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**The 'XML2RFC' version 3 Vocabulary  
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Abstract

This document defines the 'XML2RFC' version 3 vocabulary; an XML-based language used for writing RFCs and Internet-Drafts. It is heavily derived from the version 2 vocabulary that is also under discussion.

Editorial Note (To be removed by RFC Editor)

Discussion of this draft takes place on the rfc-interest mailing list ([rfc-interest@rfc-editor.org](mailto:rfc-interest@rfc-editor.org)), which has its home page at <https://www.rfc-editor.org/mailman/listinfo/rfc-interest>.

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## Table of Contents

<a href="#">1.</a>	<a href="#">Introduction</a>	<a href="#">4</a>
<a href="#">1.1.</a>	<a href="#">Differences from v2 to v3</a>	<a href="#">4</a>
<a href="#">1.1.1.</a>	<a href="#">Design for Changes in List Handling</a>	<a href="#">5</a>
<a href="#">1.1.2.</a>	<a href="#">Design for Changes in Reference Handling</a>	<a href="#">7</a>
<a href="#">1.2.</a>	<a href="#">Syntax Notation</a>	<a href="#">8</a>
<a href="#">2.</a>	<a href="#">Elements</a>	<a href="#">8</a>
<a href="#">2.1.</a>	<a href="#">&lt;abstract&gt;</a>	<a href="#">8</a>
<a href="#">2.2.</a>	<a href="#">&lt;address&gt;</a>	<a href="#">8</a>
<a href="#">2.3.</a>	<a href="#">&lt;annotation&gt;</a>	<a href="#">9</a>
<a href="#">2.4.</a>	<a href="#">&lt;area&gt;</a>	<a href="#">9</a>
<a href="#">2.5.</a>	<a href="#">&lt;artwork&gt;</a>	<a href="#">10</a>
<a href="#">2.6.</a>	<a href="#">&lt;author&gt;</a>	<a href="#">12</a>
<a href="#">2.7.</a>	<a href="#">&lt;b&gt;</a>	<a href="#">13</a>
<a href="#">2.8.</a>	<a href="#">&lt;back&gt;</a>	<a href="#">14</a>
<a href="#">2.9.</a>	<a href="#">&lt;c&gt;</a>	<a href="#">14</a>
<a href="#">2.10.</a>	<a href="#">&lt;city&gt;</a>	<a href="#">15</a>
<a href="#">2.11.</a>	<a href="#">&lt;code&gt;</a>	<a href="#">15</a>
<a href="#">2.12.</a>	<a href="#">&lt;country&gt;</a>	<a href="#">15</a>
<a href="#">2.13.</a>	<a href="#">&lt;cref&gt;</a>	<a href="#">15</a>
<a href="#">2.14.</a>	<a href="#">&lt;date&gt;</a>	<a href="#">16</a>
<a href="#">2.15.</a>	<a href="#">&lt;email&gt;</a>	<a href="#">17</a>
<a href="#">2.16.</a>	<a href="#">&lt;eref&gt;</a>	<a href="#">17</a>
<a href="#">2.17.</a>	<a href="#">&lt;facsimile&gt;</a>	<a href="#">18</a>
<a href="#">2.18.</a>	<a href="#">&lt;figure&gt;</a>	<a href="#">18</a>
<a href="#">2.19.</a>	<a href="#">&lt;format&gt;</a>	<a href="#">19</a>
<a href="#">2.20.</a>	<a href="#">&lt;front&gt;</a>	<a href="#">20</a>
<a href="#">2.21.</a>	<a href="#">&lt;i&gt;</a>	<a href="#">21</a>
<a href="#">2.22.</a>	<a href="#">&lt;iref&gt;</a>	<a href="#">21</a>
<a href="#">2.23.</a>	<a href="#">&lt;keyword&gt;</a>	<a href="#">22</a>
<a href="#">2.24.</a>	<a href="#">&lt;li&gt;</a>	<a href="#">22</a>
<a href="#">2.25.</a>	<a href="#">&lt;list&gt;</a>	<a href="#">23</a>
<a href="#">2.26.</a>	<a href="#">&lt;middle&gt;</a>	<a href="#">27</a>
<a href="#">2.27.</a>	<a href="#">&lt;note&gt;</a>	<a href="#">27</a>
<a href="#">2.28.</a>	<a href="#">&lt;organization&gt;</a>	<a href="#">27</a>
<a href="#">2.29.</a>	<a href="#">&lt;phone&gt;</a>	<a href="#">28</a>
<a href="#">2.30.</a>	<a href="#">&lt;postal&gt;</a>	<a href="#">28</a>
<a href="#">2.31.</a>	<a href="#">&lt;postalbody&gt;</a>	<a href="#">28</a>
<a href="#">2.32.</a>	<a href="#">&lt;postamble&gt;</a>	<a href="#">29</a>
<a href="#">2.33.</a>	<a href="#">&lt;preamble&gt;</a>	<a href="#">29</a>

Hoffman

Expires August 15, 2014

[Page 2]

<a href="#">2.34.</a>	<a href="#">&lt;reference&gt;</a>	<a href="#">30</a>
<a href="#">2.35.</a>	<a href="#">&lt;references&gt;</a>	<a href="#">32</a>
<a href="#">2.36.</a>	<a href="#">&lt;region&gt;</a>	<a href="#">33</a>
<a href="#">2.37.</a>	<a href="#">&lt;rfc&gt;</a>	<a href="#">33</a>
<a href="#">2.38.</a>	<a href="#">&lt;section&gt;</a>	<a href="#">36</a>
<a href="#">2.39.</a>	<a href="#">&lt;seriesInfo&gt;</a>	<a href="#">38</a>
<a href="#">2.40.</a>	<a href="#">&lt;street&gt;</a>	<a href="#">38</a>
<a href="#">2.41.</a>	<a href="#">&lt;t&gt;</a>	<a href="#">38</a>
<a href="#">2.42.</a>	<a href="#">&lt;texttable&gt;</a>	<a href="#">39</a>
<a href="#">2.43.</a>	<a href="#">&lt;title&gt;</a>	<a href="#">41</a>
<a href="#">2.44.</a>	<a href="#">&lt;tt&gt;</a>	<a href="#">41</a>
<a href="#">2.45.</a>	<a href="#">&lt;ttcol&gt;</a>	<a href="#">42</a>
<a href="#">2.46.</a>	<a href="#">&lt;uri&gt;</a>	<a href="#">42</a>
<a href="#">2.47.</a>	<a href="#">&lt;workgroup&gt;</a>	<a href="#">43</a>
<a href="#">2.48.</a>	<a href="#">&lt;xref&gt;</a>	<a href="#">43</a>
<a href="#">3.</a>	<a href="#">Special Unicode Code Points</a>	<a href="#">45</a>
<a href="#">4.</a>	<a href="#">Internationalization Considerations</a>	<a href="#">45</a>
<a href="#">5.</a>	<a href="#">Security Considerations</a>	<a href="#">45</a>
<a href="#">6.</a>	<a href="#">IANA Considerations</a>	<a href="#">45</a>
<a href="#">6.1.</a>	<a href="#">Internet Media Type Registration</a>	<a href="#">45</a>
<a href="#">7.</a>	<a href="#">Acknowledgments</a>	<a href="#">47</a>
<a href="#">8.</a>	<a href="#">References</a>	<a href="#">47</a>
<a href="#">8.1.</a>	<a href="#">Normative References</a>	<a href="#">47</a>
<a href="#">8.2.</a>	<a href="#">Informative References</a>	<a href="#">47</a>
<a href="#">Appendix A.</a>	<a href="#">Front Page Generation</a>	<a href="#">49</a>
<a href="#">A.1.</a>	<a href="#">The /rfc/@category Attribute</a>	<a href="#">49</a>
<a href="#">A.2.</a>	<a href="#">The /rfc/@ipr Attribute</a>	<a href="#">49</a>
<a href="#">A.2.1.</a>	<a href="#">Current Values: '*trust200902'</a>	<a href="#">50</a>
<a href="#">A.2.2.</a>	<a href="#">Historic Values</a>	<a href="#">51</a>
<a href="#">Appendix B.</a>	<a href="#">Relax NG Schema</a>	<a href="#">52</a>
<a href="#">Index</a>		<a href="#">58</a>



## **1. Introduction**

This document describes version 3 ('v3') of the 'XML2RFC' vocabulary; an XML-based language ('Extensible Markup Language', [[XML](#)]) used for writing RFCs ([[RFCSTYLE](#)]) and Internet-Drafts ([[IDGUIDE](#)]).

This document obsoletes the version ("v2") vocabulary [[XML2RFCv2](#)], which contains the extended language definition. That document in turn obsoletes the original version ("v1") [[RFC2629](#)]. This document directly copies the material from [[XML2RFCv2](#)] where possible; as that document makes its way toward RFC publication, this document will incorporate as many of the changes as possible.

Note that the vocabulary contains certain constructs that might not be used when generating the final text; however, they can provide useful data for other uses (such index generation, populating a keyword database, or syntax checks).

### **1.1. Differences from v2 to v3**

The following is a hopefully-complete list of all the technical changes between [[XML2RFCv2](#)] and this document. Note that the list is for the current version of this document only. There are additional changes that are expected to the v3 vocabulary that are being discussed. Also note that changes to the design choices for the differences are also expected.

The design criteria of the changes from v2 to v3 are:

- o The intention is that starting and editing a v3 document will be easier than for a v2 document.
- o There will be good v2-to-v3 conversion tools for when an author wants to change versions.
- o There are no current plans to make v3 XML the required submission format for drafts or RFCs. That might happen eventually, but it is likely to be years away.

There is a desire to keep as much of the v2 grammar as makes sense within the above design criteria and not to make gratuitous changes to the v2 grammar. However, the goal of starting and editing a v3 document being easier than for a v2 document is more important than backwards compatibility with v2, given the latter two design criteria.

The list of changes so far is:



- o In <address>, allowed the sub-elements to be in any order.
- o In <artwork> and <author>, added optional "xml:lang" attribute.
- o Added the <b>, <i>, and <tt> elements.
- o In <front>, made <date> optional.
- o Changed the handling of <list>. This large change is described in [Section 1.1.1](#).
- o In <postal>, allowed the sub-elements to be in any order. Also allowed the inclusion of <postalbody>.
- o Added <postalbody>, free text that represents the address.
- o Changed the handling of <reference>. This large change is described in [Section 1.1.2](#).
- o In <section>, added the optional "numbered" and "removeinrfc" attributes.
- o Removed the <spanx> element, and replaced it with <b>, <i>, and <tt>.
- o In <ttcol>, added <xref>, <eref>, <iref>, and <ceref> as optional children.
- o Removed the <vspace> element because it is no longer needed for lists.

