IPTC Standards

NewsML™ G2

(version 2.21)

Quick Start Guide
to News Packages

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Quick Start - Packages

We recommend reading the Quick Start Guide to G2 Basics before this Quick Start Guide to Text.

Introduction

The ability to package together items of news content is important to news organisations and customers. Using packages, different facets of the coverage of a news story can be viewed in a named relationship, such as "Main Article", "Sidebar", Background". Another frequent application of packages is to aggregate content for news products, for example "Top Ten" news packages such as that illustrated below[1].

Figure 1: A Top Ten News Package displayed on the Web

Packages can range from simple collections on a common theme, to rich hierarchical structures.

NewsML-G2 is flexible in allowing a provider to package content that has already been published, or a package may be sent together with all of its content resources in a single News Message. See **Exchanging News: News Messages** in the main Guidelines.

Packages and Links: the difference

The NewsML-G2 <link> property is a useful way to indicate optional supplementary resources that may be retrieved by the end-user when processing or consuming a G2 Item. Links should not be used as a lightweight method of packaging news; a G2 processor would not be able to distinguish between News

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[1] A description of how to create this type of package with ordered components can be found further on in this document.

Items with some optional resources, and News Items that are intended to be pseudo-packages using links. It is also a basic G2 rule that a News Item only conveys one piece of content.

By contrast, Packages:

- ❖ Express structure, allowing news to be packaged as a list, or as a named hierarchy of content resources.
- ❖ Have a mode property that enables the expression of a relationship between the components of a package group.

Document structure

The building blocks of the Package Item are the <packageItem> root element, with additional wrapping elements for metadata about the Package (itemMeta), metadata about the content (contentMeta) and the package content (groupSet). The top level (root) element <packageItem> attributes are:

```
<packageItem xmlns="http://iptc.org/std/nar/2006-10-01/"
  guid="tag:example.com,2008:UK-NEWS-TOPTEN:UK20081220098658" version="8">
  standard="NewsML-G2"
  standardversion="2.21"
  conformance="power"
```

This is followed by Catalog information:

```
<catalogRef
  href="http://www.iptc.org/std/catalog/catalog.IPTC-G2-Standards_27.xml" />
<catalogRef
  href="http:/www.example.com/customer/cv/catalog4customers-1.xml" />
```

Item Metadata

The <itemMeta> wrapper contains properties that are aids to processing the package contents.

Profile

The <profile> element allows a provider to name a pre-arranged template or transformation stylesheet that can be used to process the package, for example "text and picture" could be the name of a template; "textpicture.xsl" would be an xsl stylesheet. The @versioninfo of a <profile> enables the template or stylesheet to be versioned:

```
<profile versioninfo="1.0.0.2">simple_text_with_picture.xsl</profile>
```

Item Metadata in full

```
<itemMeta>
  <itemClass qcode="ninat:composite" />
  <provider qcode="nprov:REUTERS" />
  <versionCreated>2015-11-07T12:30:00Z</versionCreated>
  <firstCreated>2008-12-20T12:25:35Z</firstCreated>
  <pubStatus qcode="stat:usable" />
  <profile versioninfo="1.0.0.2">simple_text_with_picture.xsl</profile>
  <service qcode="svc:uktop">
    <name>Top UK News stories hourly</name>
  </service>
  <title>UK-TOPNEWS</title>
  <edNote>Updates the previous version</edNote>
  <signal qcode="sig:update" />
</itemMeta>
```

Content Metadata

The <contentMeta> wrapper in this example contains extended metadata about the person who compiled the package, including hours of duty and contact telephone number.

```
<contentMeta>
  <contributor jobtitle="staffjobs:cpe" qcode="mystaff:MDancer">
    <name>Maurice Dancer</name>
    <name>Chief Packaging Editor</name>
    <definition validto="2015-11-17T17:30:00Z">
      Duty Packaging Editor
    </definition>
    <note validto="2015-11-17T17:30:00Z">
```

```
            Available on +44 207 345 4567 until 17:30 GMT today
        </note>
    </contributor>
    <headline xml:lang="en">UK</headline>
</contentMeta>
```

