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## Stage two (revised): #29 <bookmap> update

Revise book map design to remediate problems but avoid breaking backwards compatibility.

### Date and version information

This proposal includes the following information:

#### Date that this feature proposal was completed

08 October 2019

#### Champion of the proposal

Kristen James Eberlein, Eberlein Consulting LLC

#### Links to any previous versions of the proposal

There were several earlier versions of this stage two proposal:

- [26 February 2018](#)
- [04 February 2019](#)
- [19 February 2019](#) (approved by TC)

#### Links to minutes where this proposal was discussed at stage 1 and moved to stage 2

[Minutes, 23 May 2017](#)

#### Reviewers for stage two proposal

Dawn Stevens, Comtech Services, Inc

Nancy Harrison, Individual member

#### Links to e-mail discussion that resulted in new versions of the proposal

The following e-mails resulted in this stage two proposal, approved 19 February 2019, being revised and resubmitted to the DITA TC:

Date	Author	Title	Date discussed at TC meeting
18 September 2019	Kristen James Eberlein	<a href="#">Question about issue 29 "Bookmap update"</a>	<a href="#">01 October 2019</a>
19 September 2019	Kristen James Eberlein	<a href="#">Concerns about issue #29 "Bookmap updates"</a>	<a href="#">01 October 2019</a>
01 October 2019	Kristen James Eberlein	<a href="#">Bookmap updates and the glossary reference domains</a>	08 October 2019
01 October 2019	Kristen James Eberlein	<a href="#">Info from minutes about adding glossary reference domain to bookmap</a>	08 October 2019
02 October 2019	Kristen James Eberlein	<a href="#">How best to handle &lt;mapresources&gt;</a>	08 October 2019
07 October 2019	Kristen James Eberlein	<a href="#">Integrate glossary reference domain into bookmap?</a>	08 October 2019
07 October 2019		<a href="#">Content model and attributes for &lt;mapresources&gt;</a>	08 October 2019

On 08 October 2019, the DITA TC decided that the issue of integrating the glossary reference domain into bookmap should be considered as part of a separate proposal that focuses on glossary design.

### Link to the GitHub issue

[#29 Modify bookmap design](#)

## Original requirement or use case

The requirements and use cases for this proposal were part of a larger discussion about bookmap, its deficits, and the development of a new publication map that began in early 2017. For excerpts from all TC meetings minutes that pertained to this discussion, see this [PDF](#).

E-mails that specifically pertained to remediating the bookmap design include the following:

Date	Author	Requirement or use case
21 February 2017	Eric Sirois, IXIASOFT	<a href="#">Limitations for keyref and ditavalref in bookmap</a>
21 February 2017	Eric Sirois, IXIASOFT	<a href="#">Allow keyref in more natural position in bookmap</a>
22 May 2017	Chris Nitchie, Oberon Technologies	<a href="#">Allow &lt;ditavalref&gt; before &lt;frontmatter&gt;</a>
05 April 2018	Stefan Eike on dita-comment list	<a href="#">Allow &lt;amendments&gt; in &lt;booklists&gt;</a>
25 April 2018	Eliot Kimber, Individual member	<a href="#">Bookmap does not include glossary reference domain</a>

## Use cases

This proposal will enable map authors to:

### Apply a DITAVAL to the entire bookmap

The DITA design for bookmap and the DITAVALref domain makes it impossible for map authors to specify a DITAVAL that applies to the entire bookmap. In order for a <ditavalref> element to apply to the bookmap as a whole, the <ditavalref> element needs to be present at the root of the bookmap; this is not permitted in the DITA 1.x design of bookmap.

### Specify resource-only objects in an intuitive location

The design for bookmap, developed for DITA 1.1, does not include an intuitive location for map authors to specify resource-only objects, such as:

- Key definitions
- Subject scheme maps
- Topics that contains information used for the rendering of PDF cover pages

Adding a wrapper element with @processing-role set to resource-only will add a clear location for map authors to add resource-only objects. This element will be a direct child of <bookmap>.