#### **[1.1.1](#). Design for Changes in List Handling**

This section describes one of the larger changes in the design of v3, namely the way lists are handled. The community has asked for many changes to list handling to make creating and editing lists more intuitive. The goals include:

- o List items can have more than one paragraph without triggering another list label.
- o Lists should be block elements, not inline (flow) elements. They should be usable outside <t>.
- o Give more control over the labels for "style" of "letters", "numbers", or "symbols". Make more explicit the rules for nested lists that use the defaults for a "style".



- o Make hanging lists more like other list styles.
- o Make a real "dictionary" style, with the definition starting on a new line.
- o Don't mix label style with content (the "format" attribute).
- o Create a new mechanism to cause a paragraph to be indented, without using `<list style="empty">`.

To meet these goals, the following changes have been made in the v3 vocabulary:

- o `<list>` is changed to have each list item is represented by a `<li>` element. The content model for `<li>` is the same as that of `<annotation>` with the addition of `<t>`, namely: text, `<b>`, `<cref>`, `<eref>`, `<i>`, `<ieref>`, `<t>`, `<tt>`, and `<xref>`.
- o Inside of an `<li>` element, a `<t>` elements causes a break but without triggering another label. The `<li>` element has optional attributes only where needed.
- o `<list>` no longer needs to be inside of `<t>`, and can appear in the other contexts where a list might be expected.
- o `<list>` has a new optional "anchor" attribute so that a list can be referenced from other places in the text.
- o For the "style" attributes in `<list>`:
  - \* For "letters", "numbers", and "symbols", there is an optional "format" attribute that matches the current one for formatting the label. There will be a clear set of defaults for each of these given in the spec.
  - \* For "hanging", the `<li>` element has an optional attribute of "hangText".
  - \* Add a new style of "dictionary", the `<li>` element has an optional attribute of "term".

An example of using the new format for a simple bulleted list where the second item has two paragraphs is:



```
<list style="symbols">
  <li>This is the first element with a bullet.</li>
  <li>This is the second element with a bullet.
    <t>This is part of the second element,
      but it does not have a bullet</t></li>
  <li>This is the third element with a bullet.</li>
</list>
```

### **1.1.2. Design for Changes in Reference Handling**

This section describes one of the larger changes in the design of v3, namely the additions to make using references easier. Most references in most recent RFCs are just to RFCs; sometimes they are Internet Drafts as work-in-progress; much less often they are pointers to standards of other SDOs, research articles, or just plain URLs. There have been many complaints about how difficult it is for people who don't have strong XML skills to use references when making Internet Drafts.

The two popular methods now for references to RFCs are entering the whole reference by hand (hopefully getting all the fiddly bits of `<front>` and `<seriesinfo>` correct), or using XML entities that call out the `xml.resource.org`. Both work, but both have their faults. The first requires good copying skills and sometimes causes difficult XML errors; the second prevents you from changing the anchor name and, less importantly, also requires that you be online when you run the `xml2rfc` processor.

To make entering references easier for the vast majority of cases, the following changes have been made in the v3 vocabulary:

- o The `<reference>` element can take another optional pair of attributes: "series" and "document". For example, the value for "series" would be "rfc", "fyi", "id", "bcp", and "std" for IETF-controlled documents; there would be many series for non-IETF documents as well. The value for "document" depends on the series, as described in `<reference>`.
- o The processor would emit a properly-formatted output for the reference in the non-canonical display formats based on rules built into the processor and data for the references. The library used for expansion of the references will be maintained by the RFC Editor.
- o Thus, the contents of `<reference>` changes from requiring a `<front>` element to making the `<front>` element optional if a "series" is given.



## **1.2. Syntax Notation**

The XML vocabulary here is defined in prose, based on the Relax NG schema ([\[RNC\]](#)) contained in [Appendix B](#) (specified in Relax NG Compact Notation, "RNC").

Note that the schema can be used for automated validity checks, but certain constraints are only described in prose (example: the conditionally required presence of the "abbrev" attribute).

## **2. Elements**

[[anchor2: In the section below, some elements/attributes do not have a prose description yet. This is because this is work-in-progress; feedback with accurate descriptions is appreciated.]]

The sections below describe all elements and their attributes.

Note that attributes not labeled "mandatory" are optional.

### **2.1. <abstract>**

Contains the abstract of the document. The abstract ought to be self-contained and thus should not contain references or unexpanded abbreviations. See Section 4.3 of [\[RFCSTYLE\]](#) for more information.

This element appears as child element of: <front> ([Section 2.20](#)).

Content model:

One or more <t> elements ([Section 2.41](#))

### **2.2. <address>**

Provides address information for the author.

This element appears as child element of: <author> ([Section 2.6](#)).

Content model:

In any order:

- o <postal> elements ([Section 2.30](#))
- o <phone> elements ([Section 2.29](#))
- o <facsimile> elements ([Section 2.17](#))



- o <email> elements ([Section 2.15](#))
- o <uri> elements ([Section 2.46](#))

### **2.3. <annotation>**

Provides additional prose augmenting a bibliographical reference.

For instance:

```
<annotation>
  Latest version available at <eref
    target='http://www.w3.org/TR/xml1'/>.
</annotation>
```

...will generate the text used in the reference for [[XML](#)].

This element appears as child element of: <reference> ([Section 2.34](#)).

Content model:

In any order:

- o Text
- o <xref> elements ([Section 2.48](#))
- o <eref> elements ([Section 2.16](#))
- o <iref> elements ([Section 2.22](#))
- o <cref> elements ([Section 2.13](#))
- o <tt> elements ([Section 2.44](#))
- o <b> elements ([Section 2.7](#))
- o <i> elements ([Section 2.21](#))

### **2.4. <area>**

Provides information about the IETF area this document applies to (currently not used when generating documents).

The value ought to be either the fullname or the abbreviation of one of the IETF areas as listed on <http://www.ietf.org/iesg/area.html>:  
"Applications", "app", "General", "gen", "Internet", "int",  
"Operations and Management", "ops", "Real-time Applications and



Infrastructure", "rai", "Routing", "rtg", "Security", "sec", "Transport", "tsv".

This element appears as child element of: <front> ([Section 2.20](#)).

Content model: only text content.

## **[2.5.](#) <artwork>**

This element allows the inclusion of "artwork" into the document.

<artwork> provides full control of horizontal whitespace and line breaks, and thus is used for a variety of things, such as:

- o diagrams ("line art"),
- o source code,
- o formal languages (such as ABNF or the RNC notation used in this document),
- o complex tables, or
- o protocol unit diagrams.

Alternatively, the "src" attribute allows referencing an external graphics file, such as a bitmap or a vector drawing. In this case, the textual content acts as fallback for output formats that do not support graphics, and thus ought to contain either a "line art" variant of the graphics, or otherwise prose that describes the included image in sufficient detail. Note that RFCs occasionally are published with enhanced diagrams; a recent example is [[RFC5598](#)].

This element appears as child element of: <figure> ([Section 2.18](#)).

Content model:

Text

### **[2.5.1.](#) 'align' attribute**

Controls whether the artwork appears left (default), centered, or right.

Allowed values:

- o "left" (default)



- o "center"
- o "right"

#### [2.5.2.](#) **'alt' attribute**

Alternative text description of the artwork (not just the caption).

#### [2.5.3.](#) **'height' attribute**

The suggested height of the graphics included using the "src" attribute.

This attribute is format-dependent and ought to be avoided.

When generating HTML output, current implementations copy the attribute "as is". For other output formats it is usually ignored.

#### [2.5.4.](#) **'name' attribute**

A filename suitable for the contents (such as for extraction to a local file).

This attribute generally isn't used for document generation, but it can be helpful for other kinds of tools (such as automated syntax checkers which work by extracting the source code).

#### [2.5.5.](#) **'src' attribute**

The URI of a graphics file.

Note that this can be a "data" URI ([\[RFC2397\]](#)) as well, in which case the graphics file essentially is in-lined.

#### [2.5.6.](#) **'type' attribute**

Specifies the type of the artwork.

The value either is a well-known keyword (such as "abnf"), or an Internet Media Type (see [\[RFC2046\]](#)).

How it is used depends on context and application. For instance, a formatter can attempt to syntax-highlight code in certain known languages.



#### [2.5.7.](#) 'width' attribute

The suggested width of the graphics included using the "src" attribute.

This attribute is format-dependent and ought to be avoided.

When generating HTML output, current implementations copy the attribute "as is". For other output formats it is usually ignored.

#### [2.5.8.](#) 'xml:lang' attribute

Allows specification of the language used. This is sometimes useful for renderers which display different fonts for CJK characters.

#### [2.5.9.](#) 'xml:space' attribute

Determines whitespace handling.

"preserve" is both the default value and the only meaningful setting anyway (because that's what the <artwork> element is for).

See also Section 2.10 of [[XML](#)].

Allowed values:

- o "default"
- o "preserve" (default)

### [2.6.](#) <author>

Provides information about a document author.

The <author> elements contained within the document's <front> element are used to fill the boilerplate, and also to generate the "Author's Address" section (see Section 4.12 of [[RFCSTYLE](#)]).

Note that an "author" can also be just an organization (by not specifying any of the name attributes, but adding the <organization> child element).

Furthermore, the "role" attribute can be used to mark an author as "editor". This is reflected both on the front page and in bibliographical references. Note that this specification does not define a precise meaning for the term "editor".

See Section "Authors vs. Contributors" of [[RFCPOLICY](#)] for more



information.

This element appears as child element of: <front> ([Section 2.20](#)).

Content model:

In this order:

1. One optional <organization> element ([Section 2.28](#))
2. One optional <address> element ([Section 2.2](#))

#### [2.6.1.](#) 'fullname' attribute

The full name (used in the automatically generated "Author's Address" section).

#### [2.6.2.](#) 'initials' attribute

Author initials (used on the front page and in references).