Package Structure

A simple Package has a structure as shown in the example below. The top level for content of a Package Item is one and only one <groupSet> element, followed by at least one <group> structure containing one or more <ItemRef> references to content. The <group> structure may also be repeated, but this example has only one. The diagram below shows a skeleton of the XML elements in a simple package and a visualisation of the relationship that this structure creates:
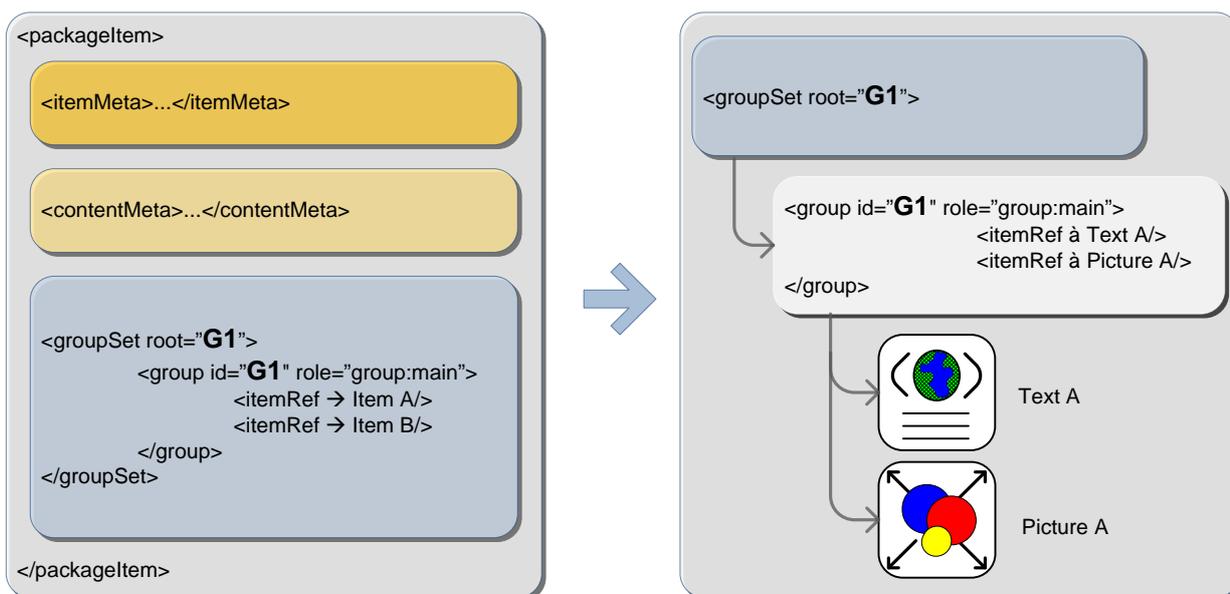

Figure 2: Top-level element view of a simple package, and (right) a visualisation of the structure

Group Set

The <groupSet> has a mandatory root attribute that references the primary child <group> element. The primary <group> element must identify itself using an @id that matches the @root of <groupSet>.

```
<groupSet root="G1">
```

Group

Although the id attribute is optional, in practice one must be provided to match the mandatory root attribute of the <groupSet>, even if there is only one <group>. If there is more than one <group> element, one and only one can be identified as the root group.

Group elements must also contain a role attribute to declare its role within the package structure. The role is a QCode, but a Scheme of Roles may typically contain values representing "main", "sidebar" or other editorial terms that express how the content is intended to be used in the package.

```
<group id="G1" role="group:main">
```

Item Reference

The <itemRef> element identifies an Item or a Web resource using @href and/or @residref. The IPTC recommends that Package Items should reference G2 Items if they are available (typically News Items) rather than other types of resource, such as "raw" news objects. Referring to other kinds of Web-accessible resource is allowed and is a legitimate use-case, however it has some disadvantages. Resources referred to in this way cannot be managed or versioned: if one of the resources is changed, the entire package may need to be re-compiled and sent, whereas a reference to a managed object such as a <newsItem> may refer to the latest (or a specific) version.

