plays more than one role, the creator element has to be included multiple times, with different values of role.		
Equivalence	Is semantically equivalent to: – the Dublin Core element of the same name [DCMIT], – the **Creator** property of the IPTC Core [IPTC Core], – the Atom **creator** element [RFC 4287].		
XML examples	`<creator code="composers:Mozart"/>`		

10.6 Contributor

Name	**newsml : contributor**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (optional) role (optional)		
Definition	Identifies an entity which modified or enhanced the content. This should preferably be a person (eg a caption writer for photos) but if it is not appropriate to identify a person, an organisation may be identified instead.		
Notes	– The role attribute, if present, is used to specify the role of the contributor in the modification or enhancement of the content. – If an entity plays more than one role, the contributor element has to be included multiple times, with different values of role.		
Equivalence	Is semantically equivalent to: – the Dublin Core element of the same name [DCMIT], – the Atom **contributor** element [RFC 4287].		
XML examples	`<contributor code="muse:Euterpe"/>`		

10.7 Significance to Audience

Name	**newsml : significance**	Model	element
Base datatype	Int100MDType		
Definition	Specifies the significance of the content to the intended audience. A higher significance is indicated using a higher value.		
XML examples	`<significance>50</significance>`		

10.8 Intended Audience

10.8.1 Definition

Name	**newsml : audience**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (required) exclude XOR significance (optional) confidence (optional) why (optional)		
Definition	Specifies the intended audience of the content.		
Notes	If this element is not present, the content is assumed to be aimed at everyone.		
Equivalence	Is semantically equivalent to the Dublin Core element of the same name [DCMIT].		

XML examples	`<audience code="aud:all"/>`
	`<audience code="aud:women"/>`
	`<audience code="aud:under16" exclude="true"/>`
	`<audience code="aud:farmers" significance="70"/>`		

Specify an audience taxonomy. This must include the value 'all'.

10.8.2 Exclude Audience

Name	**newsml : exclude**	Model	attribute
Base datatype	xs : boolean		
Definition	Specifies whether the indicated audience should be included or excluded.		
Notes	– The value **true** indicates that the audience should be excluded. – The value **false** indicates that the audience should be included. – If the attribute is absent, the default value of **false** applies.		
XML examples	See above.		

10.8.3 Significance to Audience

Name	**newsml : significance**	Model	attribute
Base datatype	Int100Type		
Definition	Specifies the significance of the content to a particular audience.		
Notes	– Overrides the significance element for this particular audience. – A higher significance is indicated using a higher value.		
XML examples	See above.		

10.9 Service

Name	**newsml : service**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (required)		
Definition	Specifies the editorial service to which an Item is assigned to by its provider.		
Notes	– The values of service are defined by each provider, and are often associated with the notion of a desk or a feed. – If present, the type attribute (inherited from CodePlusMDType) MUST contain a CURIE representing the concept **service**. **(Is this the best way to handle this issue? Should we instead disallow the type attribute on this element?)**		

XML examples	`<service code="afpsrv:FrenchWire"/>`
	`<service code="apsrv:PhotoWire"/>`
	`<service code="ansasrv:MobileNews"/>`		

10.10 Editorial Note

Name	**newsml : edNote**	Model	element
Base datatype	LabelType		
Definition	Contains a note of interest to a Business-to-Business recipient.		
Notes	Conveys information addressed to the editorial people processing the content, eg special instructions, or information about additions/corrections applied to the latest version of the content.		
Equivalence	Is semantically equivalent to the **Instructions** property of the IPTC Core [IPTC Core].		

XML examples	`<edNote>ADDS quotes</edNote>`
	`<edNote>UPDATES throughout</edNote>`
	`<edNote>RECASTS, ADDS background on previous outbreaks</edNote>`
	`<edNote>INSERTS latest outbreak under control</edNote>`
	`<edNote>CORRECTS first paragraph to say xxx 7-5 xxx sted xxx 6-5. Here is the corrected version:</edNote>`		

11 Descriptive Component

11.1 Definition

Name	**descriptiveComponent**	Model	group
Base datatype	--		
Additional children	language (0 .. ∞) genre (0 .. ∞) subject (0 .. ∞) assert (0 .. ∞) slugLine (0 .. ∞) title (0 .. ∞) headline (0 .. ∞) description (0 .. ∞)		
Definition	Metadata reflecting what the content is about – information that can be inferred from "consuming" (reading, listening to, watching) the content.		

11.2 Language of Content

Name	**newsml : language**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (required)		
Definition	Specifies the language (or one of the languages) of the content.		

Notes	– The preferred taxonomy follows BCP 47 [BCP 47].
	– If the content attribute is used (rather than the code attribute), the taxonomy is assumed to follow BCP 47.
	– If the scheme alias "lang" is declared as equating to the BCP 47 scheme, then receiving processors are required to treat:
	`<language code="lang:foo"/>`
	`<language content="foo"/>`
	as being identical.
	– If present, the type attribute (inherited from CodePlusMDType) MUST contain a CURIE representing the concept **language**. **(Is this the best way to handle this issue? Should we instead disallow the type attribute on this element?)**		

Equivalence	Is semantically equivalent to the Dublin Core element of the same name [DCMIT].		

XML examples	`<language code="lang:zh-Hant"/>`
	`<language code="lang:de-CH"/>`
	`<language content="zh-Hant"/>`
	`<language content="de-CH"/>`		

11.3 Genre

Name	**newsml : genre**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (optional) about (optional) confidence (optional) relevance (optional) why (optional)		
Additional children	bag (0 .. 1)		
Definition	Specifies the nature, or the intellectual/journalistic characteristics, of the content.		
Equivalence	Is semantically equivalent to: – the Dublin Core **type** element [DCMIT], – the IPTC Core **IntellectualGenre** property [IPTCcore].		

