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A User Identifier for Centralized Conferencing (XCON)
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Abstract

A conferencing system is defined by "A framework and Data Model for Centralized Conferencing" and represents a container for administering and managing all conference related information. The conference user concept is introduced in the framework to identify the entity participating in a conference and manipulating conferencing system related properties. This document defines a Conference User Identifier and provides some guidelines for

identifying a specific conference user within a conferencing system. The document also provides some examples of the logical mapping of this conference user identifier to protocol and signaling interface specific user identifiers.

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1. Introduction

This document defines a user identifier for a conference user within a conferencing system. A conferencing system is defined by "A framework and Data Model for Centralized Conferencing" [3] and represents a container for administering and managing all related information ranging from conference policy to conference instance management. Within a conferencing system, a conference user identifies the entity participating in a conference and attempting to manipulate conferencing system related properties.

A centralized conference as defined in [3] is both signaling and protocol agnostic. However, users interface with the conferencing system using specific protocol and signaling interfaces. Each of these protocols/interfaces often define their own user identifier, which provides a contextual representation of who exactly is associated with a specific protocol or signaling interface.

This document provides a top level common user identifier to associate these related protocol and interface user identifiers. It also provides guidelines on how this conferencing system wide user identifier can be used to derive a protocol or interface specific user. The centralised user management allows for control over uniqueness within a system. It also aids in the creation and management of conferencing system wide policies.

2. Conventions and Terminology

In this document, [BCP 14](#)/RFC 2119 [1] defines the key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL". In addition, [BCP 15](#) indicates requirement levels for compliant implementations.

This document uses the terminology defined in [3].

3. Overview

Each user within a conferencing system is allocated a unique Conference User Identifier. The conference user identifier is used in association with the conference object identifier defined in [6] and by the conference control protocol to uniquely identify a conference user within the scope of a conferencing system. The conference control protocol uses the conference user identifier to uniquely determine who is issuing commands. Appropriate policies can then be applied to the requested command.

As with the conference object identifier, a number of supplementary user identifiers defined in other protocols are used within a conference instance. Such user identifiers can be associated with this conference user identifier and enable the conferencing system to correlate and map these multiple authenticated user identities to a single global user identifier. This document defines no explicit syntax or strict mapping mechanism for the conference user identifier, but rather provides some guidelines and examples that illustrate the required logical association between the various user identifiers.

Figure 1 illustrates an example using the conference user identifier in association with the user identity defined for BFCP and SIP Digest user identity as defined in [RFC3261](#)[2], which would be used when SIP is the call signaling protocol. It should be noted that a conferencing system is free to structure such relationships as required and this information is just included as a guideline that can be used.

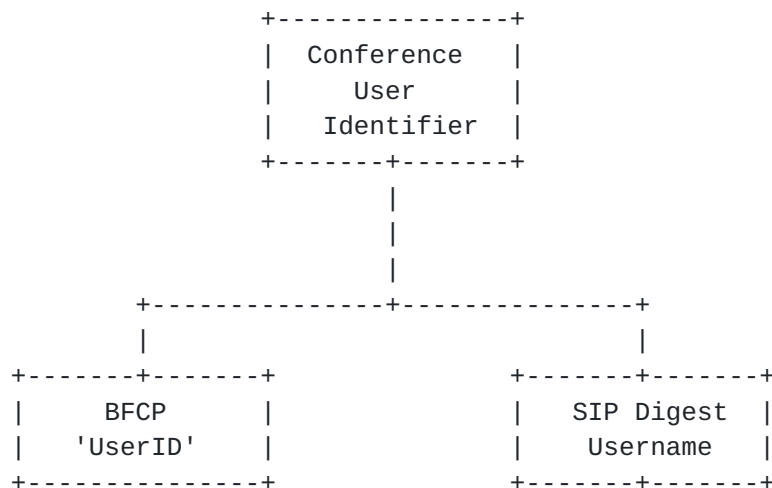


Figure 1: Conference User Identifier

Within a conferencing system, a user is identified by a single conference user identifier. Any additional conferencing mechanisms that contain a protocol specific user ID can be associated with the conference user identifier, as illustrated in Figure 1. This mechanism allows conferencing systems to manage and relate system wide user identities in relation to specific conference objects and helps in the enforcement of system wide policies.

4. Conference User Identifier Mapping Examples

The section provides some more detailed examples of the mapping of conferencing user identifier to the various signaling protocol user identifiers.