The example versions the referenced Items using @version, and gives processing or usage hints using @contenttype and @size. The @contenttype uses the registered IANA MIME type for a G2 News Item:

```
<itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-A"
    contenttype="application/vnd.iptc.g2.newsitem+xml"
    size="2345">
```

The Item Reference includes properties from the referenced Item that have been extracted as an aid to processing:

```
<itemClass qcode="ninat:text" />
<provider qcode="nprov:REUTERS"/>
<pubStatus qcode="stat:usable"/>
<title>Obama annonce son équipe</title>
<description role="drol:summary">Le rachat il y a deux ans de la
    propriété par Alan Gerry, magnat local de la télévision câblée, a
    permis l'investissement des 100 millions de dollars qui étaient
    nécessaires pour le musée et ses annexes, et vise à favoriser le
    développement touristique d'une région frappée par le chômage.
</description>
</itemRef>
```

Complete Listing of a Simple Package

The Listing below is given for completeness.

Code Listing: Simple NewsML-G2 Package

All Scheme Aliases used in listing below indicate IPTC NewsCodes vocabularies, except for the following alias values: *staffjobs, mystaff, svc, group,*

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<packageItem xmlns="http://iptc.org/std/nar/2006-10-01/"
  guid="tag:example.com,2008:UK-NEWS-TOPTEN:UK20081220098658" version="8">
  standard="NewsML-G2"
  standardversion="2.21"
  conformance="power"
  <catalogRef
    href="http://www.iptc.org/std/catalog/catalog.IPTC-G2-Standards_27.xml" />
  <catalogRef
    href="http:/www.example.com/customer/cv/catalog4customers-1.xml" />
  <itemMeta>
    <itemClass qcode="ninat:composite" />
    <provider qcode="nprov:REUTERS" />
    <versionCreated>2015-11-17T12:30:00Z</versionCreated>
    <firstCreated>2008-12-20T12:25:35Z</firstCreated>
    <pubStatus qcode="stat:usable" />
    <profile versioninfo="1.0.0.2">simple_text_with_picture.xsl</profile>
    <service qcode="svc:uktop">
      <name>Top UK News stories hourly</name>
    </service>
    <title>UK-TOPNEWS</title>
    <edNote>Updates the previous version</edNote>
    <signal qcode="sig:update" />
  </itemMeta>
  <contentMeta>
    <contributor jobtitle="staffjobs:cpe" qcode="mystaff:MDancer">
      <name>Maurice Dancer</name>
      <name>Chief Packaging Editor</name>
      <definition validto="2015-11-17T17:30:00Z">
        Duty Packaging Editor
      </definition>
      <note validto="2015-11-17T17:30:00Z">
        Available on +44 207 345 4567 until 17:30 GMT today
      </note>
    </contributor>
    <headline xml:lang="en">UK</headline>
  </contentMeta>
  <groupSet root="G1">
    <group id="G1" role="group:main">
      <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-A"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="2345">
        <itemClass qcode="ninat:text" />
        <provider qcode="nprov:REUTERS"/>
        <pubStatus qcode="stat:usable"/>
        <title>Obama annonce son équipe</title>
```