XML examples	`<genre code="genre:actuality"/>`
	`<genre code="genre:background"/>`
	`<genre code="scene:010600"/>`		

Review the current "Genre NewsCodes" terms as they don't fully align with the above semantics.

The News Architecture User Guidelines should explain the broad use of this property.

One of the IPTC maintained schemes for genre MUST cover the codes from the IPTC Scene NewsCodes.

11.4 Subject

Name	**newsml : subject**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code XOR content (optional) about (optional) confidence (optional) relevance (optional) why (optional)		
Additional children	bag (0 .. 1)		
Definition	Specifies what the content is about.		
Notes	– Subject encompasses all the functionality and semantics of the NewsML 1 **Subject** and **Subject Qualifier** and some of the functionality and semantics of the NewsML 1 **Keywords**. – As well as being used for news subjects as understood in IPTC IIM and in NewsML 1, this element can be used for all kinds of named entities the content is about, such as a person, a company or a location.		
Equivalence	Is semantically equivalent to: – the Dublin Core element with the same name [DCMIT], – the **SubjectCode**, **Scene** and **Keywords** properties of the IPTC Core [IPTC Core], – the Atom **category** element [RFC 4287].		
XML examples	`<subject code="nc:15062000"/>`		

11.5 Assertions about a Concept

Both formal and free-form metadata elements normally make assertions about some logical chunk of data, such as a news story. The precise target is an Item, whose identity is determined from the context. In addition to this usage, the subject and genre elements can be used to describe objects smaller than an Item.

The assert element differs from all of these in that it makes assertions directly about a concept without making assertions about an Item or some smaller piece of data. This element may be used to supplement semantic inline markup, which does not support some features, such as the sameAs or childOf sub-elements or a title containing markup. It may also be used to avoid repetition of supplementary information within other structured metadata elements, eg within a Package Item.

Name	**newsml : assert**	Model	element
Base datatype	CodePlusMDType		
Additional attributes	code (required)		
Definition	Is used to make assertions about the concept identified by the code attribute.		
Equivalence	Is semantically equivalent to **rdf : Description**.		

XML examples	`<assert code="myplaces:cemetery">`
	`  <sameAs code="yourplaces:graveyard"/>`
	`  <title xml:lang="fr">Cimetière</title>`
	`</assert>`		

11.6 Slug Line

11.6.1 Definition

Name	**newsml : slugLine**	Model	element
Base datatype	xs : string		
Additional attributes	separator (optional)		
Definition	A sequence of tokens describing the content, which get increasingly specific towards the end of the sequence.		
Notes	– Holds the Slug Line of a textual story. – Holds the Object Name of a photo if this is structured as a set of tokens. – The purpose of Slug Lines or Object Names is to differentiate stories, organise wires and facilitate computer searches. – The separator attribute is optional as the generator tool may not have the information required to specify its value. – The slugLine may be complemented by a set of subjects (which may be discrete keywords) and/or genres.		

XML examples	`<slugLine separator=" ">SPORTS CRICKET SAFRICA</slugLine>`
	`<slugLine separator="-">Cycling-ESP-ProTour</slugLine>`
	`<slugLine separator="/" xml:lang="de">`
	`  Weißrussland/Parlament/Präsident/Justiz</slugLine>`		

Do we need to include markup for internationalisation (eg BiDi)?

11.6.2 Slug Line Separator

Name	**newsml : separator**	Model	attribute
Base datatype	SlugLineSeparatorType		
Definition	A single character acting as a token separator.		
Notes	MUST NOT be empty.		
XML examples	See above.		

11.7 Title

11.7.1 Definition

Name	**newsml : title**	Model	element
Base datatype	LabelType		
Definition	A short human-readable name for the content.		
Notes	– Such a name is usually long-lived, for example, the common name of a person, organisation or location. – MUST NOT be used to hold the Headline of a news story, as this belongs in the headline element. – MUST NOT be used to hold a set of keywords, eg the Slug Line of a news story, as this belongs in the slugLine element. – MUST NOT be used to hold a formal identifier, as this belongs in the guid or in the managementComponent.		
Equivalence	Is derived from the Dublin Core element of the same name [DCMIT] but, unlike dc : title, is typically not a name by which the resource is *formally* known.		
	Is semantically equivalent to: – the IPTC Core element of the same name [IPTC Core], – the Atom element of the same name [RFC 4287].		

XML examples	`<title>Ian Thorpe</title>`
	`<subject code="nc:15062000">`
	`  <title xml:lang="en">Swimming</title>`
	`  <title xml:lang="fr">Natation</title>`
	`</subject>`		

11.7.2 Related scheme

Schema alias	**title**	Model	scheme
Container	role		
Values	Possible values include: **short**, **long**, **alternate**, **adjectival**.		
Default value	none		

11.8 Headline

Name	**newsml : headline**	Model	element
Base datatype	LabelType		
Definition	A narrative introduction to the content.		
Notes	– Such an introduction to the content is usually news-related, for example, the headline of a news story. – MUST NOT be used to hold a short human-readable name for the content as this belongs in the title element. – MUST NOT be used to hold a set of keywords, eg the Slug Line of a news story, as this belongs in the slugLine element.		
Equivalence	Is semantically equivalent to: – the IPTC Core element of the same name [IPTC Core], – the IPTC IIM element of the same name [IPTC IIM].		
XML examples	`<headline>Ian Thorpe makes a splash!</headline>`		

