A Group Text Chat Purpose for Conference and Service URIs in the Session
Initiation Protocol (SIP) Event Package for Conference State
draft-ivov-grouptextchat-purpose-04

Abstract

This document defines and registers a value of "grouptextchat"
("Group Text Chat") value for the URI <purpose> element of SIP’s
Conference Event Package [RFC4575].

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1. Introduction

The Conference Event Package [RFC4575] defines means for a SIP User Agent (UA) to obtain information about the state of the conference, the types of media that are being used, the number and state of current participants, additional sources of information such as a web page, availability of recordings and others.

Details describing auxiliary services available for a conference are included within a <service-uris> child element of the <conference-description> element. Such details are presented as a set of <entry> child elements each containing the URI allowing access the corresponding auxiliary service. In addition to the URI, entries can also contain a descriptive <display-text> element and are expected to also have a <purpose> element that specifies their nature as illustrated in the following example:

<conference-description>
  <subject>Agenda: This sprint’s goals</subject>
  <service-uris>
    <entry>
      <uri>http://conference.example.com/dev-group/</uri>
      <purpose>web-page</purpose>
    </entry>
  </service-uris>
</conference-description>

In addition to the "web-page" purpose mentioned above, [RFC4575] also defines several other possible values in a "URI purposes" sub-registry under the existing registry: http://www.iana.org/assignments/sip-parameters.

This specification adds the "grouptextchat" value in this "URI purposes" sub-registry. The new value allows conference mixers or

Appendix A. Acknowledgements
focus agents to advertise a multi-user chat location (i.e. a chat room) associated with the current conference.

The actual URI carried by the entry with the "grouptextchat" purpose can be of any type as long as the content that it points to would allow for instant text communication between participants of the conference. Suitable URI schemes include sip: and sips: [RFC3261] for SIP signalled Message Session Relay Protocol (MSRP) conferences, xmpp: [RFC5122] for XMPP Multi-User Chat (MUC), irc: for Internet Relay Chat, http: or https: for web-based chat, and others.

The following example shows one possible use case:

```
<conference-description>
  <subject>Agenda: The goals for this development sprint.</subject>
  <service-uris>
    <entry>
      <uri>xmpp:dev-sprint@conference.example.com</uri>
      <purpose>grouptextchat</purpose>
    </entry>
  </service-uris>
</conference-description>
```

It is worth pointing out that, in addition to simply adding text messaging capabilities to an audio/video conference, group chats can also be used for defining roles, giving permissions, muting, kicking and banning participants, etc. A conference mixer or focus agent, can mimic these settings within the conference call, actually muting, kicking, or banning participants in the call as these actions occur in the chat room. Such an approach requires no additional specification and is purely an implementation decision for the conferencing software.

It is also worth mentioning that it is possible for the grouptextchat URI to match the URI of the conference. This would typically be the case in scenarios where the conference focus also provides a SIP signalled MSRP chat service at the same URI.

Also, in some cases, servers could potentially advertise more than a single chat room for a specific conference. When this happens clients supporting the "grouptextchat" purpose could present the user with a choice or join multiple chats simultaneously. Either way there is to be no expectation about any content synchronization between chat rooms. If it exists such behaviour would be entirely implementation specific.
2. Security Considerations

Advertising group text chats over SIP could provide malicious entities with the following attack vector: if a malicious entity is capable of intercepting and modifying conference package event notifications, it could trick participants into joining a third party chat room where the attacker could eavesdrop on the conversation and potentially even impersonate some of the participants.

Similar attacks are already possible with the "participation" <conference-uris> defined in [RFC4575] which is why it recommends "a strong means for authentication and conference information protection" as well as "comprehensive authorization rules". Clients can integrity protect and encrypt notification messages using end-to-end mechanisms such as S/MIME or hop-by-hop mechanisms such as TLS. When none of the above are possible, clients will need to clearly display the address of the destination chat room (before and after it has been joined) so that users could notice possible discrepancies.

As an example, let’s consider a situation where an attacker would trick participants into joining a conference chat at xmpp:attack@evil.example.com rather than the chat at xmpp:dev-sprint@conference.example.com, which was originally advertised for this conference. In the absence of any SIP layer security, displaying the full URI of the target chat room to the user would be the only way of actually detecting the problem.

Obviously, relying on human-performed string comparison is a rather meek form of protection. Client developers are hence encouraged to implement additional checks that would allow users to request via configuration that target chat room satisfy some basic criteria, such as:

- target chat rooms belong to the same domain as the conference service that is advertising them.
- chat room names (user part of the chat room URI) match the name of the conference.

Once again these conditions are only satisfied if the corresponding deployment conventions have been followed and they cannot be universally required by clients. Hence the suggestion to have them as configuration options.

An additional security consideration might be the possibility for a large-scale conference to perform a flooding attack on a chat room. To help prevent this, clients could choose to require an explicit user action before joining chat rooms on behalf of users. In cases
where such a constraint could be considered to have negative impact on usability and where automatic joins are seen as important, clients may still perform them but only when they can confirm a relationship between the room and the conference (e.g. they both belong to the same administrative domain, or domains that the client is provisioned to consider as related).

Furthermore, an attack on the auxiliary chatroom might be easier (or harder) than an attack on the main conference depending on the security policies in effect. Once again, clients would have to make sure that users are appropriately notified about the security levels of each component of the conference and that user-specified privacy restrictions are applied to all of them.

3. IANA Considerations

The IANA is requested to add a new predefined value "grouptextchat" in the "URI purposes" sub-registry of the http://www.iana.org/assignments/sip-parameters registry as follows:

Value: grouptextchat
Description: The URI can be used to join a multi-user chat directly associated with the conference
Document: [this document]

4. References

4.1. Normative References


4.2. Informative References


Appendix A. Acknowledgements
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