

NetworkedPlanet

Topic Map Update Service: A Lightweight Syntax

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Introduction

This document describes a lightweight syntax for describing updates to a topic map. It describes the different XML elements and the interpretation of these elements by an application.

Scope and Usage

This syntax is designed to address a certain set of use cases and at the moment is not supported as part of the TMCORE product. Future releases of the product will support an XML update service that is semantically equivalent but may differ in some aspects of the syntax. It is expected that any applications developed to use this syntax can be easily adapted to the final update service syntax.

This syntax does not provide the full power to update and manage all aspects of the topic map model.

Syntax and Interpretation

transaction

```
<transaction topicmap="topic-map-name">
```

The root element is called *transaction* and is used to contain all of the updates that are to be made to the topicmap. The element has a single required attribute called *topicmap* this must be the name of a valid topicmap to which all the changes described will be applied.

assign-property

```
<assign-property topicPSI="URI " typePSI="URI " scope="URI" >  
  <!--Property Value -->  
</assign-property>
```

The assign property element defines how topic occurrences are updated.

The required *topicPSI* property indicates the topic to which the property should be added or updated. The value supplied must be an URI that identifies a topic. If no topic exists for this topic then it is automatically created. Thus the only way to create a topic is to assign a property to it.

The required *typePSI* indicates the occurrence type and the optional *scope* property indicates the signature of the occurrence to be added or updated. If no property of that type and scope exists then a new occurrence is created. If any properties of this type and scope exist then they should all be removed before a new one is added. Thus, this syntax is not suitable for updating topics that have multiple occurrences of the same type.

The *PropertyValue* is simply the value that is assigned to the *ResourceData* property of the occurrence that is created.

add-assoc

```
<add-assoc
  assocTypePSI="URI "
  scopePSI="URI "
  srcTopicIdentity="URI "
  srcRoleTypePSI="URI "
  targetTopicIdentity="URI "
  targetRoleTypePSI="URI " />
```

The *add-assoc* element is used to describe how a binary association is to be added to the topic map.

The *assocTypePSI* is a URI that identifies the topic that should be the association type.

The *scopePSI* is a URI that identifies the scoping topic of the association. (Not all associations have scope, so this property may be null or empty).

The *srcTopicIdentity* is a URI that identifies the topic that is one of the role players in the association. It is linked to the *srcRoleTypePSI*, which is used to identify the role type for the role player.

The *targetTopicIdentity* and the *targetRoleTypePSI* are the mirror topic identifiers for the other role in the association.

If the *srcTopicIdentity* and the *targetTopicIdentity* do not reference existing topics then they are created. If any of the types, role types or association types are not present then an exception is thrown.

delete-assoc

```
<delete-assoc
  assocTypePSI="URI "
  scopePSI="URI "
  srcTopicIdentity="URI "
  srcRoleTypePSI="URI "
  targetTopicIdentity="URI "
  targetRoleTypePSI="URI " />
```

This element defines that a binary association that matches the pattern described should be deleted from the topic map.

All the attributes refer by a URI to a topic in the topic map. If any of the topics are not present then an exception is thrown.

delete-topic

```
<delete-topic topicIdentity="URI" />
```

This element specifies that a given topic should be removed from the topic map. This action removes all associations in which the topic plays a role and removes the topic from being an instance of a type.

If the topic is used in any other way then an exception is thrown.

Summary

This document provides a syntax and the intended interpretation for a set of lightweight operations for updating a topic map.

History

RevNo	Date	Comment	Changed by
1.0	17.06.06	Initial	Åsmund Mæhle
1.1	07.05.09	Added scopePSI property to association	Svein Inge Carlsen