11.9 Description

11.9.1 Definition

Name	**newsml : description**	Model	element
Base datatype	LabelType		
Definition	Provides a free-form textual description of the content.		
Notes	– This may be a copy of the first paragraph of a news story, the abstract of an event, or a computer-generated summary of a long feature document. A caption of an image may include details about the entities included (eg people, events and locations). – In some situations, a description may be made available to recipients who do not have access to the content for copyright or commercial reasons.		
Equivalence	Is semantically equivalent to: – the Dublin Core element with the same name [DCMIT], – the **description** property of IPTC Core [IPTC Core], – the Atom **summary** element [RFC 4287]. Is semantically similar to the Atom **subtitle** element [RFC 4287].		
XML examples	`<description role="desc:caption">The world</description>`		

11.9.2 Related scheme

Schema alias	**desc**	Model	scheme
Container	role		
Values	Possible values include: **caption**, **summary**.		
Default value	**summary**		

12 Link

12.1 Definition

Name	**newsml : link**	Model	element
Base datatype	IRIMDType		
Additional attributes	rel (optional) version (optional) hreftype (optional) size (optional)		
	validFrom (optional) Δ validTo (optional) Δ		
Additional children	title (0 .. 1)		
	itemMeta (0 .. 1) Δ contentMeta (0 .. 1) Δ extension point (xs : any ##other) Δ		
Definition	Provides a generic mechanism for linking Items, as well as creating links from Items to other Web resources.		
Notes	– The href attribute inherited from the IRIMDType holds the Item Identifier of the target Item, or the locator of the target Web resource. – The optional child element title contains a short human-readable name representing the link, for display to users. – The news : characteristics element is available for use within the extension point to expose the characteristics of the content contained in, or pointed to by, the target Item (see the example below).		
Equivalence	Is semantically equivalent to the **AssociatedWith** and **DerivedFrom** of NewsML 1.		
XML examples	`<link href="urn:newsml:iptc.org:20050101:topStory" rel="rel:seeAlso"><title>see Also</title></link>`		
	`<link href="urn:newsml:iptc.org:20050101:aStory" rel="rel:seeAlso"><title>Title of the link</title><itemMeta><altLoc href="file:../news/H9191234.xml"/><altLoc href="http://www.provider.com/news?id=H9191234"/></itemMeta><contentMeta><created>2005-09-19T10:30:00Z</created><title>Title of the resource (picture title)</title><provider:private>Anything</provider:private></contentMeta><news:characteristics type="image/jpeg" size="1234" news:hres="100" news:vres="150"/><news:characteristics type="image/jpeg" size="3123123" news:hres="2000" news:vres="3000"/><provider:private>extension point</provider:private></link>`		

12.2 Target Item Version

Name	**newsml : version**	Model	attribute
Datatype	See Version.		
Definition	Contains the version of the Item identified by the target Item Identifier. If the version attribute is absent, the latest version of the target Item SHOULD be retrieved when the link is activated.		
Notes	If the target is a Web resource or does not support versions (eg DOI), the version attribute MUST be absent, and MUST be ignored if present.		
XML examples	`<link href="urn:newsml:iptc.org:20050101:aStory" rel="rel:derivedFrom" version="2"> <title>Derived from version 2</title> </link>`		

12.3 Relationship Indicator

12.3.1 Definition

Name	**newsml : rel**	Model	attribute
Datatype	See Relationship.		
Definition	Names the relationship between the current Item and the target resource.		
XML examples	See above.		

12.3.2 Related scheme

Schema alias	**rel**	Model	scheme
Container	newsml : rel		
Values	**seeAlso** (indicates a navigation link) **derivedFrom** (indicates a derivation link) **associatedWith** (indicates an attachment link)		
Default value	**seeAlso**		

12.4 ContentType of Target Resource

Name	**newsml : hreftype**	Model	attribute
Base datatype	xs : string		
Definition	Contains the IANA (Internet Assigned Numbers Authority) MIME type of the resource that is the target of the link.		
Notes	A user agent MAY check in advance whether it accepts resources of such type and MAY decide not to follow the link if it does not. A user agent SHOULD use the value as the field value of the *accept* request header when requesting the resource using HTTP. **(From XHTML – should we keep it?)**		
Values	Example values include **application/nitf+xml**, **application/xhtml+xml**, **image/jpeg**.		
Equivalence	Is semantically equivalent to the hreftype attribute of XHTML 2.		
	Unlike newsml : hreftype, XHTML's hreftype allows multiple values separated by commas.		

XML examples	`<link href="http://en.wikipedia.org/wiki/IPTC"`
	`  rel="rel:seeAlso" hreftype="text/html">`
	`  <title>More about IPTC on Wikipedia</title>`
	`</link>`		

12.5 Valid From

Name	**newsml : validFrom**	Model	attribute
Base datatype	DateTimeType		
Definition	The date (and, optionally, the time) *before* which the link is not valid.		
Notes	It is up to user agents to decide how to prevent the activation of an invalid link and whether to display invalid links at all.		

XML examples	`<link href="http://www.iptc.org/content/image.jpg"`
	`  validFrom="2005-01-01" validTo="2005-01-01T24:00:00Z">`
	`  <title>A picture with limited copyright</title>`
	`</link>`		

12.6 Valid To

Name	**newsml : validTo**	Model	attribute
Base datatype	DateTimeType		
Definition	The date (and, optionally, the time) *after* which the link is not valid.		
Notes	It is up to user agents to decide how to prevent the activation of an invalid link and whether to display invalid links at all.		
XML examples	See above.		

