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**Content ID header field in Session Initiation Protocol (SIP)
draft-ietf-sipcore-content-id-01**

Abstract

This document specifies the Content-ID header field for usage in the Session Initiation Protocol (SIP).

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[1.](#) Introduction**[1.1.](#) Setting up ID value uniquely identifying body**

A SIP message consists of a start-line, one or more header fields, an empty line indicating the end of the header fields, and an optional message-body, as specified in [[RFC3261](#)].

A message-body of the SIP message can contain one body only or can contain several body parts, as specified in [[RFC3261](#)] and [[RFC5621](#)].

A body part encoded using [[RFC2045](#)] can contain a Content-ID header field with an ID value uniquely identifying the body part, as specified in [[RFC2045](#)].

However, when the message-body of the SIP message contains one body only, there is no body part specified. Thus, there is also no defined method how to convey an ID value uniquely identifying the body part.

1.2. Referencing the ID value uniquely identifying body

A SIP header field can contain a reference to a body part using a Content-ID URL, as specified in [[RFC5621](#)].

The Content-ID URL is specified in [[RFC2392](#)]. [[RFC2392](#)] also specifies how to discover the body part referenced by a Content-ID URL.

Examples of a SIP header field referencing a body part using a Content-ID URL are:

- o [[RFC6442](#)] specifies how a Geolocation header field references a body part using a Content-ID URL, for providing location.
- o [[RFC5368](#)] specifies how a Refer-To header field references a body part using a Content-ID URL, to provide a list of targets.

1.3. Problem statement

Since the Content-ID header field is not a defined SIP header field:

- o If solely one body needs to be transported in a SIP message and the UAC does not need to include in the SIP message a SIP header field referencing the body part, then the UAC sets the message-body to the body.
- o However, if solely one body needs to be transported in a SIP message and the UAC needs to include in the SIP message a SIP header field referencing the body part, then the UAC sets the message-body to be of the "multipart" MIME type and includes one body part and associated Content-ID header field.

1.4. Examples of the problem

1.4.1. Example 1

If a UAC sends an INVITE request conveying location as specified in [[RFC6442](#)], if the UAC decides not to include an SDP offer, and if the location is conveyed by value, then the UAC needs to include one body only in the INVITE request.

This body contains the location information and can be e.g. of the application/pidf+xml MIME type.

However, due to [[RFC6442](#)] requiring inclusion of a Geolocation header field referencing the body part containing the location information, the UAC needs to include a message-body of "multipart/mixed" MIME type in the INVITE request, and the UAC needs to include a body part

of the application/pidf+xml MIME type and associated Content-ID header field in the message-body of the "multipart/mixed" MIME type.

1.4.2. Example 2

If a UAC sends an REFER request including a list of targets as specified in [\[RFC5368\]](#), then the UAC needs to include one body only in the REFER request.

This body contains the list of targets and is of the application/resource-lists+xml MIME type.

However, due to [\[RFC5368\]](#) requiring inclusion of a Refer-To header field referencing the body part containing the list of targets, the UAC needs to include a message-body of the "multipart/mixed" MIME type in the REFER request and the UAC needs to include a body part of the application/resource-lists+xml MIME type and associated Content-ID header field in the message-body of the "multipart/mixed" MIME type.

1.5. Solution

To avoid the unnecessary usage of a message-body of a "multipart" MIME type when only one body needs to be included in a SIP message, this document specifies a Content-ID header field as a SIP header field.

The Content-ID header field included in header fields of a SIP message identifies a body part consisting of the message-body of the SIP message and:

- o a MIME-Version header field, if included in the header fields of the SIP message;
- o a Content-Disposition header field, if included in the header fields of the SIP message;
- o a Content-Encoding header field, if included in the header fields of the SIP message;
- o a Content-ID header field, if included in the header fields of the SIP message;
- o a Content-Language header field, if included in the header fields of the SIP message;
- o a Content-Length header field, if included in the header fields of the SIP message;
- o a Content-Type header field, if included in the header fields of the SIP message.

2. 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](#)].

3. Content-ID header field

3.1. Introduction

This section defines the usage of the Content-ID header field for SIP.

3.2. Syntax

The ABNF for the Content-ID header fields is:

```
Content-ID = "Content-ID" HCOLON msg-id
```

NOTE: msg-id is specified in [[RFC5322](#)].