Initials should be provided as a whitespace separated list of pairs of a letter and a dot.

#### [2.6.3.](#) 'role' attribute

Specifies the role the author had in creating the document.

Allowed values:

- o "editor"

#### [2.6.4.](#) 'surname' attribute

The author's surname.

#### [2.6.5.](#) 'xml:lang' attribute

Allows specification of the language used. This is sometimes useful for renderers which display different fonts for CJK characters.

### [2.7.](#) <b>

Causes the text to be displayed in a bold font.

This element appears as child element of: <annotation> ([Section 2.3](#)), <c> ([Section 2.9](#)), <i> ([Section 2.21](#)), <li> ([Section 2.24](#)), <postamble> ([Section 2.32](#)), <preamble> ([Section 2.33](#)), <t>



([Section 2.41](#)), and <tt> ([Section 2.44](#)).

Content model:

In any order:

- o Text
- o <xref> elements ([Section 2.48](#))
- o <eref> elements ([Section 2.16](#))
- o <iref> elements ([Section 2.22](#))
- o <cref> elements ([Section 2.13](#))
- o <tt> elements ([Section 2.44](#))
- o <i> elements ([Section 2.21](#))

## **[2.8.](#) <back>**

Contains the "back" part of the document: the references and appendices.

This element appears as child element of: <rfc> ([Section 2.37](#)).

Content model:

In this order:

1. Optional <references> elements ([Section 2.35](#))
2. Optional <section> elements ([Section 2.38](#))

## **[2.9.](#) <c>**

Provides the content of a cell in a table.

This element appears as child element of: <texttable> ([Section 2.42](#)).

Content model:

In any order:

- o Text



- o `<xref>` elements ([Section 2.48](#))
- o `<eref>` elements ([Section 2.16](#))
- o `<iref>` elements ([Section 2.22](#))
- o `<cref>` elements ([Section 2.13](#))
- o `<tt>` elements ([Section 2.44](#))
- o `<b>` elements ([Section 2.7](#))
- o `<i>` elements ([Section 2.21](#))

#### **[2.10.](#) `<city>`**

Gives the city name in a postal address.

This element appears as child element of: `<postal>` ([Section 2.30](#)).

Content model: only text content.

#### **[2.11.](#) `<code>`**

Gives the postal region code.

This element appears as child element of: `<postal>` ([Section 2.30](#)).

Content model: only text content.

#### **[2.12.](#) `<country>`**

Gives the country in a postal address.

This element appears as child element of: `<postal>` ([Section 2.30](#)).

Content model: only text content.

#### **[2.13.](#) `<cref>`**

Represents a comment.

Comments can be used in a document while it is work-in-progress. They usually appear either inline and visually highlighted, at the end of the document (depending on file format and settings of the formatter), or not at all (when generating an RFC).

This element appears as child element of: `<annotation>` ([Section 2.3](#)),



`<b>` ([Section 2.7](#)), `<c>` ([Section 2.9](#)), `<i>` ([Section 2.21](#)), `<li>` ([Section 2.24](#)), `<postamble>` ([Section 2.32](#)), `<preamble>` ([Section 2.33](#)), `<t>` ([Section 2.41](#)), `<tt>` ([Section 2.44](#)), and `<ttcol>` ([Section 2.45](#)).

Content model: only text content.

#### [2.13.1](#). 'anchor' attribute

Document-wide unique identifier for this comment. The processor will auto-generate an identifier when none is given.

The value needs to be a valid XML "Name" (Section 2.3 of [[XML](#)]).

#### [2.13.2](#). 'source' attribute

Holds the "source" of a comment, such as the name or the initials of the person who made the comment.

#### [2.14](#). `<date>`

Provides information about the publication date.

Note that this element is used both for the boilerplate of the document being produced, and also inside bibliographic references.

In the first case, it defines the publication date, which, when producing Internet-Drafts, will be used for computing the expiration date (see Section 8 of [[IDGUIDE](#)]). When "year", "month" or "day" are left out, the processor will attempt to use the current system date if the attributes that are specified do match the system date.

Note that month names need to match the full (English) month name ("January", "February", "March", "April", "May", "June", "July", "August", "September", "October", "November", or "December") in order for expiration calculations to work (some implementations might support additional formats, though).

In the second case, the date information will be embedded as-is into the reference text. Therefore, also vague dates ("ca. 2000"), date ranges, and so on, are allowed.

This element appears as child element of: `<front>` ([Section 2.20](#)).

Content model: this element does not have any contents.



#### [2.14.1.](#) 'day' attribute

Day of publication.

#### [2.14.2.](#) 'month' attribute

Month of publication.

#### [2.14.3.](#) 'year' attribute

Year of publication.

### [2.15.](#) <email>

Provides an email address.

The value is expected to be the scheme-specific part of a "mailto" URI (so does not include the prefix "mailto:"). See [Section 2 of \[RFC6068\]](#) for details.

This element appears as child element of: <address> ([Section 2.2](#)).

Content model: only text content.

### [2.16.](#) <eref>

Represents an "external" link (as specified in the "target" attribute).

If the element has text content, that content will be used. Otherwise, the value of the target attribute will be inserted in angle brackets ([\[RFC3986\]](#), [Appendix C](#)).

This element appears as child element of: <annotation> ([Section 2.3](#)), <b> ([Section 2.7](#)), <c> ([Section 2.9](#)), <i> ([Section 2.21](#)), <li> ([Section 2.24](#)), <postamble> ([Section 2.32](#)), <preamble> ([Section 2.33](#)), <t> ([Section 2.41](#)), <tt> ([Section 2.44](#)), and <ttcol> ([Section 2.45](#)).

Content model: only text content.

#### [2.16.1.](#) 'target' attribute (mandatory)

URI of the link target (see [Section 3 of \[RFC3986\]](#)).



### **2.17. <facsimile>**

Represents the phone number of a fax machine.

The value is expected to be the scheme-specific part of a "tel" URI (so does not include the prefix "tel:"), using the "global numbers" syntax. See [Section 3 of \[RFC3966\]](#) for details.

This element appears as child element of: <address> ([Section 2.2](#)).

Content model: only text content.

### **2.18. <figure>**

[[element.figure.missing: element description missing]]

This element appears as child element of: <section> ([Section 2.38](#)), and <t> ([Section 2.41](#)).

Content model:

In this order:

1. Optional <iref> elements ([Section 2.22](#))
2. One optional <preamble> element ([Section 2.33](#))
3. One <artwork> element ([Section 2.5](#))
4. One optional <postamble> element ([Section 2.32](#))

#### **2.18.1. 'align' attribute**

Used to change the alignment of <preamble> and <postamble>.

Note: does not affect title or <artwork> alignment.

Allowed values:

- o "left" (default)
- o "center"
- o "right"



#### [2.18.2.](#) 'alt' attribute

Duplicates functionality available on <artwork>; avoid it.

#### [2.18.3.](#) 'anchor' attribute

Document-wide unique identifier for this figure.

The value needs to be a valid XML "Name" (Section 2.3 of [[XML](#)]).

#### [2.18.4.](#) 'height' attribute

Duplicates functionality available on <artwork>; avoid it.

#### [2.18.5.](#) 'src' attribute

Duplicates functionality available on <artwork>; avoid it.

#### [2.18.6.](#) 'suppress-title' attribute

Figures that have an "anchor" attribute will automatically get an autogenerated title (such as "Figure 1"). Setting this attribute to "false" will prevent this.

Allowed values:

- o "true"
- o "false" (default)

#### [2.18.7.](#) 'title' attribute

[[element.figure.attribute.title.missing: attribute description missing]]

#### [2.18.8.](#) 'width' attribute

Duplicates functionality available on <artwork>; avoid it.

### [2.19.](#) <format>

Provides a link to an additional format variant for a reference.

Note that these additional links are neither used in published RFCs, nor supported by all tools. If the goal is to provide a single URI for a reference, the "target" attribute on <reference> can be used instead.



This element appears as child element of: <reference> ([Section 2.34](#)).

Content model: this element does not have any contents.

#### [2.19.1.](#) 'octets' attribute

Octet length of linked-to document.

#### [2.19.2.](#) 'target' attribute

URI of document.

[[anchor3: Why is this optional?]]

#### [2.19.3.](#) 'type' attribute (mandatory)

The type of the linked-to document, such as "TXT", "HTML", or "PDF".

### [2.20.](#) <front>

Represent the "front matter": metadata (such as author information), abstract, and additional notes.

This element appears as child element of: <reference> ([Section 2.34](#)), and <rfc> ([Section 2.37](#)).

Content model:

In this order:

1. One <title> element ([Section 2.43](#))
2. One or more <author> elements ([Section 2.6](#))
3. One optional <date> element ([Section 2.14](#))
4. Optional <area> elements ([Section 2.4](#))
5. Optional <workgroup> elements ([Section 2.47](#))
6. Optional <keyword> elements ([Section 2.23](#))
7. One optional <abstract> element ([Section 2.1](#))
8. Optional <note> elements ([Section 2.27](#))



### 2.21. `<i>`

Causes the text to be displayed in an italic font.

This element appears as child element of: `<annotation>` ([Section 2.3](#)), `<b>` ([Section 2.7](#)), `<c>` ([Section 2.9](#)), `<postamble>` ([Section 2.32](#)), `<preamble>` ([Section 2.33](#)), `<t>` ([Section 2.41](#)), and `<tt>` ([Section 2.44](#)).

Content model:

In any order:

- o Text
- o `<xref>` elements ([Section 2.48](#))
- o `<eref>` elements ([Section 2.16](#))
- o `<iref>` elements ([Section 2.22](#))
- o `<cref>` elements ([Section 2.13](#))
- o `<b>` elements ([Section 2.7](#))
- o `<tt>` elements ([Section 2.44](#))

### 2.22. `<iref>`

Provides terms for the document's index.

Index entries can be either single items (when just the "item" attribute is given) or nested items (by specifying "subitem" as well).

For instance:

```
<iref item="Grammar" subitem="item"/>
```

will produce an index entry for "Grammar, item".

This element appears as child element of: `<annotation>` ([Section 2.3](#)), `<b>` ([Section 2.7](#)), `<c>` ([Section 2.9](#)), `<figure>` ([Section 2.18](#)), `<i>` ([Section 2.21](#)), `<li>` ([Section 2.24](#)), `<postamble>` ([Section 2.32](#)), `<preamble>` ([Section 2.33](#)), `<section>` ([Section 2.38](#)), `<t>` ([Section 2.41](#)), `<tt>` ([Section 2.44](#)), and `<ttcol>` ([Section 2.45](#)).

