Conference Establishment Using Request-Contained Lists in the Session Initiation Protocol (SIP)
draft-ietf-sipping-uri-list-conferencing-00.txt

Status of this Memo

By submitting this Internet-Draft, I certify that any applicable patent or other IPR claims of which I am aware have been disclosed, and any of which I become aware will be disclosed, in accordance with RFC 3668.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

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."

The list of current Internet-Drafts can be accessed at http://www.ietf.org/ietf/1id-abstracts.txt.

The list of Internet-Draft Shadow Directories can be accessed at http://www.ietf.org/shadow.html.

This Internet-Draft will expire on January 5, 2005.

Copyright Notice

Abstract

This document describes how to create a conference using SIP URI-list services. In particular, we describe a mechanism that allows a client to provide a conference server with the initial list of participants using an INVITE-contained URI-list.

Table of Contents

1. **Introduction**

Section 4.5 of [3] describes how to create a conference using ad-hoc
SIP [2] methods. The client sends an INVITE request to a conference
factory URI, and receives the actual conference URI, which contains
the "IsFocus" feature tag, in the Contact header field of a response
(typically a 200 OK).

Once the client obtains the conference URI, it can add participants
to the newly created conference in several ways, which are described
in [3].

Some environments have tough requirements regarding conference
establishment time. So, they require the client to be able to request
the creation of an ad-hoc conference and to provide the server with
the initial set of participants in a single operation. This document
describes how to meet this requirement using the mechanism to
transport URI lists in SIP messages described in [4].

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. **Providing a Conference Server with a URI-List**

A client that wants to include the set of initial participants in its
initial INVITE to create an ad-hoc conference, adds a body whose
disposition type is uri-list, as defined in [4], with a URI list that
contains the participants that the client wants the server to INVITE.
The client sends this INVITE to the conference factory URI.

4. **URI List Format**

As described in [4], the default format for URI lists in SIP is the
XCAP resource list format [5]. Still, specific services need to
describe which information clients should include in their URI lists,
as described in [4].

Conferencing UAs SHOULD use flat lists (i.e., no hierarchical lists),
SHOULD NOT use any entry's attributes but "uri", and SHOULD NOT
include any elements inside entries but "display-name" elements.

A conference factory application receiving a URI list with more
information than what we have just described SHOULD discard all the

extra information.

5. Conference Server Behavior

On reception of an INVITE with a uri-list body as described in
Section 3, a conference server MUST follow the rules described in [3]
to create ad-hoc conferences. Once the ad-hoc conference is created,
the conference server SHOULD attempt to add the participants in the
URI list to the conference as if their addition had been requested
using any of the methods described in [3] (e.g., using CPCP [7]).

Once the conference server has created the ad-hoc conference and has
attempted to add the initial set of participants, the conference
server behaves as a regular conference server and MUST follow the
rules in [3].

Note that the status code in the response to the INVITE does not
provide any information about whether or not the conference server
was able to bring the users in the URI-list into the conference. That
is, a 200 (OK) means that the conference was created successfully,
that the client that generated the INVITE is in the conference, and
that the server understood the URI list. If the client wishes to
obtain information about the status of other users in the conference
it SHOULD use general conference mechanisms, such as the conference
package [8].

6. Example

The following is an example of an INVITE request, which carries a URI
list in a uri-list body, sent by a UA to a conference factory
application.


```
INVITE sip:conf-fact@example.com SIP/2.0
Via: SIP/2.0/TCP client.chicago.example.com
    ;branch=z9hG4bKhjhs8ass83
Max-Forwards: 70
To: Conf Factory <sip:conf-fact@example.com>
From: Carol <sip:carol@chicago.example.com>;tag=32331
Call-ID: d432fa84b4c76e66710
CSeq: 1 INVITE
Contact: <sip:carol@client.chicago.example.com>
Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REFER,
      SUBSCRIBE, NOTIFY
Allow-Events: dialog
Accept: application/sdp, message/sipfrag,
Conten-Type: multipart/mixed;boundary="boundary1"
Content-Length: 635
```

```
   --boundary1
   Content-Type: application/sdp

   v=0
   o=carol 2890844526 2890842807 IN IP4 chicago.example.com
   s=Example Subject
   c=IN IP4 192.0.2.1
   t=0 0
   m=audio 20000 RTP/AVP 0
   a=rtpmap:0 PCMU/8000
   m=video 20002 RTP/AVP 31
   a=rtpmap:31 H261/90000

   --boundary1
   Content-Type: application/resource-lists+xml
   Content-Disposition: uri-list

   <?xml version="1.0" encoding="UTF-8"?>
   <resource-lists xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
     <list>
       <entry uri="sip:bill@example.com" />
       <entry uri="sip:joe@example.org" />
       <entry uri="sip:ted@example.net" />
     </list>
   </resource-lists>
   --boundary1--
```

