

SIPCORE Working Group  
Internet-Draft  
Intended status: Standards Track  
Expires: August 3, 2017

C. Holmberg  
I. Sedlacek  
Ericsson  
January 30, 2017

**Content ID header field in Session Initiation Protocol (SIP)**  
**draft-ietf-sipcore-content-id-00**

Abstract

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

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 August 3, 2017.

Copyright Notice

Copyright (c) 2017 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.

## Table of Contents

<a href="#">1.</a>	<a href="#">Introduction</a>	<a href="#">2</a>
<a href="#">1.1.</a>	<a href="#">Setting up ID value uniquely identifying the body</a>	<a href="#">2</a>
<a href="#">1.2.</a>	<a href="#">Referencing the ID value uniquely identifying the body</a>	<a href="#">3</a>
<a href="#">1.3.</a>	<a href="#">Problem statement</a>	<a href="#">3</a>
<a href="#">1.4.</a>	<a href="#">Examples of the problem</a>	<a href="#">3</a>
<a href="#">1.4.1.</a>	<a href="#">Example 1</a>	<a href="#">3</a>
<a href="#">1.4.2.</a>	<a href="#">Example 2</a>	<a href="#">4</a>
<a href="#">1.5.</a>	<a href="#">Solution</a>	<a href="#">4</a>
<a href="#">2.</a>	<a href="#">Conventions</a>	<a href="#">4</a>
<a href="#">3.</a>	<a href="#">Content-ID header field</a>	<a href="#">5</a>
<a href="#">3.1.</a>	<a href="#">Introduction</a>	<a href="#">5</a>
<a href="#">3.2.</a>	<a href="#">Syntax</a>	<a href="#">5</a>
<a href="#">3.3.</a>	<a href="#">Semantic</a>	<a href="#">5</a>
<a href="#">3.4.</a>	<a href="#">Procedures</a>	<a href="#">5</a>
<a href="#">3.4.1.</a>	<a href="#">UA procedures</a>	<a href="#">5</a>
<a href="#">3.4.2.</a>	<a href="#">Proxy procedures</a>	<a href="#">6</a>
<a href="#">4.</a>	<a href="#">Security Considerations</a>	<a href="#">6</a>
<a href="#">5.</a>	<a href="#">IANA Considerations</a>	<a href="#">6</a>
<a href="#">5.1.</a>	<a href="#">Header Field</a>	<a href="#">6</a>
<a href="#">6.</a>	<a href="#">Change Log</a>	<a href="#">6</a>
<a href="#">7.</a>	<a href="#">Normative References</a>	<a href="#">6</a>
	<a href="#">Authors' Addresses</a>	<a href="#">7</a>

## [1.](#) Introduction

### [1.1.](#) Setting up ID value uniquely identifying the 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 bodies, as specified in [\[RFC3261\]](#).

When the message-body of the SIP message contains several bodies, each body is included in a body part encoded using [\[RFC2045\]](#) format in the message-body of the SIP message, as specified in [\[RFC5621\]](#). A body part encoded using [\[RFC2045\]](#) format 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 are no body parts and there is also no defined method how to convey an ID value uniquely identifying the body part. Also, the Content-ID header field is not a defined SIP header field and thus



the Content-ID header field cannot be included in the header fields of a SIP message.

## **1.2. Referencing the ID value uniquely identifying the 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 When solely one body needs to be transported in a SIP message, if a UAC does not need to include in the SIP message a SIP header field referencing the body part, the UAC sets the message-body to the body.
- o However, when solely one body needs to be transported in a SIP message, if a UAC needs to include in the SIP message a SIP header field referencing the body part, then the UAC needs to include the body in a body part encoded using the [[RFC2045](#)] format. I.e., the UAC sets the message-body using [[RFC2045](#)] format and includes one body part with the body 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/pdf+xml MIME type.



However, due to [\[RFC6442\]](#) requiring inclusion of a Geolocation header field referencing the body part with the body 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 with the application/pidf+xml body and associated Content-ID header field in the multipart/mixed body.

#### **[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 UE needs to include a body part with the application/resource-lists+xml body and associated Content-ID header field in the multipart/mixed body.

#### **[1.5.](#) Solution**

To avoid the unnecessary usage of the [\[RFC2045\]](#) format 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 Content-Disposition header field;
- o a Content-Encoding header field;
- o a Content-Language header field;
- o a Content-Length header field;
- o a Content-Type header field; and
- o a Content-ID header field;

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 Content-Disposition header field;
- o a Content-Encoding header field;
- o a Content-Language header field;
- o a Content-Length header field;
- o a Content-Type header field; and
- o a Content-ID header field;

included in 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]

TBD

## **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>>.



- [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>>.

#### Authors' Addresses

Christer Holmberg  
Ericsson  
Hirsalantie 11  
Jorvas 02420  
Finland

Email: [christer.holmberg@ericsson.com](mailto:christer.holmberg@ericsson.com)



Ivo Sedlacek  
Ericsson  
Sokolovska 79  
Praha 18600  
Czech Republic

Email: ivo.sedlacek@ericsson.com