

**Computing the CHECKIN URI in WebDAV versioning
draft-reschke-deltav-compute-checkin-uri-01**

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Abstract

In many cases, a versioning-aware client might want to display/include the URI of the version it's editing while it's being edited. For instance, an editor might include this as meta information, or the author of a document might want to know the URI of the version before it's checked in. A well-known example is the W3C way of referring to document versions in recommendations: it contains references to "the current version", to "this version" and to the "previous version". Something like this is currently impossible with WebDAV deltaV [[RFC3253](#)], as the version URI is

determined at the time of CHECKIN.

Distribution of this document is unlimited. Please send comments to the WebDAV versioning (delta-V) working group at ietf-dav-versioning@w3.org, which may be joined by sending a message with subject "subscribe" to ietf-dav-versioning-request@w3.org.

Discussions of the delta-V working group are archived at URL:
<http://lists.w3.org/Archives/Public/ietf-dav-versioning/>.

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1 Notational Conventions

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

2 Introduction

In many cases, a versioning-aware client might want to display/include the URI of the version it's editing while it's being edited. For instance, an editor might include this as meta information, or the author of a document might want to know the URI of the version before it's checked in. A well-known example is the W3C way of referring to document versions in recommendations: it contains references to "the current version", to "this version" and to the "previous version". Something like this is currently impossible with WebDAV deltaV [[RFC3253](#)], as the version URI is determined at the time of CHECKIN.

This specification builds on the infrastructure provided by the WebDAV Versioning Protocol, adding support for servers willing to compute an "expected version URI" upon CHECKOUT, and using this URI at time of CHECKIN.

This document defines an extension element that could ultimately become part of the WebDAV deltaV protocol. Being just an individual submission, it currently defines it in the proprietary namespace

<http://sapportals.com/xmlns/cm/webdav>

instead of the "DAV:" namespace. It uses a prefix of "cu:" for referring to elements in this namespace. However, WebDAV server and clients are free to use any prefix, provided that there is a namespace declaration that binds the prefix to the URI of the same namespace.

3 Changes for CHECKOUT method (when applied to a version-controlled resource)

A client may ask for an "expected version URI" upon CHECKOUT. This is done by placing cu:compute-expected-version-URI as top-level element into the request body. The server is free to either ignore the request, or to return it's best guess about what the URI for a version resource created upon CHECKIN would be.

The client can detect the "expected version URI" by parsing the response body for a top-level element called cu:expected-version-URI.

3.1 Example for successful CHECKOUT with computed version URI

>>Request

CHECKOUT /foo.html HTTP/1.1

Host: www.webdav.org

Content-Type: text/xml; charset="utf-8"

Content-Length: xxxx

```
<?xml version="1.0" encoding="utf-8" ?>
<D:checkout xmlns:D="DAV:"
  xmlns:cu="http://sapportals.com/xmlns/cm/webdav">
  <cu:compute-expected-version-URI />
</D:checkout>
```

>>Response

HTTP/1.1 200 OK

Cache-Control: no-cache

Content-Type: text/xml; charset="utf-8"

Content-Length: xxxx

```
<?xml version="1.0" encoding="utf-8" ?>
<D:checkout-response xmlns:D="DAV:"
  xmlns:cu="http://sapportals.com/xmlns/cm/webdav">
  <cu:expected-version-URI
    >http://repo.webdav.org/his/23/ver/32</cu:expected-version-URI>
</D:checkout-response>
```


In this example, the server was able to compute the "expected version URI" and returned it in the cu:expected-version-URI element.

3.2 Example for successful CHECKOUT without computed version URI

>>Request

CHECKOUT /foo.html HTTP/1.1

Host: www.webdav.org

Content-Type: text/xml; charset="utf-8"

Content-Length: xxxx

```
<?xml version="1.0" encoding="utf-8" ?>
```

```
<D:checkout xmlns:D="DAV:"
```

```
  xmlns:cu="http://saportals.com/xmlns/cm/webdav">
```

```
  <cu:compute-expected-version-URI />
```

```
</D:checkout>
```

>>Response

HTTP/1.1 200 OK

Cache-Control: no-cache

In this case, no response body was returned, and thus no "expected version URI" is available. Similarly, the server may also return

>>Response

HTTP/1.1 200 OK

Cache-Control: no-cache

Content-Type: text/xml; charset="utf-8"

Content-Length: xxxx

```
<?xml version="1.0" encoding="utf-8" ?>
```

```
<D:checkout-response xmlns:D="DAV:">
```

```
  ...other content...
```

```
</D:checkout-response>
```


where a response body is available, but it doesn't contain the cu:expected-version-URI element.