Content model: this element does not have any contents.



#### [2.22.1.](#) 'item' attribute (mandatory)

The item to include.

#### [2.22.2.](#) 'primary' attribute

Setting this to "true" declares the occurrence as "primary", which might cause it to be highlighted in the index.

Allowed values:

- o "true"
- o "false" (default)

#### [2.22.3.](#) 'subitem' attribute

The subitem to include.

### [2.23.](#) <keyword>

Specifies a keyword applicable to the document.

Note that each element should only contain a single keyword; for multiple keywords, the element can simply be repeated.

Keywords are used both in the RFC Index and in the metadata of generated document formats.

This element appears as child element of: <front> ([Section 2.20](#)).

Content model: only text content.

### [2.24.](#) <li>

Specifies an item in a list. In an <li> item, a <t> item causes the item to have an additional paragraph without triggering another label.

This element appears as child element of: <list> ([Section 2.25](#)).

Content model:

In any order:

- o Text



- o <t> elements ([Section 2.41](#))
- o <xref> elements ([Section 2.48](#))
- o <eref> elements ([Section 2.16](#))
- o <iref> elements ([Section 2.22](#))
- o <cref> elements ([Section 2.13](#))
- o <tt> elements ([Section 2.44](#))
- o <b> elements ([Section 2.7](#))

#### **[2.24.1.](#) 'hangtext' attribute**

In a list whose style is "hanging", the "hangText" attribute of <li> gives the term that will be at the left margin. In a list whose style is not "hanging", the processor will return an error.

#### **[2.24.2.](#) 'term' attribute**

In a list whose style is "dictionary", the "term" attribute of <li> gives the term being defined. In a list whose style is not "dictionary", the processor will return an error.

### **[2.25.](#) <list>**

Delineates a text list.

Each list item is represented by a <li> element.

This element appears as child element of: <section> ([Section 2.38](#)), and <t> ([Section 2.41](#)).

Content model:

One or more <li> elements ([Section 2.24](#))

#### **[2.25.1.](#) 'anchor' attribute**

Document-wide unique identifier for this list.

#### **[2.25.2.](#) 'counter' attribute**

This attribute holds a token that serves as an identifier for a counter. The intended use is continuation of lists.



Note that this attribute functions only when the style attribute is using the "format..." syntax ([Section 2.25.4](#)); otherwise, it is ignored.

### [2.25.3.](#) 'format' attribute

The format for the labels in this list. The "format" attribute only applies to lists whose "style" is "letters", "numbers", and "symbols". If the "format" attribute is given for a list with any other "style", the processor will issue an error.

The default format for "letters" is "%c". The default format for "numbers" is "%d". The default format for "symbols" is "o".  
[[anchor4: That last one is almost certainly wrong and this needs to be specified better in the style="format" part as well.]]

### [2.25.4.](#) 'style' attribute

This attribute is used to control the display of a list.

The value of this attribute is inherited by any nested lists that do not have this attribute set. It may be set to:

"empty" (or not set)

For unlabeled list items; it can also be used for indentation purposes (this is the default value).

"dictionary"

For lists that have a term and a definition. The term is given in the <li> element in the "term" attribute.

"hanging"

For lists where the items are labeled with a piece of text.

"letters"

For ordered lists using letters as labels (lowercase letters followed by a period; after "z", it rolls over to a two-letter format). For nested lists, processors usually flip between uppercase and lowercase.

"numbers"

For ordered lists using numbers as labels.



"symbols"

For unordered (bulleted) lists.

The style of the bullets is chosen automatically by the processor (some implementations allow overriding the default using a processing instruction).

And, finally:

"format ..."

For lists with customized labels, consisting of fixed text and an item counter in various formats.

The value is a free-form text that allows counter values to be inserted using a "percent-letter" format. For instance, "[REQ%d]" generates labels of the form "[REQ1]", where "%d" inserts the item number as decimal number.

The following formats are supported:

%c lowercase letters (a, b, c, etc.)

%C uppercase letters (A, B, C, etc.)

%d decimal numbers (1, 2, 3, etc.)

%i lowercase Roman numerals (i, ii, iii, etc.)

%I uppercase Roman numerals (I, II, III, etc.)

%% represents a percent sign

Other formats are reserved for future use.

This attribute is used to control the display of a list.

The value of this attribute is inherited by any nested lists that do not have this attribute set. It may be set to:

"empty" (or not set)

For unlabeled list items; it can also be used for indentation purposes (this is the default value).



## "hanging"

For lists where the items are labeled with a piece of text.

## "letters"

For ordered lists using letters as labels (lowercase letters followed by a period; after "z", it rolls over to a two-letter format). For nested lists, processors usually flip between uppercase and lowercase.

## "numbers"

For ordered lists using numbers as labels.

## "symbols"

For unordered (bulleted) lists.

The style of the bullets is chosen automatically by the processor (some implementations allow overriding the default using a processing instruction).

And, finally:

## "format ..."

For lists with customized labels, consisting of fixed text and an item counter in various formats.

The value is a free-form text that allows counter values to be inserted using a "percent-letter" format. For instance, "[REQ%d]" generates labels of the form "[REQ1]", where "%d" inserts the item number as decimal number.

The following formats are supported:

%c lowercase letters (a, b, c, etc.)

%C uppercase letters (A, B, C, etc.)

%d decimal numbers (1, 2, 3, etc.)

%i lowercase Roman numerals (i, ii, iii, etc.)



%I uppercase Roman numerals (I, II, III, etc.)

%% represents a percent sign

Other formats are reserved for future use.

## **2.26. <middle>**

Represents the main content of the document.

This element appears as child element of: <rfc> ([Section 2.37](#)).

Content model:

One or more <section> elements ([Section 2.38](#))

## **2.27. <note>**

Creates an unnumbered section that appears after the abstract.

It is usually used for additional information to reviewers (working group information, mailing list, ...), or for additional publication information such as "IESG Notes".

This element appears as child element of: <front> ([Section 2.20](#)).

Content model:

One or more <t> elements ([Section 2.41](#))

### **2.27.1. 'title' attribute (mandatory)**

The title of the note.

## **2.28. <organization>**

Specifies the affiliation of an author.

This information appears in both the "Author's Address" section and on the front page ([RFCSTYLE](#), Section 4.1.1). If the value is long, an abbreviated variant can be specified in the "abbrev" attribute.

This element appears as child element of: <author> ([Section 2.6](#)).

Content model: only text content.



### [2.28.1.](#) 'abbrev' attribute

Abbreviated variant.

### [2.29.](#) <phone>

Represents a phone number.

The value is expected to be the scheme-specific part of a "tel" URI (so does not include the prefix "tel:"), using the "global numbers" syntax. See [Section 3 of \[RFC3966\]](#) for details.

This element appears as child element of: <address> ([Section 2.2](#)).

Content model: only text content.

### [2.30.](#) <postal>

Contains optional child elements providing postal information. These elements will be displayed in an order that is processor-specific. Thus, a postal address should probably contain only a set of <street>, <city>, <region>, <code>, and <country> elements, or only a single <postalbody> element, but not both.

This element appears as child element of: <address> ([Section 2.2](#)).

Content model:

In any order:

- o <street> elements ([Section 2.40](#))
- o <city> elements ([Section 2.10](#))
- o <region> elements ([Section 2.36](#))
- o <code> elements ([Section 2.11](#))
- o <country> elements ([Section 2.12](#))
- o <postalbody> elements ([Section 2.31](#))

### [2.31.](#) <postalbody>

A method for presenting a postal address without using <street>, <city>, <region>, <code>, and <country> elements. Processors will maintain horizontal whitespace and line breaks in the text of the <postalbody> element.



This element appears as child element of: <postal> ([Section 2.30](#)).

Content model: only text content.

### **2.32. <postamble>**

Gives text that appears at the bottom of a figure or table.

This element appears as child element of: <figure> ([Section 2.18](#)), and <texttable> ([Section 2.42](#)).

Content model:

In any order:

- o Text
- o <xref> elements ([Section 2.48](#))
- o <eref> elements ([Section 2.16](#))
- o <iref> elements ([Section 2.22](#))
- o <cref> elements ([Section 2.13](#))
- o <tt> elements ([Section 2.44](#))
- o <b> elements ([Section 2.7](#))
- o <i> elements ([Section 2.21](#))

### **2.33. <preamble>**

Gives text that appears at the top of a figure or table.

This element appears as child element of: <figure> ([Section 2.18](#)), and <texttable> ([Section 2.42](#)).

Content model:

In any order:

- o Text
- o <xref> elements ([Section 2.48](#))
- o <eref> elements ([Section 2.16](#))



- o `<iref>` elements ([Section 2.22](#))
- o `<cref>` elements ([Section 2.13](#))
- o `<tt>` elements ([Section 2.44](#))
- o `<b>` elements ([Section 2.7](#))
- o `<i>` elements ([Section 2.21](#))

#### **[2.34.](#) `<reference>`**

Represents a bibliographical reference.

The reference can be expressed in one of two ways:

As a `<front>` element plus optional `<seriesInfo>`, `<format>`, and `<annotation>` elements.

As a pair of attributes: "series" and "document".

In the latter method, the document does not need to contain any specifics for the reference other than a simple specification of the reference.

