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**AtomTriples: Embedding RDF Statements in Atom
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Abstract

This specification describes AtomTriples, a set of Atom extension elements for embedding RDF statements in Atom documents (both element and feed), and declaring how they can be derived from existing content.

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1. Introduction

This specification describes AtomTriples, a set of Atom [\[RFC4287\]](#) extension elements for embedding RDF [\[W3C.WD-rdf-syntax-grammar-20031010\]](#) statements in Atom documents (both element and feed), as well as declaring how they can be derived from existing content.

Statements can be embedded directly as RDF/XML using the `at:md` element at the feed or entry level. Additionally, a feed can declare that specific Atom elements (or extensions) can be parsed into RDF statements using the `at:feedmap` element (for metadata attached to a feed) or an `at:entrymap` element (for metadata attached to entries).

The semantics of a property that appears in both places (e.g., in a feed-level `at:md` as well as derived from a `at:feedmap`) is undefined; presumably, they would be added to the model as two separate statements.

Likewise, the mechanics of combining metadata from multiple instances of the same entry, or from multiple feed documents, is out of the scope of this specification.

2. Notational Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [\[RFC2119\]](#).

All XML elements in this specification use the the namespace URI [\[W3C.REC-xml-names-19990114\]](#) "`http://purl.org/syndication/atomtriples/1`". In this document, that URI is mapped to the "at" prefix.

Unless specified otherwise, AtomTriples elements MAY contain foreign markup, which SHOULD be handled according as it is in the Atom syndication format.

3. Embedded Statements

RDF statements can be directly embedded in Atom feeds and entries as RDF/XML using the `at:md` element.

3.1. The `at:md` Element

The `at:md` element MAY occur as a child of `atom:feed` or `atom:entry`, and contains any number of RDF statements which MUST be serialised as RDF/XML. It MAY occur in a given context any number of times.

The subject of these statements is, by default, the value of the `atom:id` element in the same context (`atom:element` or `atom:feed`). However, this behaviour MAY be overridden by specifying the subject attribute.

After the subject is determined, the contents SHOULD be processed as a propertyEltList in [[W3C.WD-rdf-syntax-grammar-20031010](#)].

3.2. The subject Attribute

When present, the subject attribute indicates how to derive the RDF subject of statements sourced from the element it is attached to.

It MUST contain a URI which MUST be interpreted as a link relation; the first such occurrence of an `atom:link` element in the same context as its parent element with that relation (in lexical order) will indicate the URI to use as the subject.

For example,

```
<entry>
  <title>Atom-Powered Robots Run Amok</title>
  <link href="http://example.org/2003/12/13/atom03"/>
  <id>urn:uuid:1225c695-cfb8-4ebb-aaaa-80da344efa6a</id>
  <updated>2003-12-13T18:30:02Z</updated>
  <summary>Some text.</summary>
  <at:md subject="alternate">
    <!-- .. -->
  </at:md>
</entry>
```

indicates that the subject of statements in this entry is "http://example.org/2003/12/13/atom03" (because Atom links default to the "alternate" relation).

This specification does not define the semantics of the subject attribute when a suitable link cannot be found.

4. Derived Statements

Atom documents can declare mappings of existing content to RDF

statements using the `at:feedmap` and `at:entrymap` elements.

4.1. The `at:feedmap` Element

The `at:feedmap` element MAY occur as a child of `atom:feed`, and MUST NOT occur more than once. It MAY contain any number of `at:map` elements which indicate mappings for feed-level element contents to statements, within the scope of the feed document it occurs in.

4.2. The `at:entrymap` Element

The `at:entrymap` element MAY occur as a child of `atom:feed`, and MAY occur as the child of `atom:entry` in an Atom Entry Document. It MUST NOT occur more than once, and MAY contain any number of `at:map` elements which indicate mappings for entry-level element contents to statements, within the scope of the document it occurs in.

4.3. The `at:map` Element

The `at:map` element indicates how an element in a given context (either feed or entry, depending on use) maps to RDF statements. Its content MUST be an XML QName, and indicates the element that is being mapped. It MUST have a property attribute that MUST be a URI, which associates the element in the appropriate context with the given RDF property.

For example,

```
<at:map
  property="http://purl.org/dc/elements/1.1/title">atom:title</at:map>
```

indicates that the `atom:title` element's content should be mapped to the <http://purl.org/dc/elements/1.1/title> property. Given the entry

```
<atom:entry>
  <atom:id>http://example.com/a</atom:id>
  <atom:title>Test</atom:title>
</atom:entry>
```

and the map above as a child of `at:entrymap`, the following triple would be implied;

```
<http://example.com/a> <http://purl.org/dc/elements/1.1/title> "Test" .
```

The exact URI to use as the subject of the statements derived by mapping is, by default, the value of the `atom:id` element in the same context. However, this behaviour MAY be overridden by specifying the subject attribute.

By default, the content of the given element will be converted to an RDF Literal if it contains no markup, and to an XML Literal if it does. This behaviour may be modified by future revisions of this specification.

5. Example

```
<feed xmlns="http://www.w3.org/2005/Atom"
  xmlns:at="http://purl.org/syndication/atomtriples/1">
  <title>Example Feed</title>
  <link href="http://example.org/" />
  <updated>2003-12-13T18:30:02Z</updated>
  <author>
    <name>John Doe</name>
  </author>
  <id>urn:uuid:60a76c80-d399-11d9-b93C-0003939e0af6</id>
  <at:md>
    <!-- This is feed-level metadata in plain RDF/XML -->
    <!-- @about defaults to atom:id; can be overridden with @subject -->
    <!-- xml base is available and applies, as per RDF -->
  </at:md>
  <at:feedmap>
    <!-- How to map feed-level RDF statements into Atom metadata -->
    <at:map property="http://dc.org/#title">atom:title</at:map>
  </at:feedmap>
  <at:entrymap>
    <!-- entry-level mapping -->
    <at:map property="http://dc.org/#title"
      subject="alternate">atom:title</at:map>
  </at:entrymap>

  <entry>
    <title>Atom-Powered Robots Run Amok</title>
    <link href="http://example.org/2003/12/13/atom03" />
    <id>urn:uuid:1225c695-cfb8-4ebb-aaaa-80da344efa6a</id>
    <updated>2003-12-13T18:30:02Z</updated>
    <summary>Some text.</summary>
    <at:md>
      <!-- this is entry-level metadata in plain RDF/XML -->
      <!-- @about defaults to atom:id;
        can be overridden with @subject -->
      <!-- xml base is available and applies, as per RDF -->
    </at:md>
  </entry>
</feed>
```


6. Security Considerations

The security considerations for these extensions are the union of those that apply to processing both Atom and RDF.

7. IANA Considerations

This document has no actions for IANA.

8. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

[RFC4287] Nottingham, M. and R. Sayre, "The Atom Syndication Format", [RFC 4287](#), December 2005.

[W3C.REC-xml-names-19990114]
Bray, T., Hollander, D., and A. Layman, "Namespaces in XML", W3C REC REC-xml-names-19990114, January 1999.

[W3C.WD-rdf-syntax-grammar-20031010]
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Appendix A. Acknowledgements

The authors would like to thank Hong Zhang for his help and feedback; they take all responsibility for errors and omissions.

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