The following example illustrates the representation and relationships that might occur in a typical conference instance. The table in Figure 2 lists a typical representation of User Identity hierarchy and association.

| Conf User ID | BFCP User ID | SIP User ID | H323 User ID |
|--------------|--------------|-------------|--------------|
| John | HK37ihdaj | 123674 | 928373 |

Figure 2: User Identity Representation

The information from Figure 2 can then be applied to the representation introduced in Figure 1. This results in Figure 3.

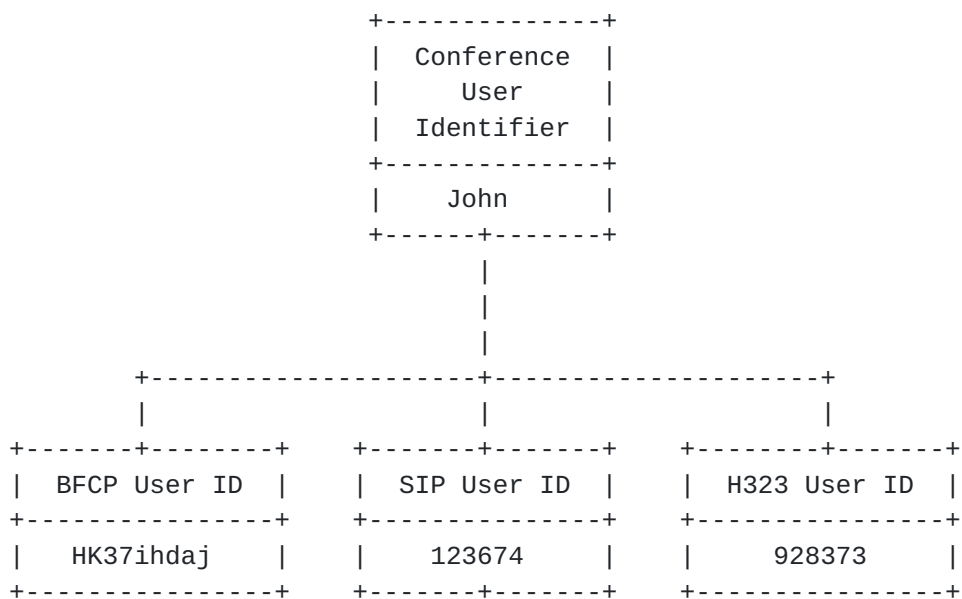


Figure 3: User ID Tree Representation

Further elements can be added to the tree representation in Figure 3

to enable a complete representation of a conference instance within a conferencing system.

If a conferencing system can guarantee that user identities for varying protocols can use one unique identifier across the whole system then this type of mechanism is not required. Some systems require more complex user identity association. For example, a SIP User dialing into a Conference might enter using a PIN code using DTMF. The PIN code would then be used to uniquely identify the conference user within the conferencing system.

5. Conference User Identifier Guidelines

The conference user identifier is reflected in the XCON data model [7] by the <user> entity. It is RECOMMENDED that a display name field be included as part of the identifier to support non-English display names.

A typical mode for distributing the user identifier is out of band during conferencing client configuration, thus the mechanism is outside the scope of the centralized conferencing framework and protocols. However, a conferencing system MUST also be capable of allocating and distributing a user identifier during the first signaling interaction with the conferencing system, such as an initial request for blueprints or adding a new user to an existing conference using the conference control protocol. When a user joins a conference using a signaling specific protocol, such as SIP for a dial-in conference, a conference user identifier MUST be assigned if one is not already associated with that user. While this conference user identifier isn't required for the participant to join the conference, it is required to be allocated and assigned by the conferencing system such that it is available for use for any subsequent conference control protocol operations and/or notifications associated with that conference. For example, the conference user identifier would be sent in any notifications that may be sent to existing participants, such as the moderator, when this user joins.

This document proposes no strict guidelines for mapping between the Conference User Identifier and other signaling protocol specific user identifiers.

6. Security Considerations

As discussed in the centralized conferencing framework, there are a wide variety of potential attacks related to conferencing, due to the

natural involvement of multiple endpoints and the many, often user-invoked, capabilities provided by the conferencing system. As discussed in the centralized conferencing framework, the security associated with conference control protocol MUST provide mechanisms for confidentiality and integrity of the protocol messages.

The primary area of concern related to the conference user identifier would be around the security and privacy of the identity that is associated with the conference user identifier. The conferencing system has an idea of the identity of a user but it SHOULD be revealed only to authorized parties, due to privacy considerations.

7. Acknowledgments

This document was initially created from content based upon details in the XCON FW document that were deemed out of scope for a framework document. The authors would like to thank Oscar Novo, Roni Even and Srivatsa Srinivasan for their feedback on this document.

8. References

8.1. Normative References

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