13 Item Metadata Component

Name	**newsml : itemMeta**	Model	element
Base datatype	--		
Additional children	managementComponent (0 .. 1) link (0 .. ∞)		
Definition	A set of properties associated with the Item.		

14 Content Metadata Component

The most usual content metadata belong to the administrative, descriptive, rights and publication groups. Such properties are not tied to a particular type of content, and they are grouped in flat components (ie components without any wrapper element).

The Content Metadata Component constitutes a wrapper built around these components, and ready for use by different standards: it is used in particular by the News Item, the Topic Item and the Package Item.

The creators of other kinds of Item may prefer to use the individual sub-components rather than this macro-component.

Name	**newsml : contentMeta**	Model	element
Base datatype	--		
Additional children	administrativeComponent (0 .. 1) descriptiveComponent (0 .. 1) publicationComponent (0 .. 1) **(to be specified)** rightsComponent (0 .. 1) **(to be specified)**		
Definition	A set of aggregate components associated with the content of the Item.		
Notes	A provider can add further aggregate components to this set. Such components must be defined in another namespace.		

15 Any Item

15.1 Definition

Name	**AnyItemType**	Model	datatype
Base datatype	--		
Additional attributes	schema (required) guid (required) version (required) xml : lang (optional)		
Additional children	ds : Signature (0 .. 1) catalog (1) itemMeta (0 .. 1)		
Definition	A template for all Items standardized by the IPTC.		

15.2 Schema Version

Name	**newsml : schema**	Model	attribute
Base datatype	xs : string		
Definition	Specifies the major-minor version of the associated XML schema.		
Notes	Consists of two non-negative integers separated by a dot.		
Equivalence	Is semantically equivalent to the **NewsML/@Version** of NewsML 1.		
XML examples	`<news:item schema="1.0" guid="urn:newsml:iptc.org:20050101:topStory" version="2"/>`		

15.3 Item Identifier

Name	**newsml : guid**	Model	attribute
Base datatype	xs : string		
Definition	Specifies a persistent, universally unique identifier for the Item.		
Notes	– Persistence means that the identifier must be the same each time the Item is generated. – Uniqueness means that the identifier must be different from any identifier used for other Items of any kind, from any provider. – Two Items having the same guid are deemed to be equal, whatever their representation. – A guid must conform to RFC 3085 [RFC 3085] or one of its successors. – This identifier has the form of a NewsML URN [RFC 3085], with the constraint that no revision identifier is included.		
Equivalence	Is semantically equivalent to the **PublicIdentifier** of NewsML 1, minus the version.		
XML examples	`<news:item schema="1.0" guid="urn:newsml:iptc.org:20050101:topStory" version="2"/>`		

15.4 Item Version

Name	**newsml : version**	Model	attribute
Datatype	See Version.		
Definition	Specifies the version of the Item.		
Notes	The default value is 1.		
Equivalence	Is semantically equivalent to the **RevisionId** of NewsML 1.		
XML examples	`<news:item schema="1.0" guid="urn:newsml:iptc.org:20050101:topStory" version="2"/>`		

16 News Item

A News Item aims to convey news with the sense of the reporting of a topical (news) event. Its content is gathered by journalists, presented with a journalistic style, and updated according to the progression of the story.

16.1 Definition

Name	**news : item**	Model	element
Base datatype	AnyItemType		
Additional children	contentMeta (0 .. 1) news : contentSet (0 .. 1)		
Definition	An Item containing news-related information.		
Notes	Examples of News Items are a news report, a picture, the graphical illustration of some event, a video clip or an illustrated biography.		
XML examples	<news:item> <itemMeta/> <contentMeta/> <news:contentSet original="c1"> <news:directContent id="c1" rendition="rd:print" type="application/xml+nitf"> <nitf/> </news:directContent> <news:directContent id="c2" rendition="rd:web" type="application/xhtml+xml"> <html/> </news:directContent> </news:contentSet> </news:item>		

16.2 Content Set

16.2.1 Definition

Name	**news : contentSet**	Model	element
Base datatype	--		
Additional attributes	news : original (optional)		
Additional children	news : directContent (0 .. ∞) news : encodedContent (0 .. ∞) news : remoteContent (0 .. ∞)		
Definition	A set of news content components of different datatypes.		
Notes	The order of the news content components is irrelevant.		
XML examples	<news:contentSet original="c1"> <news:directContent ...> ... </news:directContent> <news:encodedContent ...> ... </news:encodedContent> <news:remoteContent .../> </news:contentSet>		

16.2.2 Original Rendition Reference

Name	**news : original**	Model	attribute
Base datatype	xs : IDREF		
Definition	A local reference to the original piece of content, from which all other renditions have been derived.		

XML examples	`<news:contentSet original="c1">`
	`...`
	`</news:contentSet>`		

16.3 News Content

16.3.1 Definition

Name	**news : NewsContentType**	Model	datatype
Base datatype	--		
Additional attributes	id (optional) news : rendition (optional) news : type (optional) news : format (optional) any other attributes from any namespaces (optional)		
Definition	A model for all types of content components. May belong to any XML language capable of expressing generic or specialized news information.		
Notes	– Examples of news information standards are NITF, XHTML, SportsML and XBRL. – Specialised attributes, collectively called *characteristics*, will be defined by specialized IPTC standards. Examples are the Height and Width of a picture, the Word Count of a news story, or the Duration of an audio clip.		

