IPTC Standards

NewsML™ G2

(version 2.21)

Quick Start Guide
to Conveying Pictures

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Quick Start: Pictures and Graphics

Introduction

Image content, including pictures and graphics, can be conveyed in a standard NewsML-G2 document. Picture providers and consumers need a rich vocabulary for descriptive and technical metadata, and for administrative metadata such as rights and usage terms. There is also a long-established use of embedded metadata, such as the IPTC/IIM Fields in JPEG and TIFF files. This Quick Start guide addresses some aspects of embedded metadata, but for a full description of the mapping embedded metadata and IIM fields to G2, this is described in detail in **Mapping Embedded Photo Metadata to NewsML-G2** in the main Guidelines.

The example in this Quick Start guide is a simple but complete document that shows how to implement in NewsML-G2 the frequently-used needs of a professional picture workflow:

- ❖ Right and usage instructions
- ❖ Descriptive and administrative properties such as Location and Categorisation
- ❖ Separate technical renditions of a picture

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

The picture and the metadata used in the example are courtesy of Getty Images. *Note that the sample code is NOT intended to be a guide to receiving NewsML-G2 from Getty Images.*

About the example
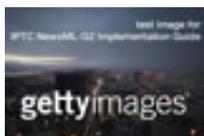
A library picture is provided to customers in three sizes: a large image intended for high resolution and/or large size display, a medium-sized image intended for web use, and a small image for use as a thumbnail or icon. These are three *alternative* renditions of the same picture and can be contained in a single NewsML-G2 document.

Document structure

The building blocks of the NewsML-G2 document are the <newsItem> root element, with additional wrapping elements for metadata about the News Item (itemMeta), metadata about the content (contentMeta) and the content itself (contentSet).

The root <newsItem> attributes are:

```
<newsItem xmlns="http://iptc.org/std/nar/2006-10-01/
  guid="tag:gettyimages.com,2010:GYI0062134533"
  version="8"
  standard="NewsML-G2"
  standardversion="2.21"
  conformance="power"
  xml:lang="en-US">
```

Note that this example uses a Tag URI (see TAG URI home page for details)

This is followed by references to the Catalogs used to resolve QCodes in the Item, and Rights information:

```
<catalogRef
  href="http://www.iptc.org/std/catalog/catalog.IPTC-G2-Standards_27.xml" />
<catalogRef href="http://cv.gettyimages.com/nml2catalog4customers-1.xml" />
<rightsInfo>
  <copyrightHolder uri="http://www.gettyimages.com">
    <name>Getty Images North America</name>
  </copyrightHolder>
  <copyrightNotice
    href="http://www.gettyimages.com/Corporate/LicenseInfo.aspx">
      Copyright 2010 Getty Images. --
      http://www.gettyimages.com/Corporate/LicenseInfo.aspx
  </copyrightNotice>
  <usageTerms>Contact your local office for all commercial or
    promotional uses. Full editorial rights UK, US, Ireland, Canada (not
    Quebec). Restricted editorial rights for daily newspapers elsewhere,
```

```
        please call.</usageTerms>
    </rightsInfo>
```

Source

Note that the IIM "Source" field maps to the G2 <copyrightHolder> element of the <rightsInfo> block.

Item Metadata <itemMeta>

```
<itemMeta>
    <itemClass qcode="ninat:picture">
    <provider qcode="nprov:GYI">
        <name>Getty Images Inc.</name>
    </provider>
    <versionCreated>2015-11-12T06:42:04Z </versionCreated>
    <firstCreated>2010-10-20T20:58:00Z</firstCreated>
</itemMeta>
```

The <itemClass> property uses a QCode from the IPTC News Item Nature NewsCodes to denote that the Item conveys a picture.

The Z suffix denotes UTC. Note the <firstCreated> property refers to the creation of the Item, NOT the content.

