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Magic

Middleware for collaborative Applications
and Global virtual Communities

Deliverable D4.4

Pilot test of an integration between the legacy
global video network with one open-source web-
conference

Progress Report

MAGIC Deliverable: D4.4. Pilot test of an integration between the legacy global video network with one open-source web-conference

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Abstract: This document describes the pilot implementation to allow connecting a videoconference hosted by a traditional SIP/H.323 MCU with VCEspresso, the open-source web conference system that has been deployed in several countries around the world by MAGIC.



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1. INTRODUCTION

Most of the times, when a conference is hold by a MCU using SIP or H.323 protocols stack, the users who don't have a SIP terminal won't be able to join it, as the open-source solutions that many of them use are not able to establish a link to this legacy video-network.

That's why a gateway that allows webconference platforms to get connected to the video-network through the SIP protocol can benefit those users that don't have the hardware and software to connect to a H.323 conference.

This document shows the results of a pilot of a gateway that allows this integration using the webconference system provided by the Magic's WP3 VC Espresso, which is based on MCONF software. The pilot has been tested on the following MCUs:

- A. Pexip Infinity Connect (a H.323/SIP system on the cloud)
- B. Codian MSE 8420

The test done to generate this document were made with the Pexip Inifinity Connect, provided by CUDI.

2. DOCUMENT AMENDMENT PROCEDURE

Requests for amendments to this document must be made to the author, Gustavo García, WP3-WP4 Leader. (RedCLARA – Technical manager), gustavo@redclara.net, and copied to the Management of the MAGIC project.

3. GLOSSARY

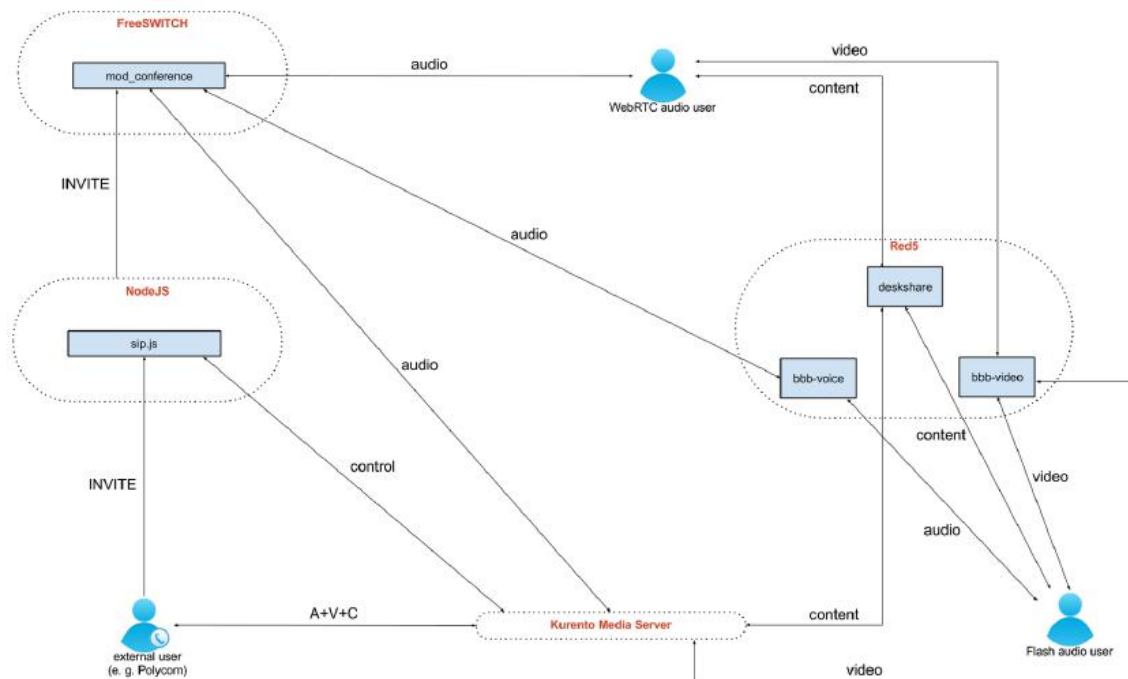
EC	European Commission
EU	European Union
EU-LAC	Europe, Latin America and the Caribbean
CUDI	Corporación Universitaria por el Desarrollo de Internet, Mexican NREN
H.323	Recommendation from the ITU Telecommunication Standardization Sector (ITU-T) that defines the protocols to provide audio-visual communication sessions on any packet



	network.
MCU	Multipoint Conference Unit
SIP	Session Initiation Protocol
WP	Work Package