```
                <description role="drol:summary">Le rachat il y a deux ans de la
                    propriété par Alan Gerry, magnat local de la télévision câblée, a
                    permis l'investissement des 100 millions de dollars qui étaient
                    nécessaires pour le musée et ses annexes, et vise à favoriser le
                    développement touristique d'une région frappée par le chômage.
                </description>
            </itemRef>
            <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-B"
                contenttype="application/vnd.iptc.g2.newsitem+xml"
                size="300039">
                <itemClass qcode="ninat:picture" />
                <provider qcode="nprov:REUTERS"/>
                <pubStatus qcode="stat:usable"/>
                <title>Barack Obama arrive à Washington</title>
                <description role="drol:caption">Si nous avons aujourd'hui un
                    afro-américain et une femme dans la course à la présidence.
                </description>
            </itemRef>
        </group>
    </groupSet>
</packageItem>
```

Hierarchical Package Structure

Hierarchies of Groups and Item References can be created by adding multiple Groups to Packages and using <groupRef>, to reference other Groups by @idref, as illustrated by the following diagram:
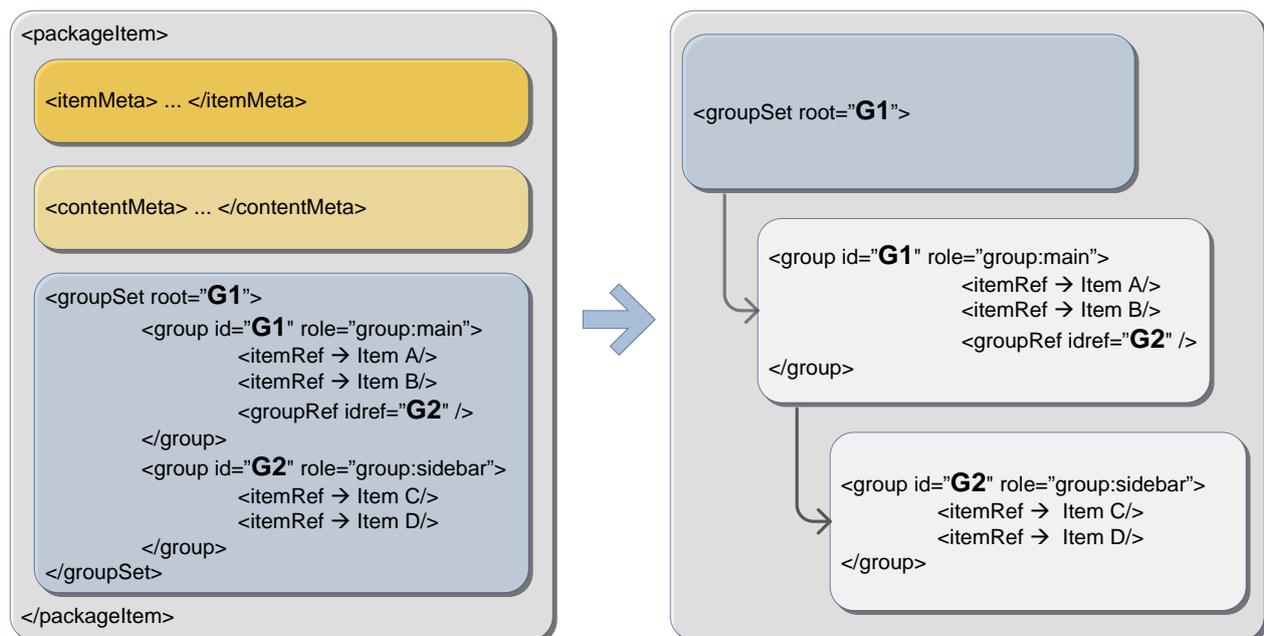

Figure 3: Code outline of hierarchical package with two groups, visualising parent-child structure (right)

The code listing below shows how such a hierarchical package would be fully expressed in XML in a NewsML-G2 Group Set:

Code Listing: Group Set example showing Hierarchical Package Structure

All Scheme Aliases used in listing below indicate IPTC NewsCodes vocabularies, except for *group,*

```
<groupSet root="G1">
  <group id="G1" role="group:main">
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-A"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="2345">
        <itemClass qcode="ninat:text" />
        <title>Obama annonce son équipe</title>
    </itemRef>
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-B"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="300039">
        <itemClass qcode="ninat:picture" />
```