Embedded metadata

For many years IPTC metadata fields have been embedded in JPEG or TIFF images files. From 1995 on the IPTC Information Interchange Model (IIM) defined the semantics of the fields and the technical format for saving them in image files. In 2003 Adobe introduced a new format for saving metadata, namely XMP (Extended Metadata Platform), and many IPTC IIM fields were specified as the "IPTC Core" metadata schema. This defined identical semantics but opened the formats for saving to IIM and XMP in parallel. Later the "IPTC Extension" metadata schema was added; the defined fields are stored by XMP only. Thus, many people work with IPTC photo metadata, regardless how they are saved in the files; this is handled by the software they use.

The transfer of IPTC Photo Metadata fields to NewsML-G2 properties has a focus on the equivalence of the semantics of fields. The retrieval of the embedded values from the files is a secondary issue and documents like the Guidelines for Handling Image Metadata, produced by the Metadata Working Group (http://www.metadataworkinggroup.org/specs/) help in this area.

This Quick Start guide will provide the basics of this mapping, for more details see **Mapping Embedded Photo Metadata to NewsML-G2** in the main Guidelines. You can also learn more from the IPTC web by visiting https://www.iptc.org/standards/ and following the link to Photo Metadata.

The screen shot on the following page shows the panel for the IPTC Core fields as displayed by Adobe's Photoshop CS File Info screen; note the IPTC Extension tab that displays the additional IPTC Extension metadata.
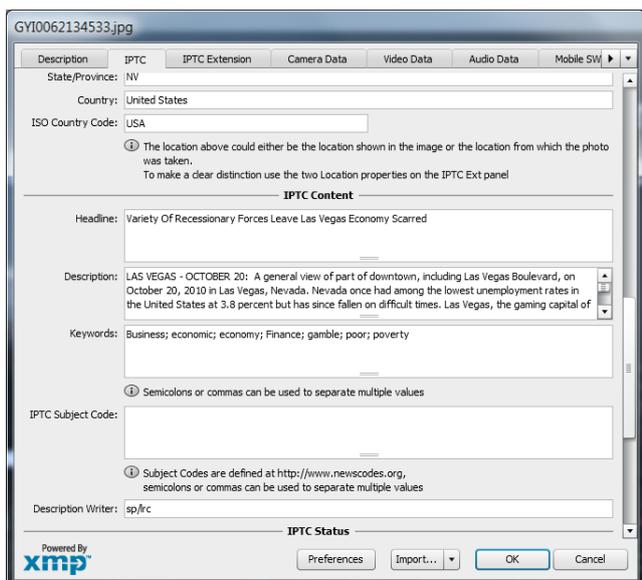
Figure 1: IPTC Core Metadata fields in the File Info panel of Adobe Photoshop

There are advantages, in a professional workflow, to carrying metadata independently of the binary asset:

❖ There is no need to retrieve and open the file to read essential information about the picture
❖ An editor may not have access to the original picture to modify its metadata
❖ A library picture used to illustrate a news event may have inappropriate embedded metadata.

A situation may arise where the metadata expressed in the NewsML-G2 Item and the embedded metadata in the photo are different. Some providers choose to strip all embedded metadata from objects, to avoid potential confusion. If not, a provider should specify any processing rules in its terms of use.

The IPTC recommends that *descriptive* metadata properties that exist in the NewsML-G2 Item (in Content Metadata) ALWAYS take precedence over the equivalent embedded metadata (if it exists). These properties include genre, subject, headline, description and creditline.

Content Metadata <contentMeta>

This example shows how embedded metadata from the example picture are translated into NewsML-G2, and includes the equivalent IPTC Core metadata schema property highlighted thus:

IPTC Core Schema equivalent:

Administrative metadata

Timestamp

The <contentCreated> element is used to give the creation date of the picture:

```
<contentCreated>2010-10-20T19:45:58-04:00</contentCreated>
```

Note that this value refers to the creation of the original content; for a scanned picture this is always the date (and optionally the time) of the original photograph. The property type is Truncated Date Time, so that when the precise date-time is unknown, for example for an historic photograph, the value can be truncated (from the right) to a simple date or just a year.

