Stage three: #647 Replace classification domain with a new attribute

Replace classification domain with a new attribute: @subjectrefs

Champion
Kristen James Eberlein, Eberlein Consulting LLC

Tracking information: Stage two

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial suggestion</td>
<td>E-mail, 09 December 2021</td>
<td>Minutes, 04 January 2022</td>
</tr>
<tr>
<td>Stage 1 proposal accepted</td>
<td>11 January 2022</td>
<td>Minutes, 11 January 2022 GitHub issue</td>
</tr>
<tr>
<td>Stage 2 proposal submitted to TC for early feedback (not applicable to all proposals)</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Stage 2 proposal submitted to reviewers</td>
<td>E-mail, 07 March 2022</td>
<td>Carsten Brennecke, SAP Gershon Joseph, Precision Content I've also requested feedback from the following members of the larger DITA community: • Peyton Bentley, Kaplan • Joe Gelb, Zoomin Software • Pam Noreault, Ellucian • Shane Taylor, Cengage Group</td>
</tr>
<tr>
<td>Stage 2 proposal submitted to TC</td>
<td>E-mail, 17 March 2022 E-mail, 29 March 2022</td>
<td></td>
</tr>
<tr>
<td>Stage 2 proposal discussed by TC</td>
<td>22 March 2022 29 March 2022</td>
<td>Minutes, 22 March 2022 Minutes, 29 March 2022</td>
</tr>
<tr>
<td>Stage 2 proposal approved by TC</td>
<td>05 April 2022</td>
<td>Minutes, 05 April 2022</td>
</tr>
<tr>
<td>Stage 2 proposal reopened</td>
<td>24 May 2022 The proposal was reopened to allow @subjectrefs on &lt;map&gt;.</td>
<td></td>
</tr>
<tr>
<td>Revised stage 2 proposal submitted to reviewer</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Revised stage 2 proposal submitted to TC</td>
<td>E-mail, 26 May 2022 E-mail, 29 May 2022</td>
<td></td>
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<tr>
<td>Revised stage 2 proposal approved</td>
<td>31 May 2022</td>
<td>Add link to “Minutes, 31 May 2022”</td>
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</table>
**Tracking information: Stage three**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Links or notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 3 proposal submitted to reviewers</td>
<td>E-mail, 04 June 2022</td>
<td>Robert Anderson, Oracle&lt;br&gt;Carsten Brennecke, SAP&lt;br&gt;Gershon Joseph, Precision Content&lt;br&gt;Eliot Kimber, ServiceNow</td>
</tr>
<tr>
<td>Stage 3 proposal submitted to TC</td>
<td>&lt;xref to e-mail sent to list&gt;</td>
<td>&lt;xref to meeting minutes where discussed&gt;</td>
</tr>
<tr>
<td>Stage 3 proposal discussed</td>
<td>&lt;Date&gt;</td>
<td>&lt;xref to meeting minutes where discussed&gt;</td>
</tr>
<tr>
<td>Stage 3 proposal approved</td>
<td>&lt;Date&gt;</td>
<td>&lt;xref to meeting minutes where discussed&gt;</td>
</tr>
</tbody>
</table>

**Approved technical requirements**

Remove the classification domain and the classification map. Add a new attribute, `@subjectrefs`, to the `<topicref>` element and specializations of `<topicref>`, as well as `<map>` and specializations of `<map>`. This includes both elements in the base and the technical content edition.

*Note*  The `@subjectrefs` attribute has no meaning if it is specified on a key definition that does not reference a resource.

The `@subjectrefs` attribute will have the following characteristics:

- It will cascade.
- It will take multiple values, separated by white space. The values are one or more keys, defined in a subject scheme map.

While the DITA TC does not want to introduce any processing expectations for `@subjectrefs` in the DITA 2.0 time frame, it is possible that we will introduce them in the future.

**Dependencies or interrelated proposals**

None.

**Removed grammar files**

The following grammar files need to be removed. In addition, the catalog files that currently reference the following files will need to be modified.