16.3.2 Rendition

16.3.2.1 Definition

Name	**news : rendition**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies the content rendition this component supports.		
Notes	This property helps the processor choose between alternative content components.		
XML examples	`<news:remoteContent rendition="rd:thumbnail"` `href="http://www.iptc.org/content/image.jpg"/>`		

16.3.2.2 Related scheme

Scheme alias	**rendition**	Model	scheme
Container	news : rendition		
Values	Possible values include: – **thumbnail** and **preview** (for photos) – **sms**, **web** and **print** (for text)		
Default value	--		

16.3.3 Content Type

Name	**news : type**	Model	attribute
Base datatype	xs : string		
Definition	Specifies an IANA (Internet Assigned Numbers Authority) MIME type associated with the content component.		
Values	Example values include **application/nitf+xml**, **application/xhtml+xml**, **image/jpeg**		
XML examples	`<news:remoteContent type="image/jpeg"` `  href="http://www.iptc.org/content/image.jpg"/>`		

16.3.4 Format

Name	**news : format**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies a refinement of a generic news : type, when no specific type exists.		
Values	Example values include **IPTC7901**, **ANPA1312**, **NSK-TIFF**		

XML examples	`<news:remoteContent type="application/xml"`
	`  format="fmt:IPTC7901"`
	`  href="http://www.iptc.org/content/story.txt"/>`		

16.4 Direct News Content

Name	**news : directContent**	Model	element
Base datatype	NewsContentType		
Additional children	extension point (xs : any ##other)		
Definition	XML content which is directly embedded in the component.		
Notes	The root element of this structure must be the root element of the language. A special case is plain text, which is supported by this element, and is identified by the "text/plain" Content Type.		

XML examples	`<news:directContent type="application/nitf+xml">`
	`  <nitf:nitf/>`
	`</news:directContent>`		

16.5 Encoded News Content

16.5.1 Definition

Name	**news : encodedContent**	Model	element
Base datatype	NewsContentType		
Additional attributes	news : encoding (optional)		
Content	xs : string		
Definition	Content which has been encoded before being embedded in the News Item structure.		

XML examples	`<news:encodedContent>`
	`/9j/4AAQSkZJRgABAQAAAQABAAD/2wBDAAgGBgcGBQgHBwcJCQgKDBQND`
	`AsLDBkSEw8UHRofHh0aHBwgJC4nICIsIxwcKDcpLDAxNDQ0Hyc5PTgyP`
	`</news:encodedContent>`		

16.5.2 Encoding

Name	**news : encoding**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies the encoding applied to the content before inclusion in the component.		
Notes	– At the core conformance level, the only encoding allowed is 'base64', and so this attribute is not supported. – At the power conformance level, providers are free to use any encoding, and the value of this attribute must be set accordingly.		

XML examples	`<news:encodedContent encoding="enc:binhex">`
	`:$f*TEQKPH#jdCA0d,R0TG!"6594%8dP8)3#3"!&m!*!%`
	`</news:encodedContent>`		

16.6 Remote News Content

16.6.1 Definition

Name	**news : remoteContent**	Model	element
Base datatype	NewsContentType		
Additional attributes	href (required) size (optional)		
Definition	Content which is not inline, but is instead referenced via a locator.		
XML examples	`<news:remoteContent type="image/jpeg"` `href="http://www.iptc.org/content/image.jpg"/>`		

16.7 Characteristics of the Remote Content

Name	**news : characteristics**	Model	element
Base datatype	NewsContentType		
Additional attributes	size (optional)		
Definition	Characteristics of the content of the target Item exposed in the link.		
Notes	The content is contained in, or pointed to by, the target Item.		
XML examples	See link.		

17 Topic Item

Topic Items convey knowledge about concepts (named entities such as organisations or abstract notions such as news subjects). Typically, a Topic Item itself holds only rather short and structured information about the concept and about its relationships with other concepts; it can refer to external resources to provide more information about the concept. A Topic Item can be seen as a "hub" of information about a given concept.

17.1 Definition

Name	**topic : item**	Model	element
Base datatype	AnyItemType		
Additional children	contentMeta (0 .. 1) topic : content (0 .. 1)		
Definition	An Item containing information about a concept.		
Notes	Examples of Topic Items are: information about a person, a location, an organisation, a business sector, an animal, an object made by human work, etc.		
XML examples	<topic:item> <itemMeta/> <contentMeta/> <topic:content> <topic:conceptId/> <topic:link /> <person/> </topic:content> </topic:item>		

17.2 Topic Content

17.2.1 Definition

Name	**topic : content**	Model	element
Base datatype	--		
Additional children	topic : conceptId (0 .. ∞) topic : link (0 .. ∞)		
Definition	The Topic Content component supports a set of properties specific to the concept.		
Notes	The nature of the content of a Topic Item depends on the kind of concept the Topic Item describes. For example, a person Topic Item holds a person component with given and family names, a date of birth, etc.		

17.2.2 Concept Identifier

Name	**topic : conceptId**	Model	element
Base datatype	BaseMDType		
Additional attributes	code (required)		
Definition	A persistent, unambiguous identifier for the concept.		
XML examples	`<topic:conceptId code="people:pgabriel"/>`		

17.2.3 Concept Link

17.2.3.1 Definition

Name	**topic : link**	Model	element
Base datatype	CodeMDType		
Additional attributes	topic : rel (required)		
Definition	A typed link to an associated concept.		
Notes	The optional (and repeatable) title child element inherited from CodeMDType contains a title of the associated concept.		
XML examples	`<topic:link rel="rel:seeAlso" code="pop:Genesis"/>` `<topic:link rel="rel:BT" code="ncc:01001001"/>`		

Is topic : link a good name, given that newsml : link connects objects (Items or Web resources) rather than concepts?