IPTC Core Schema equivalent: Date Created

Creator

The example uses a <creator> element without an identifier, but includes an optional @role that contains a QCode qualifying the creator as a photographer:

```
<creator role="crol:photographer">
    <name>Spencer Platt</name>
    <related rel="crel:isA" qcode="gyibt:staff" />
</creator>
```

The <related> child element of <creator> further qualifies the photographer as a member of staff (as distinct from, say, a freelance photographer)

IPTC Core Schema equivalent: Creator

Contributor

A <contributor> identifies people or organisations who did not originate the content, but have added value to it. In this case, the @role hints that the contributor added descriptive metadata:

```
<contributor role="ctrol:descrWriter">
    <name>sp/lrc</name>
</contributor>
```

IPTC Core Schema equivalent: Description Writer

Creditline

The <creditline> is a natural-language string that must be used by the receiver to indicate the credit(s) for the content, as directed in the business terms agreed with the provider or copyright holder:

```
<creditline>Getty Images</creditline>
```

IPTC Core Schema equivalent: Credit Line

Descriptive metadata

Subject

As described in the Quick Start Guide to G2 Basics, the subject matter of content is expressed using the <subject> element. The optional @type uses the IPTC Concept Nature NewsCodes (recommended scheme alias "cpnat") to indicate the type of concept being expressed. The following example uses a value of "cpnat:event" to indicate that the concept is an Event, and the QCode identifies the Event in the scheme with an alias "gyimeid":

```
<subject type="cpnat:event" qcode="gyimeid:104530187" />
```

The provider can use this Event ID to "tag" each of the pictures that relate to this topic, enabling receivers to group them via the Event ID.

The picture of Las Vegas Boulevard illustrates a story about unemployment. This example uses codes and associated <name> child elements from the IPTC Media Topic NewsCodes:

```
<subject type="cpnat:abstract" qcode="medtop:20000523">
    <name xml:lang="en-GB">labour market</name>
    <name xml:lang="de">Arbeitsmarkt</name>
</subject>
<subject type="cpnat:abstract" qcode="medtop:20000533">
    <name xml:lang="en-GB">unemployment</name>
    <name xml:lang="de">Arbeitslosigkeit</name>
</subject>
```

City, State/Province, Country

The <located> element in the <contentMeta> block describes the place where the picture was created. This may be the same location as the event portrayed in the picture, but this cannot be assumed. The location of the event is logically part of the subject matter – the City, State/Province, Country fields in the IPTC Photo Metadata are defined as "the location shown" – so should use the <subject> element. To summarise:

❖ Use <located> to describe where the camera was located when taking the picture.
❖ Use <subject> to describe the location shown in the picture. It is recommended that @type is used to indicate the property identifies a geographical area.

The location shown in the example picture is Las Vegas Boulevard. Child elements of <subject> may be used to add further details, including:

❖ <name> gives the place name in plain text, and

❖ <broader>[1] expresses the concept of Las Vegas Boulevard as part of the broader entity of Las Vegas which in turn is part of broader entities of Nevada state and of the United States.

It is recommended that the nature of the concept is indicated by @type using a value from the IPTC Concept Nature NewsCodes, in this case that the concept identifies a geographical area:

The completed <subject> structure for the geographical information is:

```
<subject type="cpnat:geoArea">
    <name>Las Vegas Boulevard</name>
</subject>
<subject type="cpnat:geoArea" qcode="gycon:89109">
    <name>Las Vegas</name>
    <broader qcode="iso3166-1a2:US-NV">
        <name>Nevada</name>
    </broader>
    <broader qcode="iso3166-1a3:USA">
        <name>United States</name>
    </broader>
</subject>
```

Keywords

QCodes and relationship properties are powerful tools, but keywords are still widely used by picture archives. The G2 <keyword> property is mapped from the "Keywords" field in XMP. The semantics of "keyword" can vary from provider to provider, but should not present problems in the news industry, which is familiar enough with their use:

```
<keyword>business</keyword>
<keyword>economic</keyword>
<keyword>economy</keyword>
<keyword>finance</keyword>
<keyword>poor</keyword>
<keyword>poverty</keyword>
<keyword>gamble</keyword>
```

IPTC Core Schema equivalent: Keywords

Headline, Description

These two IPTC/IIM fields map directly to elements of the same name in NewsML-G2. Both <headline> and <description> also have an optional @role. The IPTC maintains a set of NewsCodes for Description Role (recommended scheme alias "drol"). In this case, as the description is of a photograph, the role will be "caption". Description is a *Block* type element, meaning it may contain line breaks.

