

draft-dolly-xcon-mediacentrlframe-03.txt

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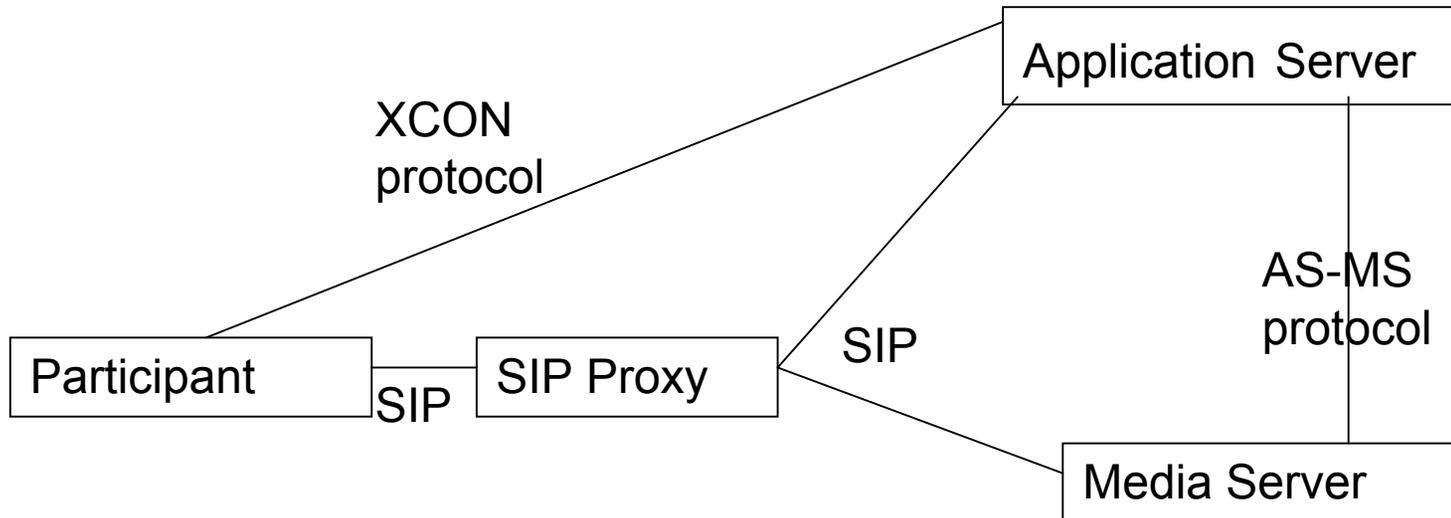
draft-even-media-server-req-02.txt

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From the Charter

- A requirements document. This document will identify and enumerate requirements for a suite of media server control protocols. Given that one of the common media server clients is a conference application server, we will consider the application server - media server requirements developed by the XCON work group. Likewise, we will consider media server control requirements from other standards groups, such as 3GPP SA2 and CT1, ETSI TISPAN and ATIS.

Architecture



Terminology

- Application Server (AS) - The application server includes the conference policy server, the focus and the conference notification server as defined in draft-ietf-sipping-conferencing-framework.
- Media Server (MS) - The media server includes the mixer as defined in draft-ietf-sipping-conferencing-framework. The media server source media streams for announcements, it process media streams for functions like DTMF detection and transcoding. The media server may also record media streams for supporting IVR functions like announcing participants.

Current protocols

Currently there are some protocols that try to address this architecture. The IETF drafts and ITU standards include

1. MSCML in RFC 4722 (Informational).
2. draft-melanchuk-sipping-msml-07.
3. draft-melanchuk-sipping-moml-06.
4. Netann in RFC 4240 (Informational).
5. draft-levin-xcon-cccp-04.
6. ITU H.248.19 - Decomposed multipoint control unit, audio, video and data conferencing packages. (addressing MRFC to MRFP communication in 3GPP IMS)

There are also similar vendor specific protocols that are publicly available. The commonality is that all try to address the architecture but either they Do not support all the requirements or are based on non standard procedures.

General requirements (1)

1. The Media server control messages shall be sent over a reliable connection.
2. The application scope of the protocol shall include Enhanced Conferencing Control and Interactive Voice Response
3. The protocol should enable many to many relationship between AS and MS.
4. The solution MUST enable one control channel between an AS and MS, and shall allow for the support of multiple channels .
5. The MS should be able to tell the AS its functionality (Mixing, IVR, Announcements)
6. The AS shall be able to request the MS to create, delete, and manipulate a mixing, IVR or announcement session.
7. The MS shall supply the media addresses (RTP transport address) to be used to the AS.
8. The MS should send a summary report when the session is terminated by the AS.
9. The AS should be able to request call/session and conference state from the MS.

General requirements (2)

10. The MS should support DTMF detection (in band tones and RFC2833).
11. Media types that are supported in the context of the applications shall include audio, tones, text and video
12. The protocol shall include redundancy procedures.
13. It should be possible to support a single conference spanning multiple Media Servers
14. The MS shall supply the AS with sufficient information for the AS event package.

General Requirements (3)

15. The protocol should allow, but must not require, a media server resource broker or intermediate proxy to exist between the Application Server and Media Server
16. It must be possible to split call legs individually or in groups away from a main conference on a given Media Server, without performing SIP re-establishment of the call legs to the MS (e.g., for purposes such as performing IVR with a single call leg or creating sub-conferences, not for creating entirely new conferences).
17. The protocol will utilize an XML markup language

Announcements requirements

Announcements may include voice, audio, slides or video clips.

1. The AS shall be able to instruct the MS to play a specific announcement
2. The MS shall be able to retrieve announcements from an external connection.
3. The AS shall be able to tell the MS if the message can be delayed if the MS cannot play it immediately.
4. The AS shall be able to instruct the MS to play announcements to a single user or to a conference mix.

Media mixing requirements

1. The AS shall be able to define a conference mix.
2. The AS may be able to define a separate mix for each participant.
3. The AS shall be able to define the relationship between two mixes, for example a pair of audio and video for lip-synch or for voice activated video switch.
4. The AS may be able to define a custom video layout built of rectangular sub windows.
5. For video the AS shall be able to map a stream to a specific sub-window or to define to the MS how to decide which stream will go to each sub window. The number of sub-windows will start from one.
6. The MS shall be able to inform the AS who is the active speaker
7. The AS may be able to cascade mixers (side bar with whisper mode)
8. The MS shall be able to inform the AS which layouts it supports.

IVR requirements

1. The AS shall be able to load an IVR script to the MS and receive the result.
2. The AS shall be able to manage the IVR session by sending announcements and receiving the response (DTMF).
3. The AS should be able to instruct the MS to record a short participant stream and play it back to the conference. This is not a recording requirement.