17.2.3.2 Relationship Indicator

17.2.3.2.1 Definition

Name	**topic : rel**	Model	attribute
Datatype	See Relationship.		
Definition	Names the relationship between the two concepts.		
XML examples	See above.		

17.2.3.2.2 Related scheme

Scheme alias	**rel**	Model	scheme
Container	topic : rel		
Values	Possible values include: **sameAs**, **childOf**, **broaderThan**, **narrowerThan**, **seeAlso**.		
Default value	**seeAlso**		

18 Package Item

A Package Item facilitates the packaging of all kinds of Items, from really simple constructs to the highly hierarchical structures created by some news providers.

18.1 Definition

Name	**pkg : item**	Model	element
Base datatype	AnyItemType		
Additional children	contentMeta (0 .. 1) pkg : groupSet (0 .. 1)		
Definition	An Item used for packaging other Items and Web resources.		
Notes	Examples of Package Items are a collection of pictures, the "top ten" list of News Items, an unordered set of News Items related to the same event, the representation of a section of a newspaper page.		
XML examples	<pkg:item> <itemMeta/> <contentMeta/> <pkg:groupSet root="g1"> <pkg:group id="g1" role="group:root"> <pkg:groupRef group="g2" /> <pkg:groupRef group="g3" /> <link href="..." rel="rel:hasVideo"/> </pkg:group> <pkg:group id="g2" role="group:topTen" mode="mode:seq"> <link href="..."/> <link href="..."/> </pkg:group> <pkg:group id="g3" role="group:gallery"> <link href="..."/> <link href="..."/> </pkg:group> </pkg:groupSet> </pkg:item>		

18.2 Group Set

18.2.1 Definition

Name	**pkg : groupSet**	Model	element
Base datatype	--		
Additional attributes	pkg : root (required)		
Additional children	pkg : group (0 .. ∞)		
Definition	A hierarchical set of groups.		
Notes	The order in which the groups are placed is irrelevant.		

XML examples	`<pkg:groupSet root="g1">`
	`  <pkg:group id="g2"/>`
	`  <pkg:group id="g3"/>`
	`  <pkg:group id="g4"/>`
	`  <pkg:group id="g1"/>`
	`</pkg:groupSet>`		

18.2.2 Root Reference

Name	**pkg : root**	Model	attribute
Base datatype	xs : IDREF		
Definition	A local reference to the group acting as the root of the hierarchy.		
XML examples	See above.		

18.2.3 Group

18.2.3.1 Definition

Name	**pkg : group**	Model	element
Base datatype	BaseMDType		
Additional attributes	id (required) role (required) pkg : mode (optional)		
Additional children	pkg : groupRef (0 .. ∞) link (0 .. ∞)		
Definition	A mixed set of group references and links.		
Notes	– The required id attribute overrides the optional id of BaseMDType. – The required role attribute specifies the semantic role this group has within its container group and within the package as a whole. – Several groups within the same package may have the same role. – The optional mode attribute specifies whether the order of the children is relevant. By default, the children are "complementary and unordered".		
XML examples	<pkg:groupSet root="g1"> <pkg:group id="g1" role="group:root"> <pkg:groupRef group="g2" /> <pkg:groupRef group="g3" /> <link href="..." rel="rel:hasVideo"/> </pkg:group> <pkg:group id="g2" role="group:topTen" mode="mode:bag"> <link href="..."/> <link href="..."/> </pkg:group> <pkg:group id="g3" role="group:gallery" mode="mode:alt"> <link href="..."/> <link href="..."/> </pkg:group> </pkg:groupSet>		

Should the role attribute be optional?

Should we provide an explicit sequence attribute for use with ordered groups?

18.2.3.2 Mode

18.2.3.2.1 Definition

Name	**pkg : mode**	Model	attribute
Base datatype	CURIEType		
Definition	Specifies whether the children of the group are complementary or alternative and whether their order is relevant.		
XML examples	See above.		

18.2.3.2.2 Related scheme

Scheme alias	**mode**	Model	scheme
Container	pkg : mode		
Values	– **bag**: Complementary and Unordered To be used for any kind of supporting content that does not require a sequence to be specified. The corresponding package roles could include, eg: **morePhotos**, **moreBackgroundStories** and **externalLinks**. – **seq**: Complementary and Ordered To be used for any kind of content which must be displayed or consumed in a particular sequence, expressed by the order of the child elements of the group. The sequence could be a ranking. The semantics of the role attribute value determine the required processing. The corresponding package roles could include, eg: **topNews** (ranking) and **latestNews** (chronological sequence). – **alt**: Alternatives To be used if a group contains equivalent pieces of content (eg translations of the same news story into different languages). The recipient may pick one or more of these.		
Default value	**bag**		

18.2.3.3 Group Reference

18.2.3.3.1 Definition

Name	**pkg : groupRef**	Model	element
Base datatype	--		
Additional attributes	pkg : group (required)		
Definition	A reference to a group local to the Package Item.		
XML examples	`<pkg:groupRef group="g2"/>`		

18.2.3.3.2 Referenced Group

Name	**pkg : group**	Model	attribute
Base datatype	xs : IDREF		
Definition	The id of the group referenced by the pkg : groupRef.		
XML examples	See above.		