Both elements have optional attributes which may be used to support international use: @xml:lang, @dir (text direction):

```
<headline>Variety Of Recessionary Forces Leave Las Vegas
    Economy Scarred</headline>
<description role="drol:caption">A general view of part of downtown,
    including Las Vegas Boulevard, on October 20, 2010 in Las Vegas,
    Nevada. Nevada once had among the lowest unemployment rates in the
    United States at 3.8 percent but has since fallen on difficult times.
    Las Vegas, the gaming capital of America, has been especially hard
    hit with unemployment currently at 14.7 percent and the highest
    foreclosure rate in the nation. Among the sparkling hotels and
    casinos downtown are dozens of dormant construction projects and
    hotels offering rock bottom rates. As the rest of the country slowly
    begins to see some economic progress, Las Vegas is still in the midst
    of the economic downturn. (Photo by Spencer Platt/Getty Images)
</description>
```

IPTC Core Schema equivalent: Headline

Completed <contentMeta>

```
<contentMeta>
    <contentCreated>2010-10-20T19:45:58-04:00</contentCreated>
```

---

[1] <broader> is only available at Power Conformance Level, which is why we set @conformance to "power" in <newsItem>

```
    <creator role="crol:photographer">
       <name>Spencer Platt</name>
       <related rel="crel:isA" qcode="gyibt:staff" />
    </creator>
    <contributor role="ctrol:descrWriter">
       <name>sp/lrc</name>
    </contributor>
    <creditline>Getty Images</creditline>
    <subject type="cpnat:event" qcode="gyimeid:104530187" />
    <subject type="cpnat:abstract" qcode="medtop:20000523">
       <name xml:lang="en-GB">labour market</name>
       <name xml:lang="de">Arbeitsmarkt</name>
    </subject>
    <subject type="cpnat:abstract" qcode="medtop:20000533">
       <name xml:lang="en-GB">unemployment</name>
       <name xml:lang="de">Arbeitslosigkeit</name>
    </subject>
    <subject type="cpnat:geoArea">
       <name>Las Vegas Boulevard</name>
    </subject>
    <subject type="cpnat:geoArea" qcode="gycon:89109">
       <name>Las Vegas</name>
       <broader qcode="iso3166-1a2:US-NV">
          <name>Nevada</name>
       </broader>
       <broader qcode="iso3166-1a3:USA">
          <name>United States</name>
       </broader>
    </subject>
    <keyword>business</keyword>
    <keyword>economic</keyword>
    <keyword>economy</keyword>
    <keyword>finance</keyword>
    <keyword>poor</keyword>
    <keyword>poverty</keyword>
    <keyword>gamble</keyword>
    <headline>Variety Of Recessionary Forces Leave Las Vegas
       Economy Scarred</headline>
    <description role="drol:caption">A general view of part of downtown,
       including Las Vegas Boulevard, on October 20, 2010 in Las Vegas,
       Nevada. Nevada once had among the lowest unemployment rates in the
       United States at 3.8 percent but has since fallen on difficult times.
       Las Vegas, the gaming capital of America, has been especially hard
       hit with unemployment currently at 14.7 percent and the highest
       foreclosure rate in the nation. Among the sparkling hotels and
       casinos downtown are dozens of dormant construction projects and
       hotels offering rock bottom rates. As the rest of the country slowly
       begins to see some economic progress, Las Vegas is still in the midst
       of the economic downturn. (Photo by Spencer Platt/Getty Images)
    </description>
  </contentMeta>
```

Picture data

Binary content is conveyed within the NewsML-G2 <contentSet> wrapper by one or more <remoteContent> elements, enabling multiple alternate renditions of a picture within the same Item.