### Specify that a list of updates should be auto-generated

DITA 1.3 introduced the release management domain, which enables authors to add change information to topics and maps. Some implementations developed plug-ins to harvest this information and generate a list of updates, but were stymied by the lack of a clear way to indicate in a bookmap that that a list of updates should be generated.

Adding <amendments> to <booklists>, which is available in both front and back matter will address this issue.

## New terminology

None

## Proposed solution

- Modify the content model of <bookmap> to allow zero or more <ditavalref> elements after <bookmeta>
- Add a <mapresources> element to the map group domain. This element will:
  - Be specialized from <topicref>
  - Have a content model of:
    - Zero or one <topicmeta> elements
    - Zero or more %data.elements.incl; elements
    - Zero or more <topicref> elements
  - Have the following attributes: @href, @keys, @keyref, @keyscope, @processing-role, @type, @cascade, @scope, @format, @linking, @toc, @search, and %univ-atts; attributes
  - The attributes should have the same values as <keydef>, with the following exceptions:
    - @processing-role set to resource-only
    - @keys attribute is not required
- Modify the content model of <bookmap> to allow zero or more <mapresources> elements after <ditavalref>
- Modify the content model of <booklists> to allow zero or more <amendments>

**Note** This solution adds hard dependencies on two domains to the bookmap module: DITAVAlref and map group. This is something that the TC has not previously done in document-type shells and will need to be clearly documented and explained to DITA practitioners.

## Benefits

This proposal addresses the following questions:

### Who will benefit from this feature?

Information architects and map authors.

### What is the expected benefit?

- An easier-to-use bookmap that enables information architects and map authors to:
  - Apply a DITAVAl to the entire bookmap
  - Locate key definitions, subject scheme, and other resource-only objects in an intuitive location
  - Indicate to processors where an auto-generated change list should be generated
- A more robust map group domain, that includes a convenience element for containing resource-only object

### How many people probably will make use of this feature?

Many or most bookmap authors; many map users

### How much of a positive impact is expected for the users who will make use of the feature?

Significant

## Technical requirements

This proposal involves the following changes:

### Adding an element

This proposal will add a `<mapresources>` element to the map group domain. This element will:

- Serve as a wrapper element to hold key definitions, subject schemes, and other resource-only objects
- Have the `@processing-role` attribute set to resource-only
- Be specialized from `<topicref>` and be available where ever `<topicref>` is permitted

The `<mapresources>` element will not contain any translatable text.

### Refactoring an element

The content models of two elements defined in the bookmap module will be modified:

#### `<bookmap>`

- Zero or more `<ditavalref>` elements allowed after `<bookmeta>`
- Zero or more `<mapresources>` elements allowed after `<ditavalref>`

#### `<booklists>`

An `<amendments>` element will be permitted after `<abbrevlist>` and before `<bibliolist>`

### Processing impact

None

### Overall usability

Improved usability for current and future users

## Backwards compatibility

This proposal addresses the following questions:

### Was this change previously announced in an earlier version of DITA?

No

### Removing a document type that was shipped in DITA 1.3?

No

### Removing a domain that was shipped in DITA 1.3?

No

### Removing a domain from a document type shell was shipped in DITA 1.3?

No

### Removing or renaming an element that was shipped in DITA 1.3?

No

### Removing or renaming an attribute that was shipped in DITA 1.3?

No

### Changing the meaning of an element or attribute in a way that would disallow existing usage?

No

### Changing a content model by removing something that was previously allowed, or by requiring something that was not?

No

### Changing specialization ancestry?

No

### Removing or replacing a processing feature that was defined in DITA 1.3?

No

### Are element or attribute groups being renamed or shuffled?

No

## Migration plan

Not applicable

## Costs

This proposal has a (time and effort) impact on the following groups:

### Maintainers of the grammar files

The following files will need to be modified:

- DTDS:
  - bookmap.dtd
  - bookmap.mod
  - mapGroup.mod
  - mapGroup.ent
- RNG:
  - bookmap.rng
  - bookmapMod.rng
  - mapGroupDomain.rng

### Note

The following comment must be added to the bookmap document-type shells.

```
<!-- Do not remove references to the map group or DITAVAlref -->  
<!-- domains. The bookmap specialization requires these domains. -->
```

### Editors of the DITA specification

The changes to the DITA specification will be minor to medium:

- A new `<mapresources>` topic
- A new topic for the "Examples of constraints" section. This topic will illustrate how a DITA practitioner would modify a bookmap document-type shell to remove the DITAVAlref domain from the extension elements.
- Adding `<mapresources>` to the "DITA elements, A to Z" topic
- Updates to the "Example" section in the `<bookmap>` topic to show usage of `<mapresources>` and usage of `<amendments>` within `<booklists>`
- Updates to the `<amendments>` topic to explain processing expectations for an `<amendments>` element that does not reference a resource
- Updates to the short description in the `<booklists>` topic

**Comment by Kristen J Eberlein on 01 October 2019**

## Do we need to make any modification to "Constraints" topics?

This proposal does not require changes to either the specification information architecture or terminology.

### Vendors of tools

Tools that render DITA maps will need to modify their CSS or XSLT to specify how the `<mapresources>` element is rendered.

### DITA community-at-large

The changes to bookmap and the map group domain should not add to a perception of DITA complexity. The changes should be simple and intuitive for end users to understand.

### Producing migration instructions or tools

Not applicable

## Examples

This section provides examples of the new markup enabled by this proposal.

### Figure 1: Applying a DITAVAL to an entire bookmap

The following code sample shows how a bookmap can specify a `<ditavalref>` element that applies to the entire bookmap:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE bookmap PUBLIC "-//OASIS//DTD DITA 2.0 BookMap//EN" "bookmap.dtd">
<bookmap>
  <booktitle>
    <mainbooktitle>Test publications</mainbooktitle>
  </booktitle>
  <ditavalref href="test.ditaval"/>
  ...
</bookmap>
```

### Figure 2: Specifying resource-only objects in an intuitive location in a book map

The following code sample illustrate how the new `<mapresources>` element can group references to key definitions, subject schemes, and other resources in a bookmap:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE bookmap PUBLIC "-//OASIS//DTD DITA 2.0 BookMap//EN" "bookmap.dtd">
<bookmap>
  <booktitle>
    <mainbooktitle>Test bookmap</mainbooktitle>
  </booktitle>
  <mapresources>
    <mapref href="key-definitions.ditamap"/>
    <mapref href="subject-scheme.ditamap" type="subjectscheme"/>
    <topicref href="cover-page.dita"/>
  </mapresources>
  ...
</bookmap>
```

### Figure 3: Specifying resource-only objects in a map

The following code sample shows a map that contains information for a specific model of a controller. This map is referenced in an omnibus publication that contains information for an entire family of controllers.

```
<map keyscope="model-XNP09">
  <title>Model XNP09</title>
```

```

<mapresources>
  <keydef keys="model-illustration" href="model-XNP09.png" format="png"/>
  <keydef keys="remove-cover" href="remove-cover-XNP09.png" format="png"/>
</mapresources>
<topicref href="model-overview"/>
<topicref href="installing"/>
<topicref href="uninstalling"/>
...
</map>

```

**Figure 4: Indicating that a processor should generate a list of changes**

The following code sample specifies that a processor should auto-generate a list of changes and render it at the location of the `<amendments>` element:

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE bookmap PUBLIC "-//OASIS//DTD DITA 2.0 BookMap//EN" "bookmap.dtd">
<bookmap>
  <booktitle>
    <mainbooktitle>Test bookmap</mainbooktitle>
  </booktitle>
  <frontmatter>
    <booklists>
      <amendments/>
    </booklists>
  </frontmatter>
  ...
</bookmap>

```

If the `<amendments>` element specifies a DITA resource, then processors will use that as source for the change list.