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**Requirements for Conference Policy Control Protocol**  
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Abstract

The conference policy server allows clients to manipulate and interact with the conference policy. One mechanism to manipulate the policy is to use conference policy control protocol (CPCP). This document gives the requirements for CPCP.

## Table of Contents

<a href="#">1.</a>	Introduction . . . . .	<a href="#">3</a>
<a href="#">2.</a>	Conventions Used in This Document . . . . .	<a href="#">4</a>
<a href="#">3.</a>	Terminology . . . . .	<a href="#">5</a>
<a href="#">4.</a>	Integration with Floor Control . . . . .	<a href="#">6</a>
<a href="#">5.</a>	Conference Policy Data Model . . . . .	<a href="#">7</a>
<a href="#">6.</a>	CPCP Requirements . . . . .	<a href="#">8</a>
<a href="#">6.1</a>	Conference creation, termination and joining . . . . .	<a href="#">8</a>
<a href="#">6.2</a>	Manipulating general conference attributes . . . . .	<a href="#">8</a>
<a href="#">6.3</a>	Authentication and Security . . . . .	<a href="#">9</a>
<a href="#">6.4</a>	Application and media manipulation . . . . .	<a href="#">9</a>
<a href="#">6.5</a>	ACL manipulation . . . . .	<a href="#">9</a>
<a href="#">6.6</a>	Floor control . . . . .	<a href="#">10</a>
<a href="#">6.7</a>	Inviting and ejecting users . . . . .	<a href="#">10</a>
<a href="#">6.8</a>	User Privileges . . . . .	<a href="#">10</a>
<a href="#">6.9</a>	General Protocol Requirements . . . . .	<a href="#">11</a>
<a href="#">7.</a>	Acknowledgements . . . . .	<a href="#">12</a>
	Normative References . . . . .	<a href="#">13</a>
	Informative References . . . . .	<a href="#">14</a>
	Authors' Addresses . . . . .	<a href="#">14</a>
	Intellectual Property and Copyright Statements . . . . .	<a href="#">15</a>



## **1. Introduction**

The conferencing framework document [3] describes the overall architecture, terminology, and protocol components needed for multi-party conferencing. It defines a logical function called a conference policy server (CPS) which can store and manipulate rules associated with participation in a conference. These rules include directives on the lifespan of the conference, who can and cannot join the conference, definitions of roles available in the conference and the responsibilities associated with those roles, and policies on who is allowed to request which roles.

The conference policy control protocol (CPCP) is a client-server protocol that can be used by users to manipulate the rules associated with the conference.

The conference policy is represented by a URI. There is a unique conference policy for each conference. The conference policy URI points to a conference policy server which can manipulate that conference policy.

Conferencing framework describes also conference notification service that is a logical function provided by the focus. It means that the focus can act as a notifier, accepting subscriptions to the conference state.

Note that CPCP is not the only mechanism to manipulate conference policy, but other mechanisms exists as well, such as Web interface.

This document can be used with other documents, such as Conferencing framework document [3]. Moreover, [5] and [7] give useful background information about conferencing and floor control.



## **2. Conventions Used in This Document**

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 [RFC 2119](#).

### **3. Terminology**

This document uses the definitions from [\[3\]](#).

Additional definitions:

#### **ACL**

Access control list (ACL) defines users who can join a conference. Users may have allow, blocked or pending status in the list. Each conference has its own ACL.

#### **Moderator**

A special (privileged) role for a user that is allowed to manipulate conference policy and override policy decisions made by other users.

#### **Floor control**

Floor control is a mechanism that enables applications or users to gain safe and mutually exclusive or non-exclusive access to the shared object or resource in a conference.

#### **Privilege**

A privilege is a right to perform a manipulation operation in a conference. It is user permission such as the right to modify ACL or expel users.





#### **4. Integration with Floor Control**

Floor control is an optional feature often used by conferencing applications. It enables applications or users to gain safe and mutually exclusive or non-exclusive input access to a shared object or resource. We define a floor as the temporary permission for a conference participant to access or manipulate a specific shared resource or group of resources.

We assume that the ability of users to create floors is governed by the conference policy. Privileged conference user may use floor control protocol (see e.g. [6]) or some other mechanism to create floors.

The conference policy defines who is allowed to create, change, and remove floors using the floor control protocol.

Floor chair is also appointed using the floor control protocol when the floor is created. Typically, only conference moderators are allowed to use these commands.

The conference moderator can remove the floor at any time using floor control protocol (so that the resources are no longer floor-controlled), or change the floor chair or the floor parameters.

The floor chair just controls the access to the floor, according to the floor policy, defined at a time when the floor is created.



## **5. Conference Policy Data Model**

Conference policy data is relatively static. It is not updated frequently as e.g. participant list is not part of conference policy. Users with sufficient privileges are able to manipulate conference policy. For example, a user with sufficient privileges may manipulate conference's access control list by adding a user into the ACL allowed list.

## **6. CPCP Requirements**

This section describes requirements for the conference policy protocol.

### **6.1 Conference creation, termination and joining**

REQ-A1: It MUST be possible to create a new conference addressable by a URI.