Remote Content

The <remoteContent> element references objects that exist independently of the current NewsML-G2 Item. In the example there is an instance of <remote Content> for each of the three separate binary renditions of the picture.
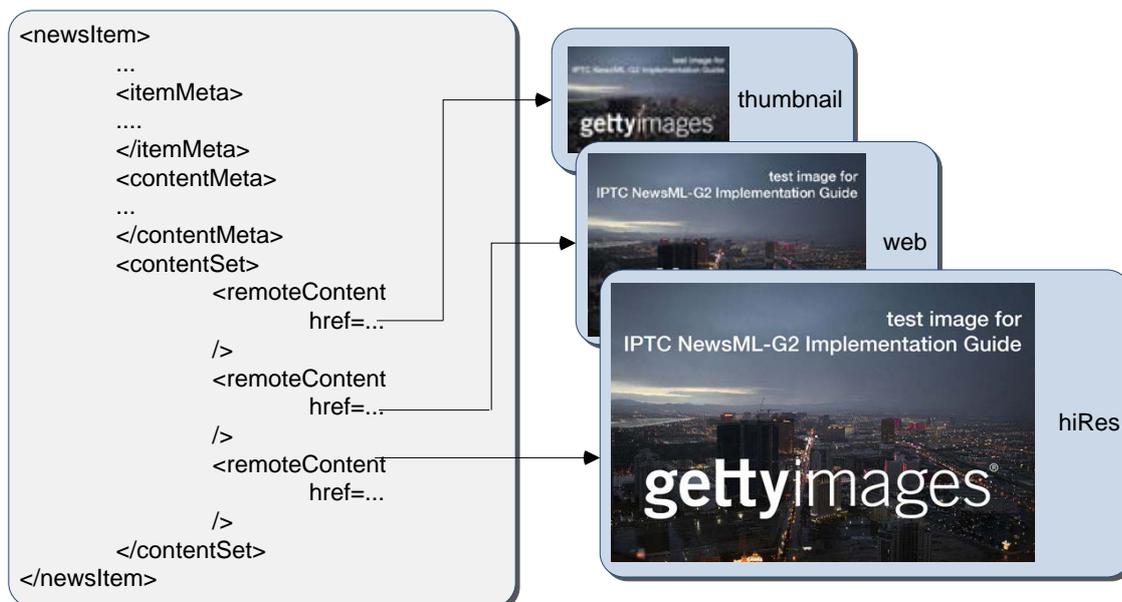
```
<newsItem>
        ...
        <itemMeta>
        ....
        </itemMeta>
        <contentMeta>
        ...
        </contentMeta>
        <contentSet>
                <remoteContent
                        href=...
                />
                <remoteContent
                        href=...
                />
                <remoteContent
                        href=...
                />
        </contentSet>
</newsItem>
```

thumbnail

web

hiRes

Figure 2: Each `<remoteContent>` wrapper references a separate rendition of the binary resource

Each remote content instance contains attributes that conceptually can be split into three groups:

❖ **Target resource attributes** enable the receiver to accurately identify the remote resource, it's content type and size;
❖ **Content attributes** enable the processor to distinguish the different business purposes of the content using @rendition;
❖ **Content Characteristics** contain technical metadata such as dimensions, colour values and resolution.

Frequently used attributes from these groups are described below, but note that the NewsML-G2 XML structure that delimits the groups may not be visible in all XML editors. For details of these attribute groups, see the NewsML-G2 Specification, which can be downloaded from www.newsml-g2.org/spec.

Target Resource Attributes

This group of attributes express administrative metadata, such as identification and versioning, for the referenced content, which could be a file on a mounted file system, a Web resource, or an object within a CMS. G2 flexibly supports alternative methods of identifying and locating the externally-stored content. For this example, the picture renditions are located in the same folder as the NewsML-G2 document.