```
            <title>Barack Obama arrive à Washington</title>
        </itemRef>
        <groupRef idref="G2" />
    </group>
    <group id="G2" role="group:sidebar">
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-C"
            contenttype="application/vnd.iptc.g2.newsitem+xml"
            size="1503">
            <itemClass qcode="ninat:text" />
            <title>Clinton reprend son rôle de chef de la santé</title>
        </itemRef>
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-D"
            contenttype="application/vnd.iptc.g2.newsitem+xml"
            size="350280">
            <itemClass qcode="ninat:picture" />
            <title>Hillary Clinton à une rassemblement à New York</title>
        </itemRef>
    </group>
</groupSet>
```

In the example, the "root" group is identified as the group with id="G1". This group has a role of "main" and consists of a text story and a picture of Barack Obama. The group with id="G2" has the role of "sidebar" and contains a text and picture of Hillary Clinton. It is referenced by a <groupRef> in Group G1.

List Type Package Structure

The @mode indicates the relationship between components of a group using one of three values from the IPTC Package Group Mode NewsCodes (recommended Scheme Alias "pgrmod"):

- ❖ pgrmod:bag – an unordered collection of components, for example different components of a web news page with no special order, as in the example below. This is the default @mode.
- ❖ pgrmod:seq – denotes a sequential package group set in descending order, for example a "Top Ten" list: each sub-group would provide references to a text article and a related picture.
- ❖ pgrmod:alt – an unordered collection. Each sub-group is an alternative to its peer groups in the set, for example coverage of a news event supplied in different languages.
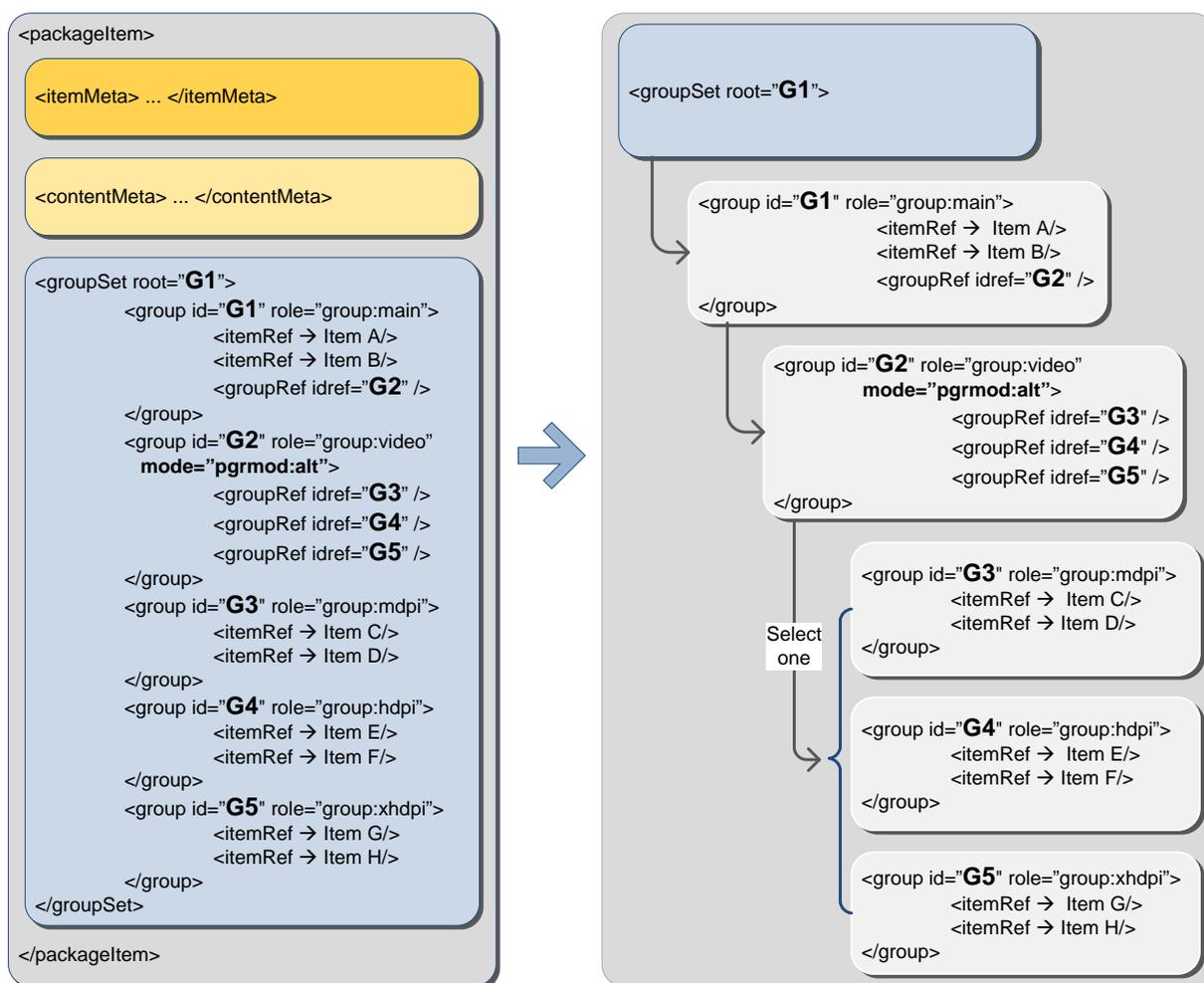
Figure 4: Code skeleton view of package with alternative components, with visualisation of structure

The diagram above shows a package containing two Items in the root group, and a group reference to a "group of groups" with package mode set to "alt" indicating that the child groups contain alternative content. The example uses groups of associated video suitable for different Android device screen sizes as indicated by the @role of each group.

The code overview shows the root group referencing the two Items and the <groupRef> element referencing the group with @id "G2". Group G2 has its package mode set to "alt" and its components are references to alternate groups G3, G4 and G5, which reference videos at the required resolution for each screen type.

The right-hand image in the diagram is a visual representation of the relationship expressed through this package structure.

Note the <group> that has its Mode set to "alt" – not the "main" group but the second group with @id "G2". The components of this group are alternatives: each references a group containing the video content. The code example below shows how this relationship is fully expressed in NewsML-G2:

Code Listing: Group Set example showing an "alt" Package Mode

All Scheme Aliases used in listing below indicate IPTC NewsCodes vocabularies, except for *group,*