For example, a reference to [RFC 6068](#) is given as either:

```
<reference anchor="RFC6068">
  <front>
    <title>The 'mailto' URI Scheme</title>
    <author initials="M." surname="Duerst" fullname="M. Duerst"/>
    <author initials="L." surname="Masinter" fullname="L. Masinter"/>
    <author initials="J." surname="Zawinski" fullname="J. Zawinski"/>
    <date year="2010" month="October"/>
  </front>
  <seriesInfo name="RFC" value="6068"/>
</reference>
```

or

```
<reference anchor="RFC6068" series="rfc" document="6068">
```

The values for the "series" attribute are:



Value for "series"	Value for "document"	Example
rfc	number	"6068"
fyi	number	"7"
id	file name	" <a href="#">draft-hoffman-xml2rfc</a> "
bcp	comma-separated list of numbers; the first number is the BCP number and the others are the RFCs that make up the BCP	"79,3979,4879"
std	comma-separated list of numbers; the first number is the STD number and the others are the RFCs that make up the STD	"69,5730,5731,5732,5733,5734"
3gpp	TBD	"TBD"
ansi	document name and year	"T1-102.1987"
ccitt	document name and year	"X690.2002"
fips	document name and year	"500-166.1989"
ieee	document name and year	"802-11H.2003"
iso	document name and year	"8859-6.1988"
itu	document name and year	"X509.2000"
nist	document name and year	"500-214.1993"
pkcs	document name and year	"9.1993"
w3c	document name (and year?)	"TBD"

The processor needs to make sure that exactly zero or one of "series" is given. It has to do a sanity check on the "document" value to be sure that the value is valid for the "series". If the "series" value is "bcp" or "std", the processor needs to check if the list in the "document" list matches the present or a previous set of values for the BCP or STD.

This element appears as child element of: <references>  
([Section 2.35](#)).

Content model:

In this order:



1. Optional <front> elements ([Section 2.20](#))
2. Optional <seriesInfo> elements ([Section 2.39](#))
3. Optional <format> elements ([Section 2.19](#))
4. Optional <annotation> elements ([Section 2.3](#))

#### [2.34.1.](#) 'anchor' attribute

Document-wide unique identifier for this reference. Usually, this will be used both to "label" the reference in the references section, and as an identifier in links to this reference entry.

The value needs to be a valid XML "Name" (Section 2.3 of [[XML](#)]).

#### [2.34.2.](#) 'document' attribute

The document or documents that make up a reference, as described earlier in this section.

#### [2.34.3.](#) 'series' attribute

The series from which the referred-to document comes from, as described earlier in this section.

#### [2.34.4.](#) 'target' attribute

Holds the URI for the reference.

Note that depending on the <seriesInfo> element, a URI might not be needed, nor desirable, as it can be automatically generated (for instance, for RFCs).

### [2.35.](#) <references>

Contains a set of bibliographical references.

In the early days of the RFC series, there was only one "References" section per RFC. This convention was later changed to group references into two sets, "Normative" and "Informative"; see item x of Section 4.8.5 of [[RFCSTYLE](#)]). This vocabulary supports the split with the "title" attribute.

This element appears as child element of: <back> ([Section 2.8](#)).

Content model:



One or more <reference> elements ([Section 2.34](#))

#### [2.35.1.](#) 'title' attribute

Provides the title for the References section (defaulting to "References").

In general, the title should be either "Normative References" or "Informative References".

#### [2.36.](#) <region>

Provides the region name in a postal address.

This element appears as child element of: <postal> ([Section 2.30](#)).

Content model: only text content.

#### [2.37.](#) <rfc>

This is the root element of the xml2rfc vocabulary.

Processors distinguish between RFC mode ("number" attribute being present) and Internet-Draft mode ("docName" attribute being present): it is invalid to specify both. Setting neither "number" nor "docName" can be useful for producing other types of document but is out-of-scope for this specification.

Content model:

In this order:

1. One <front> element ([Section 2.20](#))
2. One <middle> element ([Section 2.26](#))
3. One optional <back> element ([Section 2.8](#))

#### [2.37.1.](#) 'category' attribute

Document category (see [Appendix A.1](#)).

Allowed values:

- o "std"
- o "bcp"



- o "info"
- o "exp"
- o "historic"

#### **2.37.2. 'consensus' attribute**

Affects the generated boilerplate.

See [[RFC5741](#)] for more information.

Allowed values:

- o "no"
- o "yes"

#### **2.37.3. 'docName' attribute**

For Internet-Drafts, this specifies the draft name (which appears below the title).

Note that the file extension is not part of the draft, so in general it should end with the current draft number ("- ", plus two digits).

Furthermore, it is good practice to disambiguate current editor copies from submitted drafts (for instance, by replacing the draft number with the string "latest").

See Section 7 of [[IDGUIDE](#)] for further information.

#### **2.37.4. 'ipr' attribute**

Represents the Intellectual Property status of the document. See [Appendix A.2](#) for details.

Allowed values:

- o "full2026"
- o "noDerivativeWorks2026"
- o "none"
- o "full3667"



- o "noModification3667"
- o "noDerivatives3667"
- o "full3978"
- o "noModification3978"
- o "noDerivatives3978"
- o "trust200811"
- o "noModificationTrust200811"
- o "noDerivativesTrust200811"
- o "trust200902"
- o "noModificationTrust200902"
- o "noDerivativesTrust200902"
- o "pre5378Trust200902"

#### **2.37.5. 'iprExtract' attribute**

Identifies a Section within the document for which extraction "as-is" is explicitly allowed (only relevant for historic values of the "ipr" attribute).

#### **2.37.6. 'number' attribute**

The number of the RFC to be produced.

#### **2.37.7. 'obsoletes' attribute**

A comma-separated list of RFC numbers or Internet-Draft names.

#### **2.37.8. 'seriesNo' attribute**

When producing a document within document series (such as "STD"): the number within that series.

#### **2.37.9. 'submissionType' attribute**

The document stream.

See [Section 2 of \[RFC5741\]](#) for details.



Allowed values:

- o "IETF" (default)
- o "IAB"
- o "IRTF"
- o "independent"

#### **[2.37.10.](#) 'updates' attribute**

A comma-separated list of RFC numbers or Internet-Draft names.

#### **[2.37.11.](#) 'xml:lang' attribute**

The natural language used in the document (defaults to "en").

See Section 2.12 of [[XML](#)] for more information.

#### **[2.38.](#) <section>**

Represents a section (when inside a <middle> element) or an appendix (when inside a <back> element).

Sub-sections are created by nesting <section> elements inside <section> elements.

This element appears as child element of: <back> ([Section 2.8](#)), <middle> ([Section 2.26](#)), and <section> ([Section 2.38](#)).

Content model:

In this order:

1. In any order:

- \* <t> elements ([Section 2.41](#))
- \* <list> elements ([Section 2.25](#))
- \* <figure> elements ([Section 2.18](#))
- \* <texttable> elements ([Section 2.42](#))
- \* <iref> elements ([Section 2.22](#))



## 2. Optional <section> elements ([Section 2.38](#))

### [2.38.1.](#) 'anchor' attribute

Document-wide unique identifier for this comment.

The value needs to be a valid XML "Name" (Section 2.3 of [[XML](#)]).

### [2.38.2.](#) 'numbered' attribute

If set to "no", this section does not get a section number. Processors will verify that such a section is not followed by a numbered section in a part, and will verify that the section is a top-level section.

Allowed values:

- o "yes" (default)
- o "no"

### [2.38.3.](#) 'removeinrfc' attribute

If set to "yes", this section is marked in the processor with text indicating that it should be removed before the document is published as an RFC.

Allowed values:

- o "yes"
- o "no" (default)

### [2.38.4.](#) 'title' attribute (mandatory)

The title of the section.

### [2.38.5.](#) 'toc' attribute

Determines whether the section is included in the Table Of Contents.

[[anchor5: Need to consider inheritance.]]

Allowed values:

- o "include"



- o "exclude"
- o "default" (default)

### **[2.39.](#) <seriesInfo>**

Specifies the document series in which this document appears, and also specifies an identifier within that series.

This element appears as child element of: <reference> ([Section 2.34](#)).

Content model: this element does not have any contents.

#### **[2.39.1.](#) 'name' attribute (mandatory)**

The name of the series.

The following names trigger specific processing (such as for auto-generating links, and adding descriptions such as "work in progress"): "BCP", "FYI", "Internet-Draft", "RFC", and "STD".

#### **[2.39.2.](#) 'value' attribute (mandatory)**

The identifier within the series specified by the "name" attribute.

For BCPs, FYIs, RFCs, and STDs this is the number within the series. For Internet-Drafts, it is the full draft name (ending with the two-digit version number).

### **[2.40.](#) <street>**

Provides a street address.

This element appears as child element of: <postal> ([Section 2.30](#)).

Content model: only text content.

### **[2.41.](#) <t>**

Contains a paragraph of text.

This element appears as child element of: <abstract> ([Section 2.1](#)), <li> ([Section 2.24](#)), <note> ([Section 2.27](#)), and <section> ([Section 2.38](#)).

Content model:

In any order:



- o Text
- o <list> elements ([Section 2.25](#))
- o <figure> elements ([Section 2.18](#))
- o <xref> elements ([Section 2.48](#))
- o <eref> elements ([Section 2.16](#))
- o <ieref> elements ([Section 2.22](#))
- o <cref> elements ([Section 2.13](#))
- o <tt> elements ([Section 2.44](#))
- o <b> elements ([Section 2.7](#))
- o <i> elements ([Section 2.21](#))

#### **[2.41.1.](#) 'anchor' attribute**

Document-wide unique identifier for this comment.

The value needs to be a valid XML "Name" (Section 2.3 of [[XML](#)]).

#### **[2.42.](#) <texttable>**

Contains a table, consisting of an optional preamble, a header line, rows, and an optional postamble.

The number of columns in the table is determined by the number of <ttcol> elements. The number of rows in the table is determined by the number of <c> elements divided by the number of columns. There is no requirement that the number of <c> elements be evenly divisible by the number of columns.

This element appears as child element of: <section> ([Section 2.38](#)).

Content model:

In this order:

1. One optional <preamble> element ([Section 2.33](#))
2. One or more <ttcol> elements ([Section 2.45](#))



3. Optional <c> elements ([Section 2.9](#))
4. One optional <postamble> element ([Section 2.32](#))

#### **[2.42.1.](#) 'align' attribute**

Determines the horizontal alignment of the table.

Allowed values:

- o "left"
- o "center" (default)
- o "right"

#### **[2.42.2.](#) 'anchor' attribute**

Document-wide unique identifier for this comment.

The value needs to be a valid XML "Name" (Section 2.3 of [[XML](#)]).

#### **[2.42.3.](#) 'style' attribute**

[[element.texttable.attribute.style.missing: attribute description missing]]

Allowed values:

- o "all"
- o "none"
- o "headers"
- o "full" (default)

#### **[2.42.4.](#) 'suppress-title' attribute**

[[element.texttable.attribute.suppress-title.missing: attribute description missing]]

Allowed values:

- o "true"
- o "false" (default)



#### [2.42.5.](#) 'title' attribute

```
[[element.texttable.attribute.title.missing: attribute description
missing]]
```

#### [2.43.](#) <title>

Represents the document title.