REQ-A2: It MUST be possible to associate policy attributes to a conference URI.

REQ-A3: It MUST be possible to reserve a conference URI for future use with or without associating policy attributes to it.

REQ-A4: It SHOULD be possible for a privileged user to read conference policy for a given conference URI, during and before joining the conference.

REQ-A5: It MUST be possible to delete existing conference policy. This results in terminating the conference, deleting conference URI and releasing all resources associated with it.

REQ-A6: It SHOULD be possible to anonymously participate in a conference.

REQ-A7: It SHOULD be possible to participate in a conference as a hidden user. Hidden user is present in a conference, but his presence is not revealed.

REQ-A8: It MUST be possible to assign multiple conference URIs to a conference, one for each call signaling protocol that the conference server supports.

### **6.2 Manipulating general conference attributes**

REQ-B1: It MUST be possible to set, modify and delete a conference Subject.

REQ-B2: It MUST be possible to set, modify and delete conference URI display name.

REQ-B3: It MUST be possible to set, modify and delete conference creator information (as is seen e.g. in SDP o line).

REQ-B4: It MUST be possible to set, modify and delete conference URI link for more information (as used e.g. in SDP u line).



REQ-B5: It MUST be possible to set, modify and delete conference host contact information (as used e.g. in SDP e and p lines).

REQ-B6: It MUST be possible to set, modify and delete short conference session description (as used e.g. in SDP i line). This can be per session or per media.

REQ-B7: It SHOULD be possible to set, modify and delete the parameter for max number of conference participants. This defines how many users at max can be present at the same time.

REQ-B8: It MUST be possible to hide conference related information from non-privileged users.

REQ-B9: It MUST be possible to inactive a conference for defined period of time.

REQ-B10: It SHOULD be possible to set, modify and delete conference Keywords. (This may be useful e.g. for search engines).

### **6.3 Authentication and Security**

REQ-C1: It MUST be possible to define appropriate authentication for joining users.

REQ-C2: It MUST be possible to use sips: scheme as a conference URI.

### **6.4 Application and media manipulation**

REQ-D1: It MAY be possible to define media policy within conference policy.

### **6.5 ACL manipulation**

REQ-E1: It MUST be possible to define which users are not allowed to join the conference.

REQ-E2: It MUST be possible to define which users are not allowed to join a conference in a single operation.

REQ-E3: It MUST be possible to define which users are allowed to join the conference.

REQ-E4: It MUST be possible to define which users are allowed to join a conference in a single operation.

REQ-E5: It MUST be possible to define which users are places into pending list, waiting for further approval e.g. from moderator.



REQ-E6: It MUST be possible to use wildcards in ACL (such as sip:\*@example.com is allowed to join).

REQ-E7: ACL conflicts MUST be solved in a well-defined way (e.g. what if user appears both in blocked list and in allowed list) e.g. by mandating the order in which ACL definitions are evaluated (e.g. most specific expression first).

REQ-E8: Conference MUST have default policy for those users that no matching rule is found in ACL.

REQ-E9: It MUST be possible to allow and disallow anonymous membership in a conference.

REQ-E10: It MUST be possible to allow and disallow hidden membership in a conference.

## **6.6 Floor control**

REQ-F1: It MUST be possible to assign and de-assign the users who are allowed to manipulate floor policy.

## **6.7 Inviting and ejecting users**

REQ-G1: It MUST be possible to define a dial-out list of users that the conference focus invites.

REQ-G2: It MUST be possible to set a dial-out list in a single operation.

REQ-G3: It MUST be possible to expel users from a currently occurring conference.

REQ-G4: It MUST be possible to expel many users in a single operation.

REQ-G5: It SHOULD be possible to define list of users who the focus should refer to the conference (so that the referred users will dial in the conference).

REQ-G6: It SHOULD be possible to set the list of referred users in a single operation.

## **6.8 User Privileges**

REQ-H1: It MUST be possible to give a privilege to a user.

REQ-H2: It MUST be possible to give privileges to many users in a





single operation.

REQ-H3: It MUST be possible to remove a privilege from a user.

REQ-H4: It MUST be possible to remove privileges from many users in a single operation.

REQ-H5: It SHOULD be possible to define users who are allowed to subscribe to conference event package [\[4\]](#)

## **[6.9](#) General Protocol Requirements**

REQ-CP-1: Protocol behaviour: CPCP protocol MUST be a reliable client-server protocol. Hence, it MUST have a positive response indicating that the request has been received, or error response if an error has occurred.

REQ-CP-2: Manipulations of the policy collection MUST exhibit the ACID property; that is, they MUST be atomic, be consistent, durable, and operate independently.

REQ-CP-3: It MAY be possible for the client to batch multiple operations (such as add a user to ACL blocked list, or remove a user from ACL allowed list) into a single request that is processed atomically.

REQ-CP-4: It MUST be possible for the server to authenticate the client.

REQ-CP-5: It MUST be possible for the client to authenticate the server.

REQ-CP-6: It MUST be possible for message integrity to be ensured between the client and the server.

REQ-CP-7: It MUST be possible for privacy to be ensured between the client and server.



## **7. Acknowledgements**

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## Normative References

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