                       Figure 1: INVITE request

7. Security Considerations

   This document discusses setup of SIP conferences using a
   request-contained URI-list. Both conferencing and URI-lists services
   have specific security requirements which will be summarized here.
   Conferences generally have authorization rules about who may or may
   not join a conference, what type of media may or may not be used,
   etc. This information is used by the focus to admit or deny
   participation in a conference. It is RECOMMENDED that these types of
   authorization rules be used to provide security for a SIP conference.

   For this authorization information to be used, the focus needs to be
   able to authenticate potential participants. Normal SIP mechanisms
   including Digest authentication and certificates can be used. These
   conference specific security requirements are discussed further in
   the requirements and framework documents.

   For conference creation using a list, there are some additional

security considerations. The Security Considerations Section of the
Requirements and Framework for SIP URI-List Services [6] discusses
issues related to SIP URI-list services. Given that a conference
server sending INVITEs to a set of users acts as an URI-list service,
implementations of conference servers that handle lists MUST follow
the security-related rules in [6]. These rules include mandatory
authentication and authorization of clients, and opt-in lists.

8. Acknowledges

Cullen Jennings provided useful comments on this document.

9. References

9.1 Normative References

[1] Bradner, S., "Key words for use in RFCs to Indicate Requirement
     Levels", BCP 14, RFC 2119, March 1997.

[2] Rosenberg, J., Schulzrinne, H., Camarillo, G., Johnston, A.,
     Peterson, J., Sparks, R., Handley, M. and E. Schooler, "SIP:
     Session Initiation Protocol", RFC 3261, June 2002.

[3] Johnston, A. and O. Levin, "Session Initiation Protocol Call
     Control - Conferencing for User Agents",
     draft-ietf-sipping-cc-conferencing-03 (work in progress),
     February 2004.

[4] Camarillo, G., "Providing a Session Initiation Protocol (SIP)
     Application Server with a List of URIs",
     draft-camarillo-sipping-uri-list-01 (work in progress), February
     2004.

[5] Rosenberg, J., "An Extensible Markup Language (XML)
     Configuration Access Protocol (XCAP) Usage for Presence Lists",
     draft-ietf-simple-xcap-list-usage-02 (work in progress),
     February 2004.

[6] Camarillo, G., "Requirements for Session Initiation Protocol
     (SIP) Exploder Invocation", draft-camarillo-sipping-exploders-02
     (work in progress), February 2004.

9.2 Informational References

[7] Koskelainen, P. and H. Khartabil, "An Extensible Markup Language
     (XML) Configuration Access Protocol (XCAP) Usage for Conference
     Policy Manipulation", draft-koskelainen-xcon-xcap-cpcp-usage-02
     (work in progress), February 2004.

   [8]   Rosenberg, J. and H. Schulzrinne, "A Session Initiation Protocol
         (SIP) Event Package for Conference State",
         draft-ietf-sipping-conference-package-03 (work in progress),
         February 2004.

Authors' Addresses

   Gonzalo Camarillo
   Ericsson
   Hirsalantie 11
   Jorvas 02420
   Finland

   EMail: Gonzalo.Camarillo@ericsson.com

   Alan Johnston
   MCI
   100 South 4th Street
   St. Louis, MO 63102
   USA

   EMail: alan.johnston@mci.com

Intellectual Property Statement

Disclaimer of Validity

Copyright Statement

Acknowledgment