```
<groupSet root="G1">
  <group id="G1" role="group:main">
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-A"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="2345">
      <itemClass qcode="ninat:text" />
      <title>Obama annonce son équipe</title>
    </itemRef>
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-B"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
```

```xml
            size="1503">
            <itemClass qcode="ninat:text" />
            <title>Clinton reprend son rôle de chef de la santé</title>
        </itemRef>
        <groupRef idref="G2" />
    </group>
    <group id="G2" role="group:video" mode="pgrmod:alt">
        <groupRef idref="G3" />
        <groupRef idref="G4" />
        <groupRef idref="G5" />
    </group>
    <group id="G3" role="group:mdpi">
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-C"
            contenttype="video/mp4" width="480" height="320">
            <itemClass qcode="ninat:video" />
            <title>Barack Obama arrive à Washington</title>
        </itemRef>
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-D"
            contenttype="video/mp4" width="480" height="320">
            <itemClass qcode="ninat:video" />
            <title>Hillary Clinton à une rassemblement à New York</title>
        </itemRef>
    </group>
    <group id="G4" role="group:hdpi">
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-E"
            contenttype="video/mp4" width="720" height="480">
            <itemClass qcode="ninat:video" />
            <title>Barack Obama arrive à Washington</title>
        </itemRef>
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-F"
            contenttype="video/mp4" width="720" height="480">
            <itemClass qcode="ninat:video" />
            <title>Hillary Clinton à une rassemblement à New York</title>
