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Bulletins as an Extension to HTML  
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## Bulletins as an Extension to HTML

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### **1. Abstract**

This draft defines a bulletin mechanism that conveys time-varying information about a linked resource. It is in a form suitable for use by autonomous user agents monitoring documents for changes in content or for new or changed links. HTML authors can use bulletins to push information back to an interested audience.

Bulletins can be text messages of up to 1024 characters. A bulletin has a posting date associated with it and may also have an expiration date, an image, and a link to another resource.

### **2. Bulletins as HTTP headers**

When a server returns a resource under the HTTP specification [2], response headers describing the server, the status of the request, and the resource itself precede the resource contents.

Four new HTTP response headers define bulletins:

```
<bulletin-text> ::= "Bulletin-Text" ":" <rfc1945-string>  
<bulletin-image> ::= "Bulletin-Image" ":" <rfc1808-url>  
<bulletin-link> ::= "Bulletin-Link" ":" <rfc1738-url>  
<bulletin-date> ::= "Bulletin-Date" ":" <rfc1945-date>  
<bulletin-expires> ::= "Bulletin-Expires" ":" <rfc1945-date>
```



The "Bulletin-Text" header defines a textual string. A user agent will present this string to the end user as the bulletin content for the resource. This header is required if any bulletin headers are present.

The "Bulletin-Image" header defines the URL of an image. A user agent will present the linked image with the bulletin content for the resource. The URL will most likely be a relative URL as defined by [RFC 1808](#) [4], which will be interpreted as relative to the resource.

The "Bulletin-Link" header defines the URL [3] of a document linked to the bulletin. When the bulletin is opened, the user agent will fetch and display the linked document.

The "Bulletin-Date" header defines the date on which the bulletin was posted. The "Bulletin-Expires" header defines the date on which the bulletin becomes invalid. User agents should suppress display of expired bulletins or otherwise mark them as no longer valid or relevant. User agents may likewise choose to ignore bulletins which have a "Bulletin-Date" that has not yet arrived. Both date headers are in the form defined for dates in the HTTP specification, [RFC 1945](#) [2]. Several date formats are defined, with the preferred date format being:

Tue, 19 Nov 1996 18:30:00 GMT

User agents should be forgiving of small variations in date format. This header is required if any bulletin header is present.

### **3. Implementing bulletins using the META element**

Bulletins can be added to the head of an HTML document to allow messages to be pushed back to interested parties.

On a dynamically generated page:

If the HTML page is dynamically generated by a CGI program or script, then the headers for the Bulletin will be added to the headers generated at the beginning of the HTML document. These headers are sent back along with the other headers such as Expires:, Date:, and Last-Modified:.

On a static document page:

The HTML specification allows user-defined headers to be added to a document through the use of the META tag. A META tag for the bulletin information can be placed in the HEAD section of the document. For example,

```
<HEAD>
```

```
....Various title and other information ...
```

```
<META HTTP-EQUIV="Bulletin-Text"
      CONTENTS="The reason you should follow the link">
```

```
<META HTTP-EQUIV="Bulletin-Date"
      CONTENTS="Tue, 19 Nov 96 18:30:00 GMT">
```

```
</HEAD>
```

When bulletins are attached to a document in this way, they refer to the document as whole.

### **3. Bulletins as permitted attributes of HTML linking elements**

The most common use of bulletins is to allow users to know why they should be interested in new links added to static lists or to personalized query results. Four attributes are used to apply a bulletin to a linked resource:

```
<!ENTITY % bulletin-attrs
      "Bulletin-Text      CDATA      #IMPLIED
       Bulletin-Image     %URL;      #IMPLIED
       Bulletin-Date      %HTTP-date; #IMPLIED
       Bulletin-Expires   %HTTP-date; #IMPLIED">
```

Every bulletin attached to an HTML linking element must define both the Bulletin-Text and the Bulletin-Date.

The Bulletin-Text attribute defines a text message of up to 1024 characters in length. The Bulletin-Image defines the URL of an image. The user agent may display the bulletin text or bulletin image as the content of the bulletin for the linked resource.