**Base**

- doctypes/dtd/subjectScheme/classifyDomain.ent
- doctypes/dtd/subjectScheme/classifyDomain.mod
- doctypes/rng/subjectScheme/classifyDomain.rng

**Technical content**

- doctypes/dtd/classificationMap directory
- doctypes/rng/classificationMap directory

The classification domain and the document-type shell for a base classification map will be loaded into the GitHub repository for specializations that are removed from the DITA standard.
Modified grammar files

This proposal will require modifications to the following files:

**Base edition**
- dtd/base/map.mod
- dtd/base/mapGroup.mod
- rng/base/map.rng
- rng/base/mapGroupDomain.rng

**Technical content edition**
- dtd/technicalContent/glossrefDomain.mod
- rng/technicalContent/glossrefDomain.mod

No changes are required to the bookmap grammar files, since the relevant attribute definitions reference the topicref attribute entities that are defined in the base grammar files.

In the content below, the following conventions are used:
- Bold is used to indicate code to be added, for example, **addition**.
- Line-through and red text is used to indicate code to be removed, for example, **removal**.
- Ellipses (...) indicate where code is snipped for brevity.

**Figure 1: Changes to map.mod**

```xml
<!ENTITY % topicref-atts "...subjectrefs CDATA #IMPLIED"
>
...
<!ENTITY % topicref-atts-without-format "...subjectrefs CDATA #IMPLIED"
>
```

**Figure 2: Changes to mapGroup.mod**

```xml
<!ENTITY % keydef.attributes "...subjectrefs CDATA %univ-atts;"
>
```

**Figure 3: Changes to mapMod.rng**

```xml
<define name="topicref-atts">
  ...
  <optional>
    <attribute name="subjectrefs"/>
  </optional>
</define>
...
<define name="topicref-atts-without-format">
```
Modified terminology
Not applicable

Modified specification documentation
The following topics need to be removed or modified:

Topics and maps to be removed

- archSpec/base/classification-maps.dita
- langRef/classification-domain-elements.ditamap
- langRef/containers/classify-d.dita
- langRef/base/subjectCell.dita
- langRef/base/subjectref.dita
- langRef/base/subjectref.dita
Architectural topics and maps to be modified

<table>
<thead>
<tr>
<th>File</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>cascading-in-a-ditamap.dita</td>
<td>Add @subjectrefs to the list of attributes that cascade.</td>
</tr>
<tr>
<td>cascading-of-attributes-from-map-to-map.dita</td>
<td>Add @subjectrefs to the list of attributes that cascade from map to map.</td>
</tr>
<tr>
<td>subjectSchema.dita</td>
<td>Remove the following sentence: &quot;In conjunction with the classification domain, subject definitions can be used for retrieval and traversal of the content at run time when used with information viewing applications that provide such functionality.&quot;</td>
</tr>
<tr>
<td>subject-scheme-maps.ditamap</td>
<td>Remove reference to classification-maps.dita. Add references to new topics:</td>
</tr>
<tr>
<td></td>
<td>• The subjectrefs attribute (6)</td>
</tr>
<tr>
<td></td>
<td>• Example: A subject scheme map used to define taxonomic subjects (6)</td>
</tr>
<tr>
<td>example-cascade-map-to-map-attributes.dita</td>
<td>Modify the content as shown in Example: How attributes cascade from one map to another (7). Modified content is marked with rev=&quot;proposal-647&quot; and highlighted with blue in the PDF for this proposal.</td>
</tr>
</tbody>
</table>

Element-reference topics and maps to be modified

The following attribute definition for @subjectrefs will need to be added to the appropriate attribute topic:

Specifies one or more subject keys that are defined in a subject scheme map. Multiple values are separated by white space.

Base edition

The following topics will need to include the @subjectrefs attribute:

- <keydef>
- <map>
- <mapref>
- <topichead>
- <topicgroup>
- <topicref>

This might happen automatically depending on what attribute "grouping" the @subjectrefs attribute is part of.

Comment by Kristen J Eberlein on 04 June 2022
Technical content edition

The following topics will need to include the @subjectrefs attribute:

- <glossref>
- All bookmap elements that are defined with the topicref-atts entity

This might happen automatically depending on what attribute "grouping" the @subjectrefs attribute is part of.