19 News Message

A News Message facilitates the exchange of all kinds of Items by any kind of IT transmission, especially in a broadcast or multicast network.

19.1 Definition

Name	**msg : newsMessage**	Model	element
Base datatype	--		
Additional children	msg : header (required) msg : itemSet (0 .. 1)		
Definition	An exchange container for Items.		

XML examples	`<msg:newsMessage>`
	`  <msg:header/>`
	`  <msg:itemSet/>`
	`  <news:item/>`
	`  <topic:item/>`
	`  <pkg:item/>`
	`  </msg:itemSet>`
	`</msg:newsMessage>`		

19.2 Message Header

19.2.1 Definition

Name	**msg : header**	Model	element
Base datatype	--		
Additional children	msg : date (required) msg : sender (0 .. 1) msg : transmitId (0 .. 1) msg : priority (0 .. 1) msg : origin (0 .. 1) msg : destination (0 .. 1) msg : channel (0 .. ∞)		
Definition	A set of properties facilitating the exchange of Items.		
Notes	A provider can add non-standard and provider-specific content at the end of this structure.		
XML examples	See above.		

19.2.2 Date of Transmission

Name	**msg : date**	Model	element
Base datatype	xs : datetime		
Definition	The date-and-time of transmission of the message.		
Notes	It is not required that this date be amended if retransmission takes place.		
Equivalence	Is semantically equivalent to the **DateAndTime** of NewsML 1 (NewsML/NewsEnvelope/DateAndTime).		
XML examples	`<msg:date>2005-01-01T10:00:00Z</msg:date>`		

19.2.3 Sender

Name	**msg : sender**	Model	element
Base datatype	xs : string		
Definition	The organisation or person sending the Items.		
Notes	– The structure of this string is not specified by the IPTC. – Best practice is to identify a sender by its domain name.		
Equivalence	Is semantically equivalent to the **SentFrom** of NewsML 1 (NewsML/NewsEnvelope/SentFrom).		
XML examples	`<msg:sender>iptc.org</msg:sender>`		

19.2.4 Transmission Identifier

Name	**msg : transmitId**	Model	element
Base datatype	xs : string		
Definition	The transmission identifier of the message.		
Notes	– No two News Messages sent by the same sender on the same date can have the same Transmission Identifier. – It is not required that this identifier be amended if retransmission takes place. – The structure of this string is not specified by the IPTC.		
Equivalence	Is semantically equivalent to the **TransmissionId** of NewsML 1 (NewsML/NewsEnvelope/TransmissionId).		
XML examples	`<msg:transmitId>12345</msg:transmitId>`		

19.2.5 Priority

Name	**msg : priority**	Model	element
Base datatype	xs : positiveInteger (1 .. 8)		
Definition	The priority of transmission.		
Equivalence	Is semantically equivalent to the **Priority** of NewsML 1 (NewsML/NewsEnvelope/Priority).		
XML examples	`<msg:priority>3</msg:priority>`		

19.2.6 Origin

Name	**msg : origin**	Model	element
Base datatype	xs : string		
Definition	The point of origin of the transmission of the message.		
Notes	The structure of this string is not specified by the IPTC.		
XML examples	`<msg:origin>iptc.org</msg:origin>`		

19.2.7 Destination

Name	**msg : destination**	Model	element
Base datatype	xs : string		
Definition	The point(s) of destination of the message.		
Notes	The structure of this string is not specified by the IPTC.		
Equivalence	Is used as a replacement for **SentTo** of NewsML 1 (NewsML/NewsEnvelope/SentTo) , but with a clear technical meaning.		
XML examples	`<msg:destination>Europe/England</msg:destination>`		

19.2.8 Channel

Name	**msg : channel**	Model	element
Base datatype	xs : string		
Definition	The transmission channel used by the message.		
Notes	– A channel identifier is used to provide recipients with information used to select, route, or otherwise handle the content of the message. – The structure of this string is not specified by the IPTC.		
Equivalence	Is used as a replacement for **NewsProduct** of NewsML 1 (NewsML/NewsEnvelope/NewsProduct), but with a clear technical meaning.		
XML examples	`<msg:channel>Sat1</msg:channel>`		

19.3 Item Set

Name	**msg : itemSet**	Model	element
Base datatype	--		
Definition	The point at which IPTC Item(s) are inserted into the News Message.		
Notes	– All Item classes which are derived from AnyItem (eg News Items, Topic Items and Package Items) can be exchanged this way. – The order of the Items is irrelevant.		

XML examples	`<msg:itemSet/>`
	`  <news:item/>`
	`  <topic:item/>`
	`  <pkg:item/>`
	`</msg:itemSet>`		

20 Glossary of Abbreviations

CoCo	Common Component
CURIE	Compact URI
CV	Controlled Vocabulary
DTD	Document Type Definition
GUID	Globally unique identifier
IRI	Internationalized Resource Identifier
IPTC	International Press Telecommunications Council
ISO	International Organization for Standardization
NAR	NewsML 2 Architecture
NITF	News Industry Text Format
NMDF	News Metadata Framework
OASIS	Organization for the Advancement of Structured Information Standards
OWL	Web Ontology Language
QName	Qualified Name
RDF	Resource Description Framework
XML	Extensible Markup Language
UI	User Interface
URI	Uniform Resource Identifier
URN	Uniform Resource Name
W3C	World Wide Web Consortium
WG	Working Group
WP	Working Party

21 References

21.1 IPTC documents

EVT-BR IPTC EventsML Business Requirements
http://www.iptc.org/download/dliptc.php?fn=EventsML/1.0-draft/specification/EventsML_1.0_spec_BusinessRequirements_4.pdf

