

**Atom Metadata Expiration: Specifying Expiration Timestamps for Atom  
Feed and Entry metadata  
draft-snell-atompub-feed-expires-06.txt**

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Abstract

This memo presents a mechanism that allows feed publishers to express maximum age and expiration properties for information content within an Atom entry.

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## 1. Introduction

This document specifies a mechanism that allows the expression of expiration timestamps and maximum age properties for information content within the Atom Syndication Format ([\[RFC4287\]](#)). The mechanism defines two mutually exclusive extension elements that may be used to specify either an exact instant that the information content of an atom:entry expires, or a maximum age from the moment specified by an entries atom:updated element.

When an atom:feed, atom:entry or atom:source contains an 'expires' or 'max-age' extension element, the information content of the contained element is considered to be 'time constrained'. Time constrained information content is considered to be either 'active' or 'expired'. The default state is 'active'. When the age (calculated in milliseconds from the moment specified by the atom:published or atom:updated elements) exceeds the value specified by the 'max-age' extension, or when the moment specified by the 'expires' extension elements passes, the state of the time constrained information content MUST be considered to be 'expired' and no longer valid. It is strongly recommended that implementations either discard 'expired' information content or otherwise warn users that the information content has expired.

The mechanism defined herein MUST NOT be used to support the caching of Atom documents and MUST NOT be used to schedule when a client should revisit/refresh local copies of Atom documents. Specifically, the 'expires' and 'max-age' extension elements are relevant only to the informational content within an atom:entry and are not adequate mechanism for determining the freshness of a cached copy of the document in which the elements appear.

The presence of an 'expires' or 'max-age' extension within an atom:feed or atom:source element is relevant only to the informational content of the containing element and not to any associated atom:entry elements.

[Section 6.3](#) of the Atom Format specification indicates that Atom processors that encounter unknown extensions MUST ignore those extensions without altering their behavior. Because of this requirement, there can be no assumption that a particular software implementation will support the extensions defined herein.

## 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 [BCP 14](#), [[RFC2119](#)], as scoped to those conformance targets.

In this specification, "entry" refers to an atom:entry element.

In this specification, "feed" refers to an Atom Feed Document.

In this specification, "head section" refers to the children of a feed's document-wide metadata container; e.g., the child elements of the atom:feed element in an Atom Feed Document.

In this specification, the term "extension element" refers to a structured extension element as described in [[RFC4287](#)].

In this specification, the term "information content" refers to the collection of metadata relevant to an atom:entry element.

This specification uses XML Namespaces [[W3C.REC-xml-names-19990114](#)] to uniquely identify XML element names. It uses the following namespace prefix for the indicated namespace URI;

{Ed. Note: this namespace MUST be changed to a proper IETF namespace scheme prior to publication}

"age": "http://purl.org/atompub/age/1.0"

This specification uses terms from the XML Infoset [[W3C.REC-xml-infoset-20040204](#)]. However, this specification uses a shorthand; the phrase "Information Item" is omitted when naming Element Information Items. Therefore, when this specification uses the term "element," it is referring to an Element Information Item in Infoset terms.

This specification defines the notion of a Non-Negative Integer Construct whose value MUST conform to the canonical representation of the "nonNegativeInteger" construction defined by [[W3C.REC-xmlschema-2-20041028](#)]. The value of the Non-Negative Integer Construct MUST NOT contain any leading or trailing whitespace.

```
nonNegativeIntegerConstruct =  
    atomCommonAttributes,  
    xsd:nonNegativeInteger
```

Example Non-Negative Integer Constructs

```
<age:max-age>0</age:max-age>  
<age:max-age>10000000</age:max-age>
```

### **3. The 'expires' extension element**

The 'expires' extension element conforms to the Atom Date Construct

and is used to indicate a precise moment in time after which the information content of the containing element MUST be considered to have "expired".

```
expiresElement = element age:expires { atomDateConstruct }
```

- o atom:entry elements MAY contain exactly one 'expires' extension element.
- o atom:feed elements MAY contain exactly one 'expires' extension element.
- o atom:source elements MAY contain exactly one 'expires' extension element.
- o An atom:entry that contains an 'expires' extension element MUST NOT contain a 'max-age' extension element.
- o An atom:feed that contains an 'expires' extension element MUST NOT contain a 'max-age' extension element.
- o An atom:source that contains an 'expires' extension element MUST NOT contain a 'max-age' extension element.
- o The value of the 'expires' extension element MUST NOT specify a date and time earlier than the moment specified by the atom:updated element or the atom:published element (if present). If an 'expires' element does specify a date and time earlier than either the atom:updated or atom:published elements, the 'expires' element MUST be ignored.

For example

```
<feed xmlns="http://www.w3.org/2005/Atom"
  xmlns:age="http://purl.org/atompub/age/1.0">
  <id>http://www.example.com/myfeed</id>
  <title>My Example Feed</title>
  <updated>2005-07-28T12:00:00Z</updated>
  <link href="http://www.example.com/myfeed" />
  <author><name>James</name></author>
  <entry>
    <id>tag:entries.com,2005:1</td>
    <title>An entry with an expiration timestamp</title>
    <link href="http://www.example.com/entries/1/1" />
    <updated>2005-07-28T12:00:00Z</updated>
    <age:expires>2005-12-12T12:00:00Z</age:expires>
    <summary>An entry with an expiration</summary>
  </entry>
</feed>
```

#### **4. The 'max-age' extension element**

The 'max-age' extension element is used to indicate a maximum age of the information content in milliseconds from the moment specified by the atom:published element (if present) or the atom:updated element

after which the information content MUST be considered to have "expires". The value is specified as a non-negative integer conforming to the nonNegativeIntegerConstruct.

```
maxageElement = element age:max-age { nonNegativeIntegerConstruct }
```

- o atom:entry elements MAY contain exactly one 'max-age' extension element.
- o atom:feed elements MAY contain exactly one 'max-age' extension element.
- o atom:source elements MAY contain exactly one 'max-age' extension element.
- o An atom:entry that contains a 'max-age' extension element MUST NOT contain an 'expires' extension element.
- o An atom:feed that contains a 'max-age' extension element MUST NOT contain an 'expires' extension element.
- o An atom:source that contains a 'max-age' extension element MUST NOT contain an 'expires' extension element.

For example

```
<feed xmlns="http://www.w3.org/2005/Atom"
      xmlns:age="http://purl.org/atompub/age/1.0">
  <id>http://www.example.com/myfeed</id>
  <title>My Example Feed</title>
  <updated>2005-07-28T12:00:00Z</updated>
  <link href="http://www.example.com/myfeed" />
  <author><name>James</name></author>
  <entry>
    <id>tag:entries.com,2005:1</td>
    <title>An entry with a maximum age of 20 seconds</title>
    <link href="http://www.example.com/entries/1/1" />
    <updated>2005-07-28T12:00:00Z</updated>
    <age:max-age>20000</age:max-age>
    <summary>expire after a mere 20 seconds</summary>
  </entry>
</feed>
```

## **5. Security Considerations**

It is possible for malicious intermediaries to alter the expiration metadata in an Atom document. This risk can be mitigated by digitally signing the elements in which the 'expires' or 'max-age' extension elements appear. It is strongly recommended that implementations discard expired information content or otherwise warn users that the information content has expired.

## **6. IANA Considerations**

There are no IANA considerations introduced by this specification.

## **7. 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-infoset-20040204]  
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- [W3C.REC-xmlschema-2-20041028]  
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## **Appendix A. Acknowledgements**

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