FEDERAL METADATA COORDINATORS’ WEBINAR:
ISO GEOSPATIAL METADATA IMPLEMENTATION

Day One
Metadata Components

Tuesday
April 16, 2013
12:00-4:00 PM
XML enables the creation of fixed ‘snippets’ of metadata:

- Contacts
- Data Processing
- Application Schemas (data models)
- Sources
- Distribution Methods
- Symbology
- Features
- and more...

- Known as components, the content can be referenced by or included in multiple metadata records

- Components support:
  - Consistency in content
  - Single point for edits
  - Organizational or ‘enterprise’ metadata
Creating Components

- Components are created as stand alone pieces of ISO XML metadata.

- A link to the component is embedded into the full metadata record using XML Linking Language (XLink):
  - `href xlink` is the component location (URL)
  - `title xlink` is the human readable name for the component
ISO Attributes

**XLinks**

The XML Linking Language (**XLink**) allows elements to be inserted into XML documents in order to create and describe links between resources, similar to HTML hyperlinks. Linking elements are recognized based on the use of a designated attribute named `xml:link` and a set of accompanying global attributes. The global attributes are `type`, `href`, `role`, `arcrole`, `title show`, and `actuate`. If an XLink is used, the following ISO component is not used.
The value of the href attribute in linking elements contains a locator that identifies a resource, e.g., by a URI-reference or by an XPointer specification.

The xlink href attribute is used to reference a component, and the xlink title attribute is used to apply a human understandable name to the component. Components are snippets of XML describing a specific piece of metadata content, such as information about people, websites, documents, archives, instruments, etc.

XLinks can be used to reference a component from an unresolved metadata record (unresolved meaning that the metadata record contains xlinks).
Metadata Components

Unresolved Component

```xml
```

Resolved Component

```xml
<gmd:contact xlink:title="NOAA/OAR/OER - Ocean Exploration and Research">
  <gmd:organisationName>
    <gco:CharacterString>NOAA/OAR/OER - Ocean Exploration and Research</gco:CharacterString>
  </gmd:organisationName>
  <gmd:contactInfo>
    <gmd:CI_Contact>
      <gmd:phone>
        <gmd:CI_Telephone>
          <gmd:voice>
            <gco:CharacterString>301-713-9444</gco:CharacterString>
          </gmd:voice>
        </gmd:CI_Telephone>
      </gmd:phone>
    </gmd:CI_Contact>
  </gmd:contactInfo>
</gmd:organisationName>
```
Components should be stored at a well-known and easily accessed central location

- Location within the organization
  - Limits access
  - Provides control, e.g. records should be resolved prior to publication

- Location external to the organization
  - Enables others to resolve records if the detailed information is needed
Docucomp is a NOAA managed web application for managing XML components.

Components are stored in a database and managed with REST web services:
- REST services support insert, search, update and delete operations

Docucomp GUI
- [https://www.ngdc.noaa.gov/docucomp/](https://www.ngdc.noaa.gov/docucomp/)