Topics to be added

The following topics are to be added to the "DITA map processing" chapter, in the "Subject scheme maps and their usage" section:

- The subjectrefs attribute (6)
- Example: A subject scheme map used to define taxonomic subjects (6)

Migration plans for backwards incompatibilities

Implementations that use the classification domain and classification map will need to do one of the following, if they want to move to DITA 2.0:

- Download the classification domain from the GitHub repository and integrate it into the relevant document-type shells. If the implementation currently uses the OOB OASIS-provided document-type shell for the classification map, they will need to move to using a custom document-type shell.
- Replace map markup that uses the classification domain with the new @subjectrefs attribute, as well as modifying any processing that is based on the classification domain.

The @subjectrefs attribute

The @subjectrefs attribute specifies one or more keys that are defined by a subject definition in a subject scheme map. Multiple values are separated by white space.

The @subjectrefs attribute cascades. It can be used on a <topicref> element to associate the referenced topic with a subject defined in a subject scheme map.

The @subjectrefs attribute has no meaning if it is specified on a key definition that does not reference a resource.

Example: A subject scheme map used to define taxonomic subjects

A subject scheme map can be used to define taxonomic subjects. Once defined, the subjects can be referenced by applying a @subjectrefs attribute to a <topicref> element.

The following subject scheme map defines a set of subjects that are used to classify content:

```xml
<subjectScheme>
  <subjectdef keys="content-types">
    <subjectdef keys="conceptual-material"/>
    <subjectdef keys="reference"/>
    <subjectdef keys="tutorial"/>
  </subjectdef>
  <subjectdef keys="operating-systems">
    <subjectdef keys="linux"/>
    <subjectdef keys="macosx"/>
    <subjectdef keys="windows"/>
  </subjectdef>
</subjectScheme>
```
The keys assigned to the subject definitions can be referenced by specifying the @subjectrefs attribute on topic references in a navigation map:

```xml
<map>
  <title>User assistance for the Acme Widget</title>
  <!-- ... -->
  <topicref keyref="install-overview" subjectrefs="installing">
    <topicref keyref="install-linux"/>
    <topicref keyref="install-macosx"/>
    <topicref keyref="install-windows"/>
    <topicref keyref="install-troubleshooting" subjectrefs="troubleshooting"/>
  </topicref>
  <!-- ... -->
</map>
```

Because the @subjectrefs attribute cascades, the effective value of the above markup is the same as the following markup:

```xml
<map>
  <title>User assistance for the Acme Widget</title>
  <!-- ... -->
  <topicref keyref="install-overview" subjectrefs="installing">
    <topicref keyref="install-linux" subjectrefs="installing"/>
    <topicref keyref="install-macosx" subjectrefs="installing"/>
    <topicref keyref="install-windows" subjectrefs="installing"/>
    <topicref keyref="install-troubleshooting" subjectrefs="installing troubleshooting"/>
  </topicref>
  <!-- ... -->
</map>
```

**Example: How attributes cascade from one map to another**

In this scenario, attributes in one map cascade to a nested map.

**Assume the following references in test.ditamap:**

```xml
<map>
  <topicref href="a.ditamap" format="ditamap" toc="no"/>
  <mapref href="b.ditamap" audience="developer"/>
  <mapref href="c.ditamap#branch2" platform="myPlatform"/>
  <mapref href="d.ditamap" subjectrefs="puzzles"/>
</map>
```

- The map a.ditamap is treated as if toc="no" is specified on the root <map> element. This means that the topics that are referenced by a.ditamap do not appear in the navigation generated by test.ditamap, except for branches within the map that explicitly set toc="yes".
- The map b.ditamap is treated as if audience="developer" is set on the root <map> element. If the @audience attribute is already set on the root <map> element within b.ditamap, the value "developer" is added to any existing values.
- The element with id="branch2" within the map c.ditamap is treated as if platform="myPlatform" is specified on that element. If the @platform attribute is already specified on the element with id="branch", the value "myPlatform" is added to existing values.
• The map `d.ditamap` is treated as if `subjectrefs="puzzles"` is set on the root `<map>` element. If the `@subjectrefs` attribute is already set on the root `<map>` element within `d.ditamap`, the value "puzzles" is added to any existing values.