            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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   provisions of BCP 78 and BCP 79.

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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

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   [RFC6442] Polk, J., Rosen, B., and J. Peterson, "Location Conveyance
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