3.3. Semantic

A Content-ID header field included in header fields of a SIP message indicates a globally unique identification of a body part consisting of the message-body of the SIP message and:

- o a MIME-Version header field, if included in the header fields of the SIP message;
- o a Content-Disposition header field, if included in the header fields of the SIP message;
- o a Content-Encoding header field, if included in the header fields of the SIP message;
- o a Content-ID header field, if included in the header fields of the SIP message;
- o a Content-Language header field, if included in the header fields of the SIP message;
- o a Content-Length header field, if included in the header fields of the SIP message;
- o a Content-Type header field, if included in the header fields of the SIP message.

The Content-ID header field can be included in any SIP message which is allowed to contain a message-body.

3.4. Procedures

3.4.1. UA procedures

A UA MAY include a Content-ID header field in any SIP message which is allowed to contain a message-body.

A UA MUST NOT include a Content-ID header field in any SIP message which is not allowed to contain a message-body.

The UA MUST set the value of the Content-ID header field to a globally unique value.

3.4.2. Proxy procedures

A proxy MUST NOT add a Content-ID header field in a SIP message.

A proxy MUST NOT modify a Content-ID header field included in a SIP message.

A proxy MUST NOT delete a Content-ID header field from a SIP message.

4. Security Considerations

The Content-ID header field value MUST NOT reveal sensitive user information.

If the message-body associated with the Content-ID header field contains encrypted content, it MUST NOT be possible to derive a key that can be used to decrypt the message-body content from the Content-ID header field value.

5. IANA Considerations

This specification registers a new SIP header field according to the procedures in [[RFC3261](#)].

5.1. Header Field

[RFC EDITOR NOTE: Please replace XXXX with the RFC number of this document when publishing]

RFC Number: RFC XXXX

Header Field Name: Content-ID

Compact Form: none

6. Change Log

[RFC EDITOR NOTE: Please remove this section when publishing]

Changes in [draft-ietf-sipcore-content-id-01](#):

- o Clean up of [section 1](#), including shortening introduction and cleaning up of "body" and "body part" usages.
- o Clarify that the SIP header fields forming the body part are not required to be present in the SIP message.
- o MIME-Version header field included as one of the SIP header fields forming the body part;

7. Normative References

- [RFC2045] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies", [RFC 2045](#), DOI 10.17487/RFC2045, November 1996, <<http://www.rfc-editor.org/info/rfc2045>>.
- [RFC2046] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types", [RFC 2046](#), DOI 10.17487/RFC2046, November 1996, <<http://www.rfc-editor.org/info/rfc2046>>.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), DOI 10.17487/RFC2119, March 1997, <<http://www.rfc-editor.org/info/rfc2119>>.
- [RFC2392] Levinson, E., "Content-ID and Message-ID Uniform Resource Locators", [RFC 2392](#), DOI 10.17487/RFC2392, August 1998, <<http://www.rfc-editor.org/info/rfc2392>>.
- [RFC5322] Resnick, P., Ed., "Internet Message Format", [RFC 5322](#), DOI 10.17487/RFC5322, October 2008, <<http://www.rfc-editor.org/info/rfc5322>>.
- [RFC3261] Rosenberg, J., Schulzrinne, H., Camarillo, G., Johnston, A., Peterson, J., Sparks, R., Handley, M., and E. Schooler, "SIP: Session Initiation Protocol", [RFC 3261](#), DOI 10.17487/RFC3261, June 2002, <<http://www.rfc-editor.org/info/rfc3261>>.

- [RFC5368] Camarillo, G., Niemi, A., Isomaki, M., Garcia-Martin, M., and H. Khartabil, "Referring to Multiple Resources in the Session Initiation Protocol (SIP)", [RFC 5368](#), DOI 10.17487/RFC5368, October 2008, <<http://www.rfc-editor.org/info/rfc5368>>.
- [RFC5621] Camarillo, G., "Message Body Handling in the Session Initiation Protocol (SIP)", [RFC 5621](#), DOI 10.17487/RFC5621, September 2009, <<http://www.rfc-editor.org/info/rfc5621>>.
- [RFC6442] Polk, J., Rosen, B., and J. Peterson, "Location Conveyance for the Session Initiation Protocol", [RFC 6442](#), DOI 10.17487/RFC6442, December 2011, <<http://www.rfc-editor.org/info/rfc6442>>.

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