When this element appears in the <front> element of the current document, the title might also appear in page headers or footers. If it's long (~40 characters), the "abbrev" attribute is used to specify an abbreviated variant.

This element appears as child element of: <front> ([Section 2.20](#)).

Content model: only text content.

##### [2.43.1.](#) 'abbrev' attribute

Specifies an abbreviated variant of the document title.

#### [2.44.](#) <tt>

Causes the text to be displayed in a constant-width font.

This element appears as child element of: <annotation> ([Section 2.3](#)), <b> ([Section 2.7](#)), <c> ([Section 2.9](#)), <i> ([Section 2.21](#)), <li> ([Section 2.24](#)), <postamble> ([Section 2.32](#)), <preamble> ([Section 2.33](#)), and <t> ([Section 2.41](#)).

Content model:

In any order:

- o Text
- o <xref> elements ([Section 2.48](#))
- o <eref> elements ([Section 2.16](#))
- o <iref> elements ([Section 2.22](#))
- o <cref> elements ([Section 2.13](#))
- o <b> elements ([Section 2.7](#))



- o `<i>` elements ([Section 2.21](#))

#### [2.45.](#) `<ttcol>`

Contains a column heading in a table.

This element appears as child element of: `<texttable>` ([Section 2.42](#)).

Content model:

In any order:

- o `<xref>` elements ([Section 2.48](#))
- o `<eref>` elements ([Section 2.16](#))
- o `<iref>` elements ([Section 2.22](#))
- o `<cref>` elements ([Section 2.13](#))
- o Text

##### [2.45.1.](#) 'align' attribute

Determines the horizontal alignment within the table column.

Allowed values:

- o "left" (default)
- o "center"
- o "right"

##### [2.45.2.](#) 'width' attribute

`[[element.ttcol.attribute.width.missing: attribute description missing]]`

#### [2.46.](#) `<uri>`

Contains a web address associated with the author.

The contents should be a valid URI (see [Section 3 of \[RFC3986\]](#)).

This element appears as child element of: `<address>` ([Section 2.2](#)).

Content model: only text content.



### [2.47.](#) `<workgroup>`

This element is used to specify the Working Group the document originates from, if any. The recommended format is the official name of the Working Group (with some capitalization).

In Internet-Drafts, this is used in the upper left corner of the boilerplate, replacing the "Network Working Group" string. Formatting software can append the words "Working Group" or "Research Group", depending on the "submissionType" property on the `<rfc>` element ([Section 2.37.9](#)).

This element appears as child element of: `<front>` ([Section 2.20](#)).

Content model: only text content.

### [2.48.](#) `<xref>`

Inserts a reference to a different part of a document.

The generated text depends on whether the `<xref>` is empty (in which case the processor will try to generate a meaningful text fragment), and the nature of the referenced document part.

Any element that allows the "anchor" attribute can be referenced, however there are restrictions with respect to the text content being generated. For instance, a `<t>` can be a reference target, however, because paragraphs are not (visibly) numbered, the author will have to make sure that the prose is sufficient for a reader to understand what is being referred to.

[[anchor6: This needs to be expanded with examples and with a discussion how the autogenerated text differs when `<xref>` is not empty]]

This element appears as child element of: `<annotation>` ([Section 2.3](#)), `<b>` ([Section 2.7](#)), `<c>` ([Section 2.9](#)), `<i>` ([Section 2.21](#)), `<li>` ([Section 2.24](#)), `<postamble>` ([Section 2.32](#)), `<preamble>` ([Section 2.33](#)), `<t>` ([Section 2.41](#)), `<tt>` ([Section 2.44](#)), and `<ttcol>` ([Section 2.45](#)).

Content model: only text content.

#### [2.48.1.](#) 'format' attribute

This attribute is used to control the format of the generated reference text.



"counter"

Inserts a counter, such as the number of a section, figure, or table.

"default"

Inserts a text fragment that describes the referenced part completely, such as "[Section 2](#)", "Table 4", or "[\[XML\]](#)".

"none"

There will be no auto-generated text.

"title"

Inserts a title for the referenced element (usually obtained from the referenced element's "title" attribute; some processors also use the <title> child element or a <reference> target).

Allowed values:

- o "counter"
- o "title"
- o "none"
- o "default" (default)

#### [2.48.2.](#) 'pageno' attribute

Unused.

It's unclear what the purpose of this attribute is; processors seem to ignore it and it never was documented.

Allowed values:

- o "true"
- o "false" (default)

#### [2.48.3.](#) 'target' attribute (mandatory)

Identifies the document component being referenced.

The value needs to match the value of the "anchor" attribute of



another element in the document.

### **3. Special Unicode Code Points**

[[anchor7: Explain those code points where the processors implement something special, such as "nbsp".]]

### **4. Internationalization Considerations**

This format is based on [\[XML\]](#), thus does not have any issues representing arbitrary Unicode [\[UNICODE\]](#) characters in text content.

However, the current canonical RFC format is restricted to US-ASCII [\[USASCII\]](#) characters ([\[RFC2223\]](#), [Section 3](#)). Future versions are likely to relax this role, and it is expected that the vocabulary will be extended so that US-ASCII alternatives can be provided when that makes sense (for instance, in contact information).

### **5. Security Considerations**

[[anchor8: This section is likely incomplete.]]

The "name" attribute on the <artwork> element ([Section 2.5.4](#)) can be used to derive a filename for saving to a local file system.

Trusting this kind of information without pre-processing is a known security risk; see [Section 4.3 of \[RFC6266\]](#) for more information.

Furthermore, all security considerations related to XML processing are relevant as well (see [Section 7 of \[RFC3470\]](#)).

### **6. IANA Considerations**

#### **6.1. Internet Media Type Registration**

IANA maintains the registry of Internet media types [\[BCP13\]](#) at <http://www.iana.org/assignments/media-types>.

This document serves as the specification for the Internet media type "application/rfc+xml". The following is to be registered with IANA.

Type name: application

Subtype name: rfc+xml

Required parameters: There are no required parameters.



Optional parameters: "charset": This parameter has identical semantics as the charset parameter of the "application/xml" media type specified in [\[RFC3023\]](#).

Encoding considerations: Identical to those of "application/xml" as described in [Section 3.2 of \[RFC3023\]](#).

Security considerations: As defined in [Section 5](#). In addition, as this media type uses the "+xml" convention, it inherits the security considerations described in [Section 10 of \[RFC3023\]](#).

Interoperability considerations: N/A

Published specification: This specification.

Applications that use this media type: Applications that either transform xml2rfc to output formats such as plain text or HTML, plus additional analysis tools.

Fragment identifier considerations: The "anchor" attribute is used for assigning document-wide unique identifiers that can be used as shorthand pointers, as described in Section 2.8 of [\[XPOINTER\]](#).

Additional information:

Deprecated alias names for this type: None.

Magic number(s): As specified for "application/xml" in [Section 3.2 of \[RFC3023\]](#).

File extension(s): .xml

Macintosh file type code(s): TEXT

Person & email address to contact for further information: See Authors Section.

Intended usage: COMMON

Restrictions on usage: N/A

Author: See Authors Section.

Change controller: RFC Series Editor (rse@rfc-editor.org)



## 7. Acknowledgments

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We also thank Marshall T. Rose for both the original design and the reference implementation of the "xml2rfc" formatter.

## 8. References

### 8.1. Normative References

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### 8.2. Informative References

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## **Appendix A. Front Page Generation**

### **A.1. The /rfc/@category Attribute**

For RFCs, the category determines the "maturity level" (see [Section 4 of \[RFC2026\]](#)). The allowed values are "std" for "Standards Track", "bcp" for "BCP", "info" for "Informational", "exp" for "Experimental", and "historic" for - surprise - "Historic".

For Internet-Drafts, the category attribute is not needed, but will appear on the front page as "Intended Status". Supplying this information can be useful to reviewers.

### **A.2. The /rfc/@ipr Attribute**

This attribute value can take a long list of values, each of which describes an IPR policy for the document. This attribute's values are not the result of a grand plan, but remain simply for historic reasons. Of these values, only a few are currently in use; all others are supported by the various tools for backwards compatibility with old source files.



Note: some variations of the boilerplate are selected based on the document's date; therefore it is important to specify the "year", "month" and "day" attributes of the <date> element when archiving the XML source of an Internet-Draft on the day of submission.

Disclaimer: THIS ONLY PROVIDES IMPLEMENTATION INFORMATION. IF YOU NEED LEGAL ADVICE, PLEASE CONTACT A LAWYER. For further information, refer to <<http://trustee.ietf.org/docs/IETF-Copyright-FAQ.pdf>>.

For the current "Status Of This Memo" text, the submissionType attribute determines whether a statement about "Code Components" is inserted (which is the case for the value "IETF", which is the default). Other values, such as "independent", suppress this part of the text.

#### **A.2.1. Current Values: '\*trust200902'**

The name for these values refers to the "IETF TRUST Legal Provisions Relating to IETF Documents", sometimes simply called the "TLP", that went into effect on February 15, 2009 ([[TLP2.0](#)]). Updates to this document were published on September 12, 2009 ([[TLP3.0](#)]) and on December 28, 2009 ([[TLP4.0](#)]), modifying the license for code components (see <<http://trustee.ietf.org/license-info/>> for further information). The actual text is located in [Section 6](#) ("Text To Be Included in IETF Documents") of these documents.

The tools will automatically produce the "correct" text depending on the document's date information (see above):

```
+-----+-----+
| TLP      | starting with publication date |
+-----+-----+
| [TLP3.0] | 2009-11-01                      |
| [TLP4.0] | 2010-04-01                      |
+-----+-----+
```

##### **A.2.1.1. trust200902**

This should be the default, unless one of the more specific '\*trust200902' values is a better fit. It produces the text in Sections [6.a](#) and [6.b](#) of the TLP.

##### **A.2.1.2. noModificationTrust200902**

This produces additional text from [Section 6.c.i](#) of the TLP:



This document may not be modified, and derivative works of it may not be created, except to format it for publication as an RFC or to translate it into languages other than English.

Note: this clause is incompatible with RFCs that are published on the Standards Track.