4 Changes for CHECKIN method (when applied to a version-controlled resource)

A client may submit the "expected version URI" (obtained during CHECKOUT) upon a CHECKIN by placing it into a top-level cu:expected-version-URI element in the request body. A server may

- o simply ignore the presence of this information or
- o use the information and try to checkin the resource using the "expected version URI" as location for the version resource. A failure to create a version resource at the "expected version URI" MUST cause the operation to fail with a status code of 403 (forbidden) and a response body containing the top-level element cu:cannot-assign-expected-version-URI. In addition, a server MAY return a new "expected version URI" in it's response body.

4.1 Example for successful CHECKIN with computed version URI

>>Request

```
CHECKIN /foo.html HTTP/1.1
Host: www.webdav.org
Content-Type: text/xml; charset="utf-8"
Content-Length: xxxx

<?xml version="1.0" encoding="utf-8" ?>
<D:checkin xmlns:D="DAV:"
  xmlns:cu="http://sapportals.com/xmlns/cm/webdav">
  <cu:expected-version-URI
    >http://repo.webdav.org/his/23/ver/32</cu:expected-version-URI>
  </D:checkin>
```

>>Response

```
HTTP/1.1 201 Created
Location: http://repo.webdav.org/his/23/ver/32
Cache-Control: no-cache
```

Note that the client can not rely on the server signaling an error if the expected version URI could not be applied. It will have to

compare the URI returned in the HTTP "Location" header with the requested version URI, and in the case of mismatch it MAY have to report the situation to the user.

4.2 Example for failed CHECKIN with computed version URI

>>Request

CHECKIN /foo.html HTTP/1.1

Host: www.webdav.org

Content-Type: text/xml; charset="utf-8"

Content-Length: xxxx

```
<?xml version="1.0" encoding="utf-8" ?>
<D:checkin xmlns:D="DAV:"
  xmlns:cu="http://sapportals.com/xmlns/cm/webdav">
  <cu:expected-version-URI
    >http://repo.webdav.org/his/23/ver/32</cu:expected-version-URI>
  </D:checkin>
```

>>Response

HTTP/1.1 403 Forbidden

Cache-Control: no-cache

Content-Type: text/xml; charset="utf-8"

Content-Length: xxxx

```
<?xml version="1.0" encoding="utf-8" ?>
<D:error xmlns:D="DAV:"
  xmlns:cu="http://sapportals.com/xmlns/cm/webdav">
  <cu:cannot-assign-expected-version-URI />
  <cu:expected-version-URI
    >http://repo.webdav.org/his/23/ver/33</cu:expected-version-URI>
  </D:error>
```


5 Compatibility Considerations

This specification does introduce new protocol elements for the request and response bodies for CHECKIN and CHECKOUT.

Clients not aware of this specification will never submit the new protocol elements in a request and therefore never will see the new response elements.

Servers not aware of this specification will ignore the additional two request body elements which is legal behaviour according to this protocol (indicating that the protocol extension is not available).

6 Internationalization Considerations

This proposal builds on [[RFC3253](#)], and inherits its internationalizability.

[7](#) IANA Considerations

This proposal does not introduce any new IANA considerations, since it does not specify any new namespaces (in the general sense), but merely uses existing ones.

[8](#) Copyright

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9 Intellectual Property

To be supplied by the RFC Editor.

References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC2518] Goland, Y., Whitehead, E., Faizi, A., Carter, S.R. and Jensen, D., "HTTP Extensions for Distributed Authoring -- WEBDAV", [RFC 2518](#), February 1999.
- [RFC3253] Clemm, G., Amsden, J., Ellison, T., Kaler, C. and Whitehead, J., "Versioning Extensions to WebDAV", [RFC 3253](#), March 2002.

Author's Address

Julian F. Reschke
greenbytes GmbH
Salzmannstrasse 152
Muenster, NW 48159
Germany

Phone: +49 251 2807760
Fax: +49 251 2807761
EMail: julian.reschke@greenbytes.de
URI: <http://www.greenbytes.de/tech/webdav/>

A Change Log

A.1 Since '[draft-reschke-deltav-compute-checkin-uri-00](#)'

Made the document element for responses upon failed CHECKIN DAV:error rather than DAV:checkin-response.

Updated reference to [[RFC3253](#)].

Moved extension elements out of DAV: namespace.

Changed examples to explicitly use utf-8 encoding for HTTP content type and XML encoding.

Globally replaced the term "CHECKIN URI" by "version URI"

Added note about how to discover whether the server actually applied the expected version URI.

Made sure artwork (figures) fits into 72 columns.

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