        </itemRef>
    </group>
    <group id="G5" role="group:xhdpi">
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-G"
            contenttype="video/mp4" width="960" height="640">
            <itemClass qcode="ninat:video" />
            <title>Barack Obama arrive à Washington</title>
        </itemRef>
        <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-H"
            contenttype="video/mp4" width="960" height="640">
            <itemClass qcode="ninat:video" />
            <title>Hillary Clinton à une rassemblement à New York</title>
        </itemRef>
    </group>
</groupSet>
```

A Sequential "Top Ten" Package

The screenshot at the start of this Guide shows a "Top Ten" list of news items in order of importance. The package mode of "seq" indicates that the components are in descending order and a code skeleton and visual representation of the package structure is shown in the diagram below:
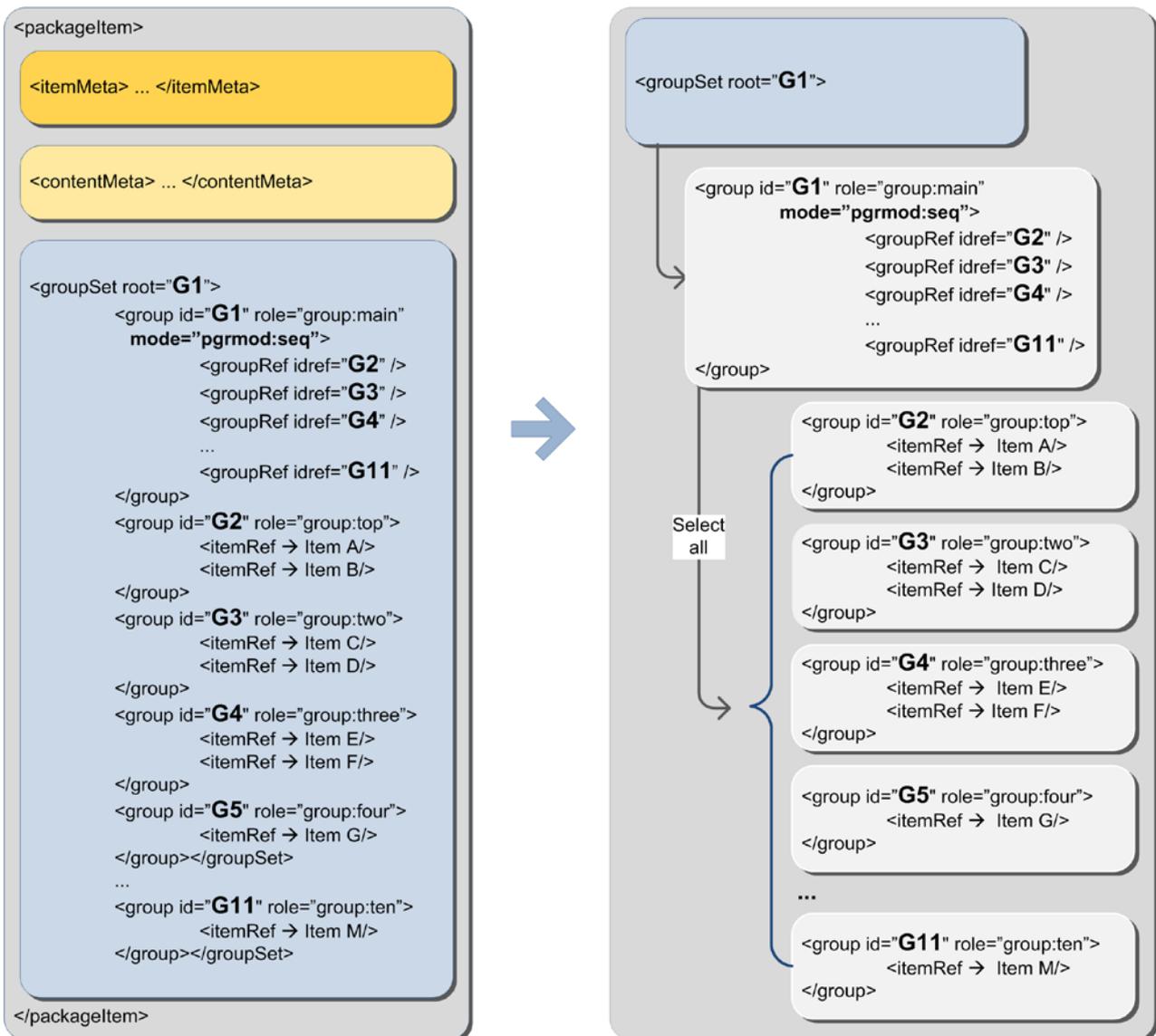

Figure 5: Code skeleton of a sequential mode package and (right) the resulting relationship structure

Note how the <group> sets the Mode for its components, in this case the component group references of the "main" group are sequentially ordered. The relationship is fully-expressed in XML in NewsML-G2 as shown below:

Code Listing: Group Set example showing a "seq" Package Mode

All Scheme Aliases used in listing below indicate IPTC NewsCodes vocabularies, except for *group,*

```
<groupSet root="G1">
  <group id="G1" role="group:main" mode="pgrmod:seq">
    <groupRef idref="G2" />
    <groupRef idref="G3" />
    <groupRef idref="G4" />
    <groupRef idref="G5" />
    <groupRef idref="G6" />
    <groupRef idref="G7" />
    <groupRef idref="G8" />
    <groupRef idref="G9" />
    <groupRef idref="G10" />
    <groupRef idref="G11" />
  </group>
```