#### **A.2.1.3. noDerivativesTrust200902**

This produces the additional text from [Section 6.c.ii](#) of the TLP:

This document may not be modified, and derivative works of it may not be created, and it may not be published except as an Internet-Draft.

Note: this clause is incompatible with RFCs.

#### **A.2.1.4. pre5378Trust200902**

This produces the additional text from [Section 6.c.iii](#) of the TLP, frequently called the "pre-5378 escape clause":

This document may contain material from IETF Documents or IETF Contributions published or made publicly available before November 10, 2008. The person(s) controlling the copyright in some of this material may not have granted the IETF Trust the right to allow modifications of such material outside the IETF Standards Process. Without obtaining an adequate license from the person(s) controlling the copyright in such materials, this document may not be modified outside the IETF Standards Process, and derivative works of it may not be created outside the IETF Standards Process, except to format it for publication as an RFC or to translate it into languages other than English.

See [Section 4](#) of <http://trustee.ietf.org/docs/IETF-Copyright-FAQ.pdf> for further information about when to use this value.

Note: this text appears under "Copyright Notice", unless the document was published before November 2009, in which case it appears under "Status Of This Memo".

#### **A.2.2. Historic Values**

##### **A.2.2.1. Historic Values: '\*trust200811'**

The attribute values "trust200811", "noModificationTrust200811" and "noDerivativesTrust200811" are similar to their "trust200902"



counterparts, except that they use text specified in [http://trustee.ietf.org/license-info/archive/IETF-Trust-License-Policy\\_11-10-08.pdf](http://trustee.ietf.org/license-info/archive/IETF-Trust-License-Policy_11-10-08.pdf).

#### **A.2.2.2. Historic Values: '\*3978'**

The attribute values "full3978", "noModification3978" and "noDerivatives3978" are similar to their counterparts above, except that they use text specified in [RFC 3978](#) (March 2005).

#### **A.2.2.3. Historic Values: '\*3667'**

The attribute values "full3667", "noModification3667" and "noDerivatives3667" are similar to their counterparts above, except that they use text specified in [RFC 3667](#) (February 2004).

#### **A.2.2.4. Historic Values: '\*2026'**

The attribute values "full2026" and "noDerivativeWorks2026" are similar to their counterparts above, except that they use text specified in [RFC 2026](#) (October 1996).

The special value "none" was also used back then, and denied the IETF any rights beyond publication as Internet-Draft.

### **Appendix B. Relax NG Schema**

```
namespace a = "http://relaxng.org/ns/compatibility/annotations/1.0"

rfc =
  element rfc {
    attribute number { text }?,
    [ a:defaultValue = "" ] attribute obsoletes { text }?,
    [ a:defaultValue = "" ] attribute updates { text }?,
    attribute category { "std" | "bcp" | "info" | "exp" | "historic"
  }?,
  attribute consensus { "no" | "yes" }?,
  attribute seriesNo { text }?,
  attribute ipr {
    "full2026"
    | "noDerivativeWorks2026"
    | "none"
    | "full3667"
    | "noModification3667"
    | "noDerivatives3667"
    | "full3978"
    | "noModification3978"
```



```
    | "noDerivatives3978"
    | "trust200811"
    | "noModificationTrust200811"
    | "noDerivativesTrust200811"
    | "trust200902"
    | "noModificationTrust200902"
    | "noDerivativesTrust200902"
    | "pre5378Trust200902"
  }?,
  attribute iprExtract { xsd:IDREF }?,
  [ a:defaultValue = "IETF" ]
  attribute submissionType {
    "IETF" | "IAB" | "IRTF" | "independent"
  }?,
  attribute docName { text }?,
  [ a:defaultValue = "en" ] attribute xml:lang { text }?,
  front,
  middle,
  back?
}
front =
  element front {
    title, author+, date?, area*, workgroup*, keyword*, abstract?,
note*
  }
title =
  element title {
    attribute abbrev { text }?,
    text
  }
author =
  element author {
    attribute initials { text }?,
    attribute surname { text }?,
    attribute fullname { text }?,
    attribute role { "editor" }?,
    [ a:defaultValue = "en" ] attribute xml:lang { text }?,
    organization?,
    address?
  }
organization =
  element organization {
    attribute abbrev { text }?,
    text
  }
address =
  element address { (postal | phone | facsimile | email | uri)* }
postal =
```



```
    element postal {
      (street | city | region | code | country | postalbody)*
    }
street = element street { text }
city = element city { text }
region = element region { text }
code = element code { text }
country = element country { text }
postalbody = element postalbody { text }
phone = element phone { text }
facsimile = element facsimile { text }
email = element email { text }
uri = element uri { text }
date =
  element date {
    attribute day { text }?,
    attribute month { text }?,
    attribute year { text }?,
    empty
  }
area = element area { text }
workgroup = element workgroup { text }
keyword = element keyword { text }
abstract = element abstract { t+ }
note =
  element note {
    attribute title { text },
    t+
  }
middle = element middle { section+ }
section =
  element section {
    attribute anchor { xsd:ID }?,
    attribute title { text },
    [ a:defaultValue = "yes" ] attribute numbered { "yes" | "no" }?,
    [ a:defaultValue = "default" ]
    attribute toc { "include" | "exclude" | "default" }?,
    [ a:defaultValue = "no" ] attribute removeinrfc { "yes" | "no"
  }?,
  (t | \list | figure | texttable | iref)*,
  section*
}
t =
  element t {
    attribute anchor { xsd:ID }?,
    (text | \list | figure | xref | eref | iref | cref | tt | b | i)*
  }
\list =
```



```
element list {
  [ a:defaultValue = "empty" ] attribute style { text }?,
  attribute counter { text }?,
  attribute anchor { xsd:ID }?,
  attribute format { text }?,
  li+
}
li =
element li {
  attribute hangtext { text }?,
  attribute term { text }?,
  (text | t | xref | eref | iref | cref | tt | b)*
}
xref =
element xref {
  attribute target { xsd:IDREF },
  [ a:defaultValue = "false" ] attribute pageno { "true" | "false"
}?,
  [ a:defaultValue = "default" ]
  attribute format { "counter" | "title" | "none" | "default" }?,
  text
}
eref =
element eref {
  attribute target { text },
  text
}
iref =
element iref {
  attribute item { text },
  [ a:defaultValue = "" ] attribute subitem { text }?,
  [ a:defaultValue = "false" ]
  attribute primary { "true" | "false" }?,
  empty
}
cref =
element cref {
  attribute anchor { xsd:ID }?,
  attribute source { text }?,
  text
}
tt = element tt { (text | xref | eref | iref | cref | b | i)* }
b = element b { (text | xref | eref | iref | cref | tt | i)* }
i = element i { (text | xref | eref | iref | cref | b | tt)* }
figure =
element figure {
  attribute anchor { xsd:ID }?,
  [ a:defaultValue = "" ] attribute title { text }?,
```



```
[ a:defaultValue = "false" ]
attribute suppress-title { "true" | "false" }?,
attribute src { text }?,
[ a:defaultValue = "left" ]
attribute align { "left" | "center" | "right" }?,
[ a:defaultValue = "" ] attribute alt { text }?,
[ a:defaultValue = "" ] attribute width { text }?,
[ a:defaultValue = "" ] attribute height { text }?,
iref*,
preamble?,
artwork,
postamble?
}
preamble =
  element preamble { (text | xref | eref | iref | cref | tt | b |
i)* }
artwork =
  element artwork {
    [ a:defaultValue = "preserve" ]
    attribute xml:space { "default" | "preserve" }?,
    [ a:defaultValue = "" ] attribute name { text }?,
    [ a:defaultValue = "" ] attribute type { text }?,
    attribute src { text }?,
    [ a:defaultValue = "left" ]
    attribute align { "left" | "center" | "right" }?,
    [ a:defaultValue = "" ] attribute alt { text }?,
    [ a:defaultValue = "" ] attribute width { text }?,
    [ a:defaultValue = "" ] attribute height { text }?,
    [ a:defaultValue = "en" ] attribute xml:lang { text }?,
    text*
  }
postamble =
  element postamble { (text | xref | eref | iref | cref | tt | b |
i)* }
texttable =
  element texttable {
    attribute anchor { xsd:ID }?,
    [ a:defaultValue = "" ] attribute title { text }?,
    [ a:defaultValue = "false" ]
    attribute suppress-title { "true" | "false" }?,
    [ a:defaultValue = "center" ]
    attribute align { "left" | "center" | "right" }?,
    [ a:defaultValue = "full" ]
    attribute style { "all" | "none" | "headers" | "full" }?,
    preamble?,
    ttcol+,
    c*,
    postamble?
```



```
    }
ttcol =
  element ttcol {
    attribute width { text }?,
    [ a:defaultValue = "left" ]
    attribute align { "left" | "center" | "right" }?,
    (xref | eref | iref | cref | text)*
  }
c = element c { (text | xref | eref | iref | cref | tt | b | i)* }
back = element back { references*, section* }
references =
  element references {
    [ a:defaultValue = "References" ] attribute title { text }?,
    reference+
  }
reference =
  element reference {
    attribute anchor { xsd:ID }?,
    attribute target { text }?,
    attribute series { text }?,
    attribute document { text }?,
    front*,
    seriesInfo*,
    format*,
    annotation*
  }
seriesInfo =
  element seriesInfo {
    attribute name { text },
    attribute value { text },
    empty
  }
format =
  element format {
    attribute target { text }?,
    attribute type { text },
    attribute octets { text }?,
    empty
  }
annotation =
  element annotation {
    (text | xref | eref | iref | cref | tt | b | i)*
  }
start = rfc
```



## Index

## A

- abbrev attribute
  - in organization element 28
  - in title element 41
- abstract element 8
  - inside front 20
- address element 8
  - inside author 13
- align attribute
  - in artwork element 10
  - in figure element 18
  - in texttable element 40
  - in ttable element 42
- alt attribute
  - in artwork element 11
  - in figure element 19
- anchor attribute
  - in cref element 16
  - in figure element 19
  - in list element 23
  - in reference element 32
  - in section element 37
  - in t element 39
  - in texttable element 40
- annotation element 9
  - inside reference 32
- application/rfc+xml Media Type 45
- area element 9
  - inside front 20
- artwork element 10
  - align attribute 10
  - alt attribute 11
  - height attribute 11
  - inside figure 18
  - name attribute 11
  - src attribute 11
  - type attribute 11
  - width attribute 12
  - xml:lang attribute 12
  - xml:space attribute 12
- Attributes
  - abbrev 28, 41
  - align 10, 18, 40, 42
  - alt 11, 19
  - anchor 16, 19, 23, 32, 37, 39-40
  - category 33