The two attributes of `<remoteContent>` available to identify and locate the content are Hyperlink (@href) and Resource Identifier Reference (@residref). Either one MUST be used to identify and locate the target resource. They MAY optionally be used together, Their intended use is:

❖ @href *locates* any resource, using an IRI.
❖ @residref *identifies* a *managed* resource, using an identifier that may be globally unique.

Hyperlink (@href)

An IRI, for example:

```
<remoteContent href=" http://example.com/2008-12-20/pictures/foo.jpg"
```

Or (amongst other possibilities):

```
<remoteContent href="file:///./GYI0062134533-web.jpg"
```

Resource Identifier Reference (@residref)

An XML Schema string, such as:

```
<remoteContent residref="tag:example.com,2008:PIX:F0020081220098658"
```

It is up to the provider to specify how @residref may be resolved to retrieve the actual content.

Version

An XML Schema positive integer denoting the version of the target resource. In the absence of this attribute, recipients should assume that the target is the latest available version:

```
<remoteContent href="file:///./GYI0062134533-web.jpg" version="1"
```

Content Type

The MIME type of the target resource:

```
contenttype="image/jpeg"
```

Size

Indicates the size of the target resource in bytes.

```
size="346071"
```

News Content Attributes

This group of attributes of <remoteContent> enables a processor or human-reader to distinguish between different components; in this case the alternative resolutions of the picture. The principal attribute of this group is @rendition, described below.

Rendition

The rendition attribute MUST use a QCode, either proprietary or using the IPTC NewsCodes for rendition, which has a Scheme URI of http://cv.iptc.org/newscodes/rendition/ and recommended Scheme Alias of "rnd" and contains (amongst others) the values that we need: highRes, web, thumbnail. Thus using the appropriate NewsCode, the high resolution rendition of the picture may be identified as:

```
<remoteContent rendition="rnd:highRes"
```

To avoid processing ambiguity, each specific rendition value should be used only once per News Item, except when the same rendition is available from multiple remote locations. In this case, the same value of rendition may be given to several Remote Content elements.

News Content Characteristics

This group of attributes describes the physical properties of the referenced object specific its media type. Text, for example, may use @wordcount). Audio and video are provided with attributes appropriate to streamed media, such as @audiobitrate, @videoframerate. The appropriate attributes for pictures are described below.

Picture Width and Picture Height

The dimension attributes @width and @height are optionally qualified by @dimensionunit, which specifies the units being used. This is a @qcode value and it is recommended that the value is taken from the IPTC Dimension Unit NewsCodes, whose URI is http://cv.iptc.org/newscodes/dimensionunit/ (recommended Scheme Alias is "dimensionunit")

If @dimensionunit is absent, the default units for each content type are:

Content Type	Height Unit (default)	Width Unit (default)
Picture	pixels	pixels
Graphic: Still / Animated	points	points
Video (Analog)	lines	pixels
Video (Digital)	pixels	pixels

As the dimensions of the example picture are expressed in pixels, @dimensionunit is not needed:

```
width="480"
height="2075"
```

Picture Orientation

This indicates that the image requires an orientation change before it can be properly viewed, using values of 1 to 8 (inclusive), where 1 (the default) is "upright": that is the visual top of the picture is at the top, and the visual left side of the picture in on the left.

The application of these orientation values is described in detail in the *News Content Characteristics* section of the NewsML-G2 Specification. (This can be downloaded by visiting https://iptc.org/standards/ and following the link to NewsML-G2.)

The example picture above has an orientation value of 1:

```
width="1500"
height="1001"
orientation="1"
```

Layout Orientation

It is possible to calculate the best way to use a picture in a page layout using the combined technical characteristics of Height, Width and Orientation, but many implementers are reluctant to rely on technical characteristics to make editorial judgements (determining whether a video is SD or HD is another example). The @layoutorientation is a way to express editorial advice on the best way to use a picture in a layout. The value for the example picture is:

```
layoutorientation="loutorient:horizontal"
```

Values in the Layout Orientation Scheme are:

Code	Definition
horizontal	The human interpretation of the top of the image is aligned to the long side.
vertical	The human interpretation of the top of the image is aligned to the short side.
Square	Both sides of the image are about identical, there is no short and long side.
unaligned	There is no human interpretation of the top of the image.

