Session Initiation Protocol (SIP) Exploder Invocation
draft-camarillo-sipping-exploders-solution-00.txt

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Abstract

This document defined the SIP EXPLODE method, which is used to instruct user agents to send a request to a set of destinations.
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1. Introduction

The need for exploders in SIP is described in [6]. Mechanisms to invoke exploders in SIP need to meet the requirements listed there.

The SIP REFER method [4] allows a user agent to request another user agent to send a request to a third party. Still, we need to define a new method due to the following two reasons:

1. REFER allows only a single destination (i.e., a single Refer-To URI.)

2. REFER's implicit subscriptions are problematic in certain scenarios.

We introduce a new method called EXPLODE that carries a set of destinations in a URI list. The Request-URI of an EXPLODE method carries a URI in a list parameter that points to the URI list. The URI may be carried in the EXPLODE request itself or may be fetched from somewhere (e.g., using XCAP.)

EXPLODE methods do not establish any type of subscription. If a user agent sending a EXPLODE request is interested in some aspect of the explosion, it can send a SUBSCRIBE request to the URI received in the response to the EXPLODE.

2. Terminology

In this document, the key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" are to be interpreted as described in BCP 14, RFC 2119 [1] and indicate requirement levels for compliant implementations.

3. The EXPLODE Method

EXPLODE is a SIP method as defined by RFC 3261 [2]. The EXPLODE method indicates that the recipient (identified by the Request-URI) should contact a set of third parties using the contact information provided in the URI list that the list parameter of the Request-URI points to.

The protocol for emitting and responding to an EXPLODE request is identical to that for a BYE request in RFC 3261 [2].

4. The Template Disposition-Type

When using REFER, the new request to be sent is described using URI
parameters. For example, the following Refer-To header field contains the values of the Accept-Contact and Call-ID header fields of the new request.

Refer-To: <sip:bob@biloxi.example.net?Accept-Contact=sip:bobsdesk.biloxi.example.net&Call-ID%3D55432%40alicepc.atlanta.example.com>

Exploders typically generate several similar requests towards different destinations. So, although it is possible to add the same URI parameters to all the URIs in the definition of the URI list, it is not an efficient way to encode that information.

We define a new disposition-type: template. Bodies of this disposition-type (typically sipfrag bodies as defined in RFC 3420 [3]) provide the exploder with a template for the messages to be sent.

The following example shows a body whose disposition-type is template. It indicates that the requests to be sent should be MESSAGES carrying the text "Hello world."

Content-Disposition: template
Content-type: message/sipfrag
Content-Length: xxx

MESSAGE sip:whoever.invalid SIP/2.0
Content-Type: text/plain
Content-Length: 12

Hello World.

If any of the URIs in a Explode-To header field has a URI parameter indicating a different value for a header field than the one indicated in the template, the exploder MUST use the value in the URI parameter.

Note that in order to include the method in a sipfrag body, it is necessary to include the Request-URI as well (the whole Request-line needs to be included as specified in RFC 3420 [3]. If the Explode-To header field only contains one URI, this URI SHOULD be placed in the Request-URI of the template body. Otherwise, it is RECOMMENDED that the Request-URI in the template body is an invalid URI.

5. Example

We need to add the whole call flow.
EXPLODE sip:exploder@example.com;list=cid:cn35t8jf02@example.com SIP/2.0
Via: SIP/2.0/TCP client.example.com:5060;branch=z9hG4bK74bf9
Max-Forwards: 70
From: Alice <sip:alice@example.com>;tag=9fxced76sl
To: Exploder <sip:exploder@example.com>
Call-ID: 3848276298220188511@client.example.com
CSeq: 1 EXPLODE
Contact: <sip:alice@client.example.com;transport=tcp>
Conten-Type: multipart/mixed;boundary="boundary1"
Content-Length: xxx

--boundary1
Content-Disposition: template
Content-type: message/sipfrag
Content-Length: xxx

MESSAGE sip:whoever.invalid SIP/2.0
Content-Type: text/plain
Content-Length: 12

Hello World.

--boundary1
Content-Type: application/resource-lists+xml
Content-Length: xxx
Content-ID: <cn35t8jf02@example.com>

<?xml version="1.0" encoding="UTF-8"?>
<resource-lists xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <list name="ad-hoc-1">
    <entry name="1" uri="sip:bill@example.com" />
    <entry name="2" uri="sip:joe@example.com" />
    <entry name="3" uri="sip:ted@example.com" />
    <entry name="4" uri="sip:bob@example.com" />
  </list>
</resource-lists>

--boundary1--

Normative References


Informational References


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