The Bulletin-Date and Bulletin-Expires attributes are dates in the format defined by the HTTP specification, [RFC 1945](#) [2]. The Bulletin-Date represents the date on which the bulletin was posted and the Bulletin-Expires attribute represents the date on which the bulletin becomes invalid or irrelevant.

User agents should handle these attributes as defined for the HTTP bulletin headers defined in [section 2](#).

Note: There is no Bulletin-Link attribute. The target defined by the linked element already provides a live link to follow.

### **4. Elements on which bulletin attributes are permitted**

The current HTML specification [[1](#)] defines several elements for linking. Bulletin attributes will be permitted on any linking element that refers to an external document rather than an embedded multimedia object.

The primary linking element in HTML is the anchor, or A element. Bulletins may be attached to anchors as attributes. Example:

```
<A HREF="http://target.site.com/path/"
  Bulletin-Text="new reason to follow link"
  Bulletin-Date="Tue, 19 Nov 1996 18:30:00 GMT">Link Text</A>
```

The HTML specification allows one to define links in the HEAD section of the documents using the LINK element. Bulletins may be attached to links as attributes.

```
<HEAD>
... other stuff...
  <LINK REL=NEXT HREF="tour3.html"
    Bulletin-Text="new reason to follow this link"
    Bulletin-Date="Tue, 19 Nov 1996 18:30:00 GMT">
</HEAD>
```

Client-side image maps, defined in the revised version of HTML known as HTML 3.2 [5], provide a different interface to hyperlinks to other documents. Bulletins may be attached to this element as well. Example:

```
<MAP NAME="map1">
... other AREAs
  <AREA HREF="top10.html" ALT="Top Ten"
    SHAPE=RECT COORDS="276,0,373,28"
    Bulletin-Text="new reason to follow this link"
    Bulletin-Date="Tue, 19 Nov 1996 18:30:00 GMT"
  >
</MAP>
```

## 5. Changes to HTML Public Text

A DTD for HTML including this change requires the following additional definitions:

```
<!ENTITY % HTTP-Date "CDATA"
-- A date attribute should be as per HTTP specification (RFC 1945).
  The preferred date format is "Sun, 06 Nov 1994 08:49:37 GMT"
  The current bulletin spec also supports dates in the format:
  "Sun, 06-Nov-94 08:49:37"
-->
```

<!--

Bulletin attributes:

BULLETIN-DATE: date on which the bulletin was posted to the link

BULLETIN-TEXT: text of the bulletin attached to the link

BULLETIN-IMAGE: URL of image associated with bulletin

BULLETIN-EXPIRES: expiration date of bulletin

If any bulletin attribute is present, both of BULLETIN-DATE and BULLETIN-TEXT must be present.

-->

<!ENTITY % bulletin-attrs

```
"Bulletin-Text      CDATA          #IMPLIED
Bulletin-Image      %URL;          #IMPLIED
Bulletin-Date       %HTTP-date;    #IMPLIED
Bulletin-Expires    %HTTP-date;    #IMPLIED">
```

Each linking element in the DTD must also have %bulletin-attrs; added to its attribute list.

## References

- [1] Berners-Lee, T., and D. Connolly, "Hypertext Markup Language - 2.0", [RFC 1866](#), MIT/W3C, November 1995.
- [2] Berners-Lee, T., Fielding, R., and Frystyk, H., "Hypertext Transfer Protocol -- HTTP/1.0", [RFC 1945](#), MIT/LCS, UC Irvine, May 1996.
- [3] Berners-Lee, T., Masinter, L., and M. McCahill, "Uniform Resource Locators (URL)", [RFC 1738](#), CERN, Xerox PARC, University of Minnesota, December 1994.
- [4] Fielding, R., "Relative Uniform Resource Locators", [RFC 1808](#), UC Irvine, June 1995.
- [5] Raggett, D., "HTML 3.2 Reference Specification", work in progress.

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