NAR-GL IPTC NewsML 2 Architecture Glossary
http://www.iptc.org/dev/

NAR-IG Implementation Guidelines for the IPTC Standards Architecture using W3C XML Schema
NAR_1.0-doc-ArchitectureImplementationGuidelines_2
(not public)

NAR-MD IPTC NewsML 2 Architecture Model
http://www.iptc.org/dev/

NAR-TS IPTC NewsML 2 Architecture Technical Specification
http://www.iptc.org/dev/

NMDF-BR IPTC News Metadata Framework Business Requirements
http://www.iptc.org/dev/

NML-BR IPTC NewsML 2 Business Requirements
http://newsml.org/dl.php?fn=NewsML_2.0-spec-BusinessRequirements_1.pdf

IPTC Core IPTC Core 1.0 Schema for XMP, specification, document version 8
http://www.iptc4xmp.org/

21.2 Non-IPTC documents

BCP 47 Tags for the Identification of Languages
http://www.isi.edu/in-notes/bcp/bcp47.txt
Currently points to RFC 3066 [RFC 3066]
Is likely to be changed soon to point to an RFC resulting from
http://ietfreport.isoc.org/idref/draft-ietf-ltru-registry/

CSS Cascading Style Sheets, level 2 revision 1
http://www.w3.org/TR/CSS21

Datatypes XML Schema Part 2: Datatypes Second Edition
http://www.w3.org/TR/xmlschema-2/

DCMIT Dublin Core Metadata Terms, including Elements
http://dublincore.org/documents/2005/06/13/dcmi-terms/

GRDDL Gleaning Resource Descriptions from Dialects of Languages (GRDDL)
http://www.w3.org/TR/grddl/

HTML HTML 4.01 Specification
http://www.w3.org/TR/html4

MIME media types MIME Media Types
http://www.iana.org/assignments/media-types/

nsDocuments Associating Resources with Namespaces
http://www.w3.org/2001/tag/doc/nsDocuments/

OWL	OWL Web Ontology Language Reference http://www.w3.org/TR/owl-ref/
RDDL	Resource Directory Description Language (RDDL) http://xml.coverpages.org/rddl.html
RDF/A Primer	RDF/A Primer 1.0 http://www.w3.org/2001/sw/BestPractices/HTML/2006-01-15-rdfa-primer
RDF/A Syntax	RDF/A Syntax http://www.w3.org/2001/sw/BestPractices/HTML/2005-rdfa-syntax
RFC 2119	Key words for use in RFCs to Indicate Requirement Levels http://www.ietf.org/rfc/rfc2119.txt
RFC 3066	Tags for the Identification of Languages http://www.ietf.org/rfc/rfc3066.txt
RFC 3085	URN Namespace for NewsML Resources http://www.ietf.org/rfc/rfc3085.txt
RFC 3937	A Uniform Resource Name (URN) Namespace for the International Press Telecommunications Council (IPTC) http://www.ietf.org/rfc/rfc3937.txt
RFC 3986	Uniform Resource Identifier (URI): Generic Syntax http://www.ietf.org/rfc/rfc3986.txt
RFC 3987	Internationalized Resource Identifiers (IRIs) http://www.ietf.org/rfc/rfc3987.txt
RFC 4151	The 'tag' URI scheme http://www.ietf.org/rfc/rfc4151.txt
RFC 4287	The Atom Syndication Format http://www.ietf.org/rfc/rfc4287.txt
Schematron	Schematron http://www.schematron.com/
WebArch	Architecture of the World Wide Web, Volume One http://www.w3.org/TR/webarch/
XHTML1	XHTML™ 1.0 http://www.w3.org/TR/xhtml1
XHTML2	XHTML™ 2.0 http://www.w3.org/TR/xhtml2
XInclude	XML Inclusions (XInclude) http://www.w3.org/TR/xinclude/
XMLNS	Namespaces in XML 1.1 http://www.w3.org/TR/xml-names11

22 Change Log

Main changes between v17 and v18:

- The *warning* element renamed to *signal*.
- In example 3.5, *news : content* corrected to *news : contentSet*.
- The generic element *created* dropped. The element *created*, used to specify when the Item was created, renamed to *itemCreated*. The element *created*, used to specify when the content was created, renamed to *contentCreated*.
- The cardinality of the *bag* child element added to the definitions of *genre* and *subject*.
- Examples added to the following definitions: 5.12 Reference, 9.5 Date Item Created, 9.6 Date Item Modified, 9.7 Date Item Released, 9.8 Date Item Embargo Ends, 9.9 Date Item Retired, 9.10 Publishing Status, 9.11 Conformance Level.
- A Note added to the LabelType re XHTML 1 vs XHTML 2.
- The Relationship Indicator *instanceOf* removed from section 12 Link. The definition of *instanceOf* added to section 9 Management Component.
- 12.7 Characteristics of the Remote Content moved to 16.7 and the prefix changed from *newsml* to *news*. The definition of *characteristics* modified and a note added.
- The *characteristics* element removed from the 'additional children' part of the *link* definition table in section 12. A note added. The second example modified.
- In two places, "xs : any ##other" changed to "extension point (xs : any ##other)".
- In section 16.2 Content Set, the cardinality of *news : original* changed from "(required)" to "(optional)".
- An informative note added to section 4.1 Compact URI Type. The CURIE reference removed from the References section. The RDF/A reference updated.
- The Glossary of Terms removed. A reference to the external Glossary added to the References section and to the Abstract.