- consensus 34
- counter 23
- day 17
- docName 34
- document 32
- format 24, 43
- fullname 13
- hangtext 23
- height 11, 19
- initials 13
- ipr 34
- iprExtract 35
- item 22
- month 17
- name 11, 38
- number 35
- numbered 37
- obsoletes 35
- octets 20
- pageno 44
- primary 22
- removeinrfc 37
- role 13
- series 32
- seriesNo 35
- source 16
- src 11, 19
- style 24, 40
- subitem 22
- submissionType 35
- suppress-title 19, 40
- surname 13
- target 17, 20, 32, 44
- term 23
- title 19, 27, 33, 37, 41
- toc 37
- type 11, 20
- updates 36
- value 38
- width 12, 19, 42
- xml:lang 12-13, 36
- xml:space 12
- year 17
- author element 12
  - fullname attribute 13
  - initials attribute 13
  - inside front 20
  - role attribute 13



surname attribute 13  
xml:lang attribute 13

## B

b element 13  
  inside annotation 9  
  inside c 15  
  inside i 21  
  inside li 23  
  inside postamble 29  
  inside preamble 30  
  inside t 39  
  inside tt 41  
back element 14  
  inside rfc 33

## C

c element 14  
  inside texttable 40  
category attribute  
  in rfc element 33  
city element 15  
  inside postal 28  
code element 15  
  inside postal 28  
consensus attribute  
  in rfc element 34  
counter attribute  
  in list element 23  
country element 15  
  inside postal 28  
cref element 15  
  anchor attribute 16  
  inside annotation 9  
  inside b 14  
  inside c 15  
  inside i 21  
  inside li 23  
  inside postamble 29  
  inside preamble 30  
  inside t 39  
  inside tt 41  
  inside ttcoll 42  
  source attribute 16

## D

date element 16  
  day attribute 17



- inside front 20
- month attribute 17
- year attribute 17
- day attribute
  - in date element 17
- docName attribute
  - in rfc element 34
- document attribute
  - in reference element 32

## E

### Elements

- abstract 8, 20
- address 8, 13
- annotation 9, 32
- area 9, 20
- artwork 10, 18
- author 12, 20
- b 9, 13, 15, 21, 23, 29-30, 39, 41
- back 14, 33
- c 14, 40
- city 15, 28
- code 15, 28
- country 15, 28
- cref 9, 14-15, 21, 23, 29-30, 39, 41-42
- date 16, 20
- email 9, 17
- eref 9, 14-15, 17, 21, 23, 29, 39, 41-42
- facsimile 8, 18
- figure 18, 36, 39
- format 19, 32
- front 20, 32-33
- i 9, 14-15, 21, 29-30, 39, 42
- iref 9, 14-15, 18, 21, 23, 29-30, 36, 39, 41-42
- keyword 20, 22
- li 22-23
- list 23, 36, 39
- middle 27, 33
- note 20, 27
- organization 13, 27
- phone 8, 28
- postal 8, 28
- postalbody 28
- postamble 18, 29, 40
- preamble 18, 29, 39
- reference 30, 33
- references 14, 32
- region 28, 33



- rfc 33
- section 14, 27, 36-37
- seriesInfo 32, 38
- street 28, 38
- t 8, 23, 27, 36, 38
- texttable 36, 39
- title 20, 41
- tt 9, 14-15, 21, 23, 29-30, 39, 41
- ttcol 39, 42
- uri 9, 42
- workgroup 20, 43
- xref 9, 14-15, 21, 23, 29, 39, 41-43
- email element 17
  - inside address 9
- eref element 17
  - inside annotation 9
  - inside b 14
  - inside c 15
  - inside i 21
  - inside li 23
  - inside postamble 29
  - inside preamble 29
  - inside t 39
  - inside tt 41
  - inside ttcol 42
  - target attribute 17

## F

- facsimile element 18
  - inside address 8
- figure element 18
  - align attribute 18
  - alt attribute 19
  - anchor attribute 19
  - height attribute 19
  - inside section 36
  - inside t 39
  - src attribute 19
  - suppress-title attribute 19
  - title attribute 19
  - width attribute 19
- format attribute
  - in list element 24
  - in xref element 43
- format element 19
  - inside reference 32
  - octets attribute 20
  - target attribute 20



- type attribute 20
- front element 20
  - inside reference 32
  - inside rfc 33
- fullname attribute
  - in author element 13

## H

- hangtext attribute
  - in li element 23
- height attribute
  - in artwork element 11
  - in figure element 19

## I

- i element 21
  - inside annotation 9
  - inside b 14
  - inside c 15
  - inside postamble 29
  - inside preamble 30
  - inside t 39
  - inside tt 42
- initials attribute
  - in author element 13
- ipr attribute
  - '\*2026' 52
  - '\*3667' 52
  - '\*3978' 52
  - '\*trust200811' 51
  - '\*trust200902' 50
  - 'noDerivativesTrust200902' 51
  - 'noModificationTrust200902' 50
  - 'pre5378Trust200902' 51
  - 'trust200902' 50
  - in rfc element 34
- iprExtract attribute
  - in rfc element 35
- iref element 21
  - inside annotation 9
  - inside b 14
  - inside c 15
  - inside figure 18
  - inside i 21
  - inside li 23
  - inside postamble 29
  - inside preamble 30
  - inside section 36



- inside t 39
- inside tt 41
- inside ttcol 42
- item attribute 22
- primary attribute 22
- subitem attribute 22
- item attribute
  - in iref element 22

## K

- keyword element 22
  - inside front 20

## L

- li element 22
  - hangtext attribute 23
  - inside list 23
  - term attribute 23
- list element 23
  - anchor attribute 23
  - counter attribute 23
  - format attribute 24
  - inside section 36
  - inside t 39
  - style attribute 24
- list styles
  - dictionary 24
  - empty 24-25
  - format ... 25-26
  - hanging 24, 26
  - letters 24, 26
  - numbers 24, 26
  - symbols 25-26

## M

- Media Type
  - application/rfc+xml 45
- middle element 27
  - inside rfc 33
- month attribute
  - in date element 17

## N

- name attribute
  - in artwork element 11
  - in seriesInfo element 38
- note element 27
  - inside front 20



- title attribute 27
- number attribute
  - in rfc element 35
- numbered attribute
  - in section element 37

## O

- obsoletes attribute
  - in rfc element 35
- octets attribute
  - in format element 20
- organization element 27
  - abbrev attribute 28
  - inside author 13

## P

- pageno attribute
  - in xref element 44
- phone element 28
  - inside address 8
- postal element 28
  - inside address 8
- postalbody element 28
  - inside postal 28
- postamble element 29
  - inside figure 18
  - inside texttable 40
- preamble element 29
  - inside figure 18
  - inside texttable 39
- primary attribute
  - in iref element 22

## R

- reference element 30
  - anchor attribute 32
  - document attribute 32
  - inside references 33
  - series attribute 32
  - target attribute 32
- references element 32
  - inside back 14
  - title attribute 33
- region element 33
  - inside postal 28
- removeinrfc attribute
  - in section element 37
- rfc element 33



- category attribute 33
- consensus attribute 34
- docName attribute 34
- ipr attribute 34
- iprExtract attribute 35
- number attribute 35
- obsoletes attribute 35
- seriesNo attribute 35
- submissionType attribute 35
- updates attribute 36
- xml:lang attribute 36
- role attribute
  - in author element 13

## S

- section element 36
  - anchor attribute 37
  - inside back 14
  - inside middle 27
  - inside section 37
  - numbered attribute 37
  - removeinrfc attribute 37
  - title attribute 37
  - toc attribute 37
- series attribute
  - in reference element 32
- seriesInfo element 38
  - inside reference 32
  - name attribute 38
  - value attribute 38
- seriesNo attribute
  - in rfc element 35
- source attribute
  - in cref element 16
- src attribute
  - in artwork element 11
  - in figure element 19
- street element 38
  - inside postal 28
- style attribute
  - in list element 24
  - in texttable element 40
- subitem attribute
  - in iref element 22
- submissionType attribute
  - in rfc element 35
- suppress-title attribute
  - in figure element 19



- in texttable element 40
- surname attribute
  - in author element 13

## T

- t element 38
  - anchor attribute 39
  - inside abstract 8
  - inside li 23
  - inside note 27
  - inside section 36
- target attribute
  - in eref element 17
  - in format element 20
  - in reference element 32
  - in xref element 44
- term attribute
  - in li element 23
- texttable element 39
  - align attribute 40
  - anchor attribute 40
  - inside section 36
  - style attribute 40
  - suppress-title attribute 40
  - title attribute 41
- title attribute
  - in figure element 19
  - in note element 27
  - in references element 33
  - in section element 37
  - in texttable element 41
- title element 41
  - abbrev attribute 41
  - inside front 20
- toc attribute
  - in section element 37
- tt element 41
  - inside annotation 9
  - inside b 14
  - inside c 15
  - inside i 21
  - inside li 23
  - inside postamble 29
  - inside preamble 30
  - inside t 39
- ttcol element 42
  - align attribute 42
  - inside texttable 39



- width attribute 42
- type attribute
  - in artwork element 11
  - in format element 20

## U

- updates attribute
  - in rfc element 36
- uri element 42
  - inside address 9

## V

- value attribute
  - in seriesInfo element 38

## W

- width attribute
  - in artwork element 12
  - in figure element 19
  - in ttcol element 42
- workgroup element 43
  - inside front 20

## X

- xml:lang attribute
  - in artwork element 12
  - in author element 13
  - in rfc element 36
- xml:space attribute
  - in artwork element 12
- xref element 43
  - format attribute 43
  - inside annotation 9
  - inside b 14
  - inside c 15
  - inside i 21
  - inside li 23
  - inside postamble 29
  - inside preamble 29
  - inside t 39
  - inside tt 41
  - inside ttcol 42
  - pageno attribute 44
  - target attribute 44
- xref formats
  - counter 44
  - default 44
  - none 44



title 44

Y

year attribute  
in date element 17

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