Picture Colour Space

The colour space of the target resource, and MUST use a QCode. The recommended scheme is the IPTC Colour Space NewsCodes (recommended scheme alias "colsp") Note the UK English spelling of colour.

```
colourspace="colsp:AdobeRGB"
```

Colour Depth

The optional @colourdepth indicates using a non-negative integer the number of bits used to define the colour of each pixel in a still image, graphic or video.

```
colourdepth="24"
```

Content Hints

At the Power conformance level, the provider is able to express metadata from the target resource[2] as an aid to processing. In this case, the provider has added an <altId> – an alternative identifier – for the resource.

Alternative identifiers may be needed by customer systems. The <altId> element may optionally be refined using a QCode to describe the context – in this case a "master ID" that is proprietary to the provider. This makes clear the purpose of the alternative identifier. Also note that Alternative Identifiers are useful only to

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[2] It is not mandatory for the metadata to be extracted from the target resource, but it MUST agree with any existing metadata within the target resource.

another application; and not intended to be used by THIS NewsML-G2 processor. The provider MUST tell receivers how to interpret alternative identifiers, otherwise they are meaningless.

```
<altId type="gyiid:masterID">105864332</altId>
```

Note that in this example only the high resolution rendition has an <altId>.

Signal

The signal property instructs the G2 processor to process an Item or its content in a specific way. As a child element of itemMeta, the scope of <signal> is the whole of the document and/or its contents. If alternative renditions of content have specific processing needs, use <signal> as a child element of <remoteContent> to specify the processing instructions.

Completed <remoteContent> wrapper

The <remoteContent> wrapping element in full for the "High Res" picture in the example:

```
<remoteContent rendition="rnd:highRes"
    href="./GYI0062134533.jpg" version="1"
    size="346071" contenttype="image/jpeg" width="1500"
    height="1001" colourspace="colsp:AdobeRGB" orientation="1"
    layoutorientation="loutorient:horizontal">
    <altId type="gyiid:masterID">105864332</altId>
</remoteContent>
```

The Complete Picture

The Listing below is given for completeness. The pictures are identified/located using @href.

Code Listing: Photo in NewsML-G2

All Scheme Aliases used in the listing below indicate IPTC NewsCodes vocabularies, except for the following alias values: *crol, crel, gyibt, ctrol, gyimeid, gycon, gyiid.*

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<newsItem xmlns="http://iptc.org/std/nar/2006-10-01/"
  guid="tag:gettyimages.com,2010:GYI0062134533"
  version="8"
  standard="NewsML-G2"
  standardversion="2.18"
  conformance="power"
  xml:lang="en-US">
  <catalogRef
    href="http://www.iptc.org/std/catalog/catalog.IPTC-G2-Standards_27.xml" />
  <catalogRef href="http://cv.gettyimages.com/nml2catalog4customers-1.xml" />
  <rightsInfo>
    <copyrightHolder uri="http://www.gettyimages.com">
      <name>Getty Images North America</name>
    </copyrightHolder>
    <copyrightNotice
      href="http://www.gettyimages.com/Corporate/LicenseInfo.aspx">
        Copyright 2010 Getty Images. --
        http://www.gettyimages.com/Corporate/LicenseInfo.aspx
    </copyrightNotice>
    <usageTerms>Contact your local office for all commercial or
      promotional uses. Full editorial rights UK, US, Ireland, Canada (not
      Quebec). Restricted editorial rights for daily newspapers elsewhere,
      please call.</usageTerms>
  </rightsInfo>
  <itemMeta>
    <itemClass qcode="ninat:picture"/>
    <provider qcode="nprov:GYI" >
      <name>Getty Images Inc.</name>
    </provider>
    <versionCreated>2015-11-12T06:42:04Z </versionCreated>
    <firstCreated>2010-10-20T20:58:00Z</firstCreated>
  </itemMeta>
  <contentMeta>
    <contentCreated>2010-10-20T19:45:58-04:00</contentCreated>
    <creator role="crol:photographer">
      <name>Spencer Platt</name>
      <related rel="crel:isA" qcode="gyibt:staff" />
    </creator>
```

