

Network Working Group
Internet-Draft
Intended status: Informational
Expires: July 5, 2014

M. Nottingham
January 1, 2014

The Link-Template HTTP Header Field
draft-nottingham-link-template-01

Abstract

This specification defines the Link-Template HTTP header field, providing a means for describing the structure of a link between two resources, so that new links can be generated.

Status of this Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <http://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on July 5, 2014.

Copyright Notice

Copyright (c) 2014 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Internet-Draft

The Link-Template HTTP Header Field

January 2014

Table of Contents

1.	Introduction	3
2.	Requirements	3
3.	Notational Conventions	3
4.	The Link-Template Header Field	3
5.	The 'var-base' parameter	4
6.	Security Considerations	5
7.	IANA Considerations	5
8.	References	5
8.1.	Normative References	5
8.2.	Informative References	5
	Author's Address	6

[1.](#) Introduction

[RFC6570] defines a syntax for templates that, when expanded using a set of variables, results in a URI [[RFC3986](#)].

This specification defines a HTTP header field for conveying templated links in the headers of a HTTP message. It is complimentary to the Link header field [[RFC5988](#)], which carries links directly.

[2.](#) Requirements

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 [[RFC2119](#)].

[3.](#) Notational Conventions

This document uses the Augmented BNF defined in [[RFC2616](#)] to specify valid protocol elements.

Additionally, it uses the modified "parameter" rule from [[RFC5987](#)], and the "URI-Template" rule from [[RFC6570](#)].

[4.](#) The Link-Template Header Field

The Link-Template entity-header field provides a means for serialising one or more links into HTTP headers. It is semantically equivalent to the Link header field [[RFC5988](#)], except that it uses URI Templates [[RFC6570](#)] to convey the structure of links.

```
Link-Template = "Link-Template" ":" #linkt-value
linkt-value   = "<" URI-Template ">" *( ";" parameter )
```

For example:

Link-Template: </{username}>; rel="http://example.org/rel/user"

indicates that a resource with the relation type "http://example.org/rel/user" can be found by interpolating the "username" variable into the template given.

The target for the link (as defined by [\[RFC5988\]](#)) is the result of expanding the URI Template [\[RFC6570\]](#) (being converted to an absolute URI after expansion, if necessary).

The context, relation type and target attributes for the link are determined as defined for the Link header field in [\[RFC5988\]](#).

The parameters on a linkt-value have identical semantics to those of a Link header field [\[RFC5988\]](#). This includes (but is not limited to) the use of the "rel" parameter to convey the relation type, the "anchor" parameter to modify the context IRI, and so on.

Likewise, the requirements for parameters on linkt-values are the same as those for a Link header field; in particular, the "rel" parameter MUST NOT appear more than once, and if it does, the linkt-value MUST be ignored by parsers.

This specification defines additional semantics for the "var-base" parameter on linkt-values; see below.

[5.](#) The 'var-base' parameter

When a linkt-value has a 'var-base' parameter, its value conveys a URI-reference that is used as a base URI for the variable names in the URI template.

This mechanism allows template variables to be globally identified, rather than specific to the context of use. Dereferencing the URI for a particular variable might lead to more information about the syntax or semantics of that variable; specification of particular formats for this information is out of scope for this document.

To determine the URI for a given variable, the value given is used as a base URI in reference resolution (as specified in [RFC3986]). If the resulting URI is still relative, the context of the link is used as the base URI in a further resolution; see [RFC5988].

For example:

```
Link-Template: </widgets/{widget_id}>;  
               rel="http://example.org/rel/widget";  
               var-base="http://example.org/vars/"
```

indicates that a resource with the relation type "http://example.org/rel/widget" can be found by interpolating the "http://example.org/vars/widget_id" variable into the template given.

If the current context of the link is "http://example.org/", the same information could be conveyed by this header field:

```
Link-Template: </widgets/{widget_id}>;  
               rel="http://example.org/rel/widget";  
               var-base="/vars/"
```

6. Security Considerations

The security consideration for the Link header field in [RFC5988] and those for URI Templates [RFC6570] both apply.

7. IANA Considerations

This specification enters the "Link-Template" into the registry of Permanent Message Header Field Names.

- o Header Field Name: Link-Template
- o Protocol: http
- o Status:
- o Reference: [this document]

[8.](#) References

[8.1.](#) Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC2616] Fielding, R., Gettys, J., Mogul, J., Frystyk, H., Masinter, L., Leach, P., and T. Berners-Lee, "Hypertext Transfer Protocol -- HTTP/1.1", [RFC 2616](#), June 1999.
- [RFC5987] Reschke, J., "Character Set and Language Encoding for Hypertext Transfer Protocol (HTTP) Header Field Parameters", [RFC 5987](#), August 2010.
- [RFC5988] Nottingham, M., "Web Linking", [RFC 5988](#), October 2010.
- [RFC6570] Gregorio, J., Fielding, R., Hadley, M., Nottingham, M., and D. Orchard, "URI Template", [RFC 6570](#), March 2012.

[8.2.](#) Informative References

- [RFC3986] Berners-Lee, T., Fielding, R., and L. Masinter, "Uniform Resource Identifier (URI): Generic Syntax", STD 66, [RFC 3986](#), January 2005.

Author's Address

Mark Nottingham

Email: mnot@mnot.net

URI: <http://www.mnot.net/>