```xml
<group id="G2" role="group:top" >
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-A"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="3452">
        <itemClass qcode="ninat:text" />
        <provider qcode="nprov:REUTERS"/>
        <pubStatus qcode="stat:usable"/>
        <title>Bank cuts interest rates to record low</title>
        <description role="drol:summary">London (Reuters) - The Bank of England cut
            interest rates by half a percentage point on Thursday to a record low of
            1.5 percent and economists expect it to cut again in February as it
            battles to prevent Britain from falling into a deep slump.
        </description>
    </itemRef>
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-B"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="230003">
        <itemClass qcode="ninat:picture" />
        <provider qcode="nprov:REUTERS "/>
        <pubStatus qcode="stat:usable"/>
        <title>BoE Rate Decision</title>
    </itemRef>
</group>
<group id="G3" role="group:two" >
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-C"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="2345">
        <itemClass qcode="ninat:text" />
        <provider qcode="nprov:REUTERS"/>
        <pubStatus qcode="stat:usable"/>
        <title>Government denies it will print more cash</title>
        <description role="drol:summary">London (Reuters) – Chancellor
            Alistair Darling dismissed reports on Thursday that the government was about
            to boost the money supply to ease the impact of recession.
        </description>
    </itemRef>
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-D"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="24065">
        <itemClass qcode="ninat:picture" />
        <provider qcode="nprov:REUTERS "/>
        <pubStatus qcode="stat:usable"/>
        <title>Sterling notes and coin</title>
    </itemRef>
</group>
<group id="G4" role="group:three" >
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-E"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="2345">
        <itemClass qcode="ninat:text" />
        <provider qcode="nprov:REUTERS"/>
        <pubStatus qcode="stat:usable"/>
        <title>Rugby's Mike Tindall banned for drink-driving</title>
        <description role="drol:summary">London (Reuters) - England rugby player Mike
            Tindall was banned from driving for three years and fined £500 on Thursday
            for his second drink-drive offence.
        </description>
    </itemRef>
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-F"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="25346">
        <itemClass qcode="ninat:picture" />
        <provider qcode="nprov:REUTERS "/>
        <pubStatus qcode="stat:usable"/>
        <title>Mike Tindall in rugby action for England</title>
    </itemRef>
</group>
<group id="G5" role="group:four" >
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-G"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="3654">
        <itemClass qcode="ninat:text" />
        <title>Crunch forces employees to work unpaid overtime</title>
    </itemRef>
</group>
<group id="G6" role="group:five" >
    <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-H"
        contenttype="application/vnd.iptc.g2.newsitem+xml"
        size="5123">
```

```xml
            <itemClass qcode="ninat:text" />
            <title>Government warns of tax fraudsters</title>
         </itemRef>
      </group>
      <group id="G7" role="group:six" >
         <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-I"
            contenttype="application/vnd.iptc.g2.newsitem+xml"
            size="4323">
            <itemClass qcode="ninat:text" />
            <title>Nissan to cut 1,200 jobs at Sunderland plant</title>
         </itemRef>
      </group>
      <group id="G8" role="group:seven" >
         <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-J"
            contenttype="application/vnd.iptc.g2.newsitem+xml"
            size="3122">
            <itemClass qcode="ninat:text" />
            <title>Sainsbury sales tops forecast</title>
         </itemRef>
      </group>
      <group id="G9" role="group:eight" >
         <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-K"
            contenttype="video/mp4-480x320"
            size="322443">
            <itemClass qcode="ninat:video" />
            <title>Cause of wind turbine damage unknown</title>
         </itemRef>
      </group>
      <group id="G10" role="group:nine" >
         <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-L"
            contenttype="application/vnd.iptc.g2.newsitem+xml"
            size="4123">
            <itemClass qcode="ninat:text" />
            <title>Muslims warn Gaza crisis could provoke extremism</title>
         </itemRef>
      </group>
      <group id="G11" role="group:ten" >
         <itemRef residref="urn:newsml:iptc.org:20081007:tutorial-item-M"
            contenttype="application/vnd.iptc.g2.newsitem+xml"
            size="8192">
            <itemClass qcode="ninat:text" />
            <title>Banks hiring young Britons to prepare for upturn</title>
         </itemRef>
      </group>
   </groupSet>
```

NewsML-G2 Implementation Guidelines and Specification

For more comprehensive information about G2 implementation than is covered by these Quick Start Guides, the full Guidelines for NewsML-G2 Implementers may be downloaded from www.newsml-g2.org/doc.

This includes more detailed "How To" topics to help implementers with more complex needs, and also covers subjects such as creating and managing Catalogs and Controlled Vocabularies, conveying multiple G2 Items in News Messages, and using Planning and EventsML-G2 for news management and fulfilment.

The NewsML-G2 Specification is available for download at www.newsml-g2.org/spec.

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