```xml
        <contributor role="ctrol:descrWriter">
            <name>sp/lrc</name>
        </contributor>
        <creditline>Getty Images</creditline>
        <subject type="cpnat:event" qcode="gyimeid:104530187" />
        <subject type="cpnat:abstract" qcode="medtop:20000523">
            <name xml:lang="en-GB">labour market</name>
            <name xml:lang="de">Arbeitsmarkt</name>
        </subject>
        <subject type="cpnat:abstract" qcode="medtop:20000533">
            <name xml:lang="en-GB">unemployment</name>
            <name xml:lang="de">Arbeitslosigkeit</name>
        </subject>
        <subject type="cpnat:geoArea">
            <name>Las Vegas Boulevard</name>
        </subject>
        <subject type="cpnat:geoArea" qcode="gycon:89109">
            <name>Las Vegas</name>
            <broader qcode="iso3166-1a2:US-NV">
                <name>Nevada</name>
            </broader>
            <broader qcode="iso3166-1a3:USA">
                <name>United States</name>
            </broader>
        </subject>
        <keyword>business</keyword>
        <keyword>economic</keyword>
        <keyword>economy</keyword>
        <keyword>finance</keyword>
        <keyword>poor</keyword>
        <keyword>poverty</keyword>
        <keyword>gamble</keyword>
        <headline>Variety Of Recessionary Forces Leave Las Vegas
            Economy Scarred</headline>
        <description role="drol:caption">A general view of part of downtown, including
            Las Vegas Boulevard, on October 20, 2010 in Las Vegas, Nevada. Nevada once
            had among the lowest unemployment rates in the United States at 3.8 percent
            but has since fallen on difficult times. Las Vegas, has been especially hard
            hit with unemployment currently at 14.7 percent. Among the sparkling hotels
            and casinos downtown are dozens of dormant construction projects and hotels
            offering rock bottom rates. As the rest of the country slowly begins to see
            some economic progress, Las Vegas is still in the midst of the economic
            downturn. (Photo by Spencer Platt/Getty Images)
        </description>
    </contentMeta>
    <contentSet>
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            size="346071" contenttype="image/jpeg" width="1500"
            height="1001" colourspace="colsp:AdobeRGB" orientation="1"
            layoutorientation="loutorient:horizontal">
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        </remoteContent>
        <remoteContent rendition="rnd:web"
            href="file:///./GYI0062134533-web.jpg" version="1"
            size="28972" contenttype="image/jpeg" width="480"
            height="320" colourspace="colsp:AdobeRGB" orientation="1"
            layoutorientation="loutorient:horizontal">
        </remoteContent>
        <remoteContent rendition="rnd:thumb"
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            size="6381" contenttype="image/gif" width="80"
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        </remoteContent>
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</newsItem>
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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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If you have any questions about the terms, please contact the managing director of the International Press Telecommunication Council. Contact details of the IPTC are listed below.

While every care has been taken in creating this document, it is not warranted to be error-free, and is subject to change without notice. Check for the latest version of this Document and applicable G2 Standards and Documentation by visiting www.newsml-g2.org/doc. The version of NewsML-G2 covered by this document is 2.21.

Contacting the IPTC

IPTC, International Press Telecommunications Council
Web address: www.iptc.org
Follow us on Twitter: @IPTC and @IPTCupdates
Email: office@iptc.org
Business address
25 Southampton Buildings
London WC2A 1AL
United Kingdom

The company is registered in England at 10 Portland Business Centre, Datchet, Slough, Berks, SL3 9EG
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