4. IMPLEMENTATION ARCHITECTURE

In order to do the integration between SIP end-points, and the web-conference system MCONF, several software components needs to be implemented, and interact. The architecture of these elements, and its communication is shown in the following figure:



The function of each the elements is:

- a) **FreeSwitch**: Responsible of the voice switching between conferences, even if the participant is in the SIP endpoint or the web-conference.



- b) **Red5:** Is the media server that transmit video for webconference users that are not in WebRTC.
- c) **Kurento media server:** Does the video switching between all participants. At future, it will replace completely the red5 functions.

5. DEVELOPED AND TESTED FUNCTIONS

The system integration done included the following features that were delivered and tested:

- a) Inbound calling: (From SIP-endpoint/MCU to webconference)
- b) Outbound calling: (From webconference to SIP-endpoint/MCU)
- c) Content sharing (In both directions)
- d) Integration with and NRENum based SIP proxy (PIT VOIP)

6. KNOWN LIMITATIONS

The system implemented has the following limitations:

- e) Only the presenter's video is shared from the web-conference to the SIP endpoint/MCU
- f) In order to share the content, the presenter must share its screen with the system. The content shared in PPT, PDF or formats uploaded as files is not shared.



7. PILOT TESTING

In this section is shown the process of testing the connectivity of a SIP MCU to the Web-conference system. The testing has been done with two different MCUs. Any person can reproduce this test at any moment, just replacing the step 'b' with his own SIP capable MCU or terminal.

The test that have been performed can be summarized as in the following picture:

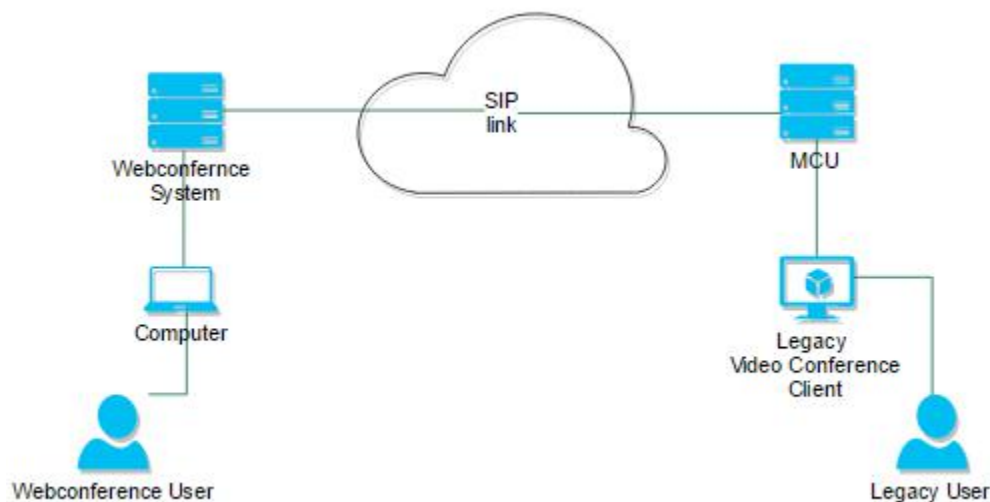


Figure 1. Schema of the pilot

In order to test the link between the webconference system and the legacy video network the following steps were follow:

a) Joining a webconference

In this example, a webconference was open in the Test room 1 using the following URL:

https://mconf-demo-sip-magic.redclara.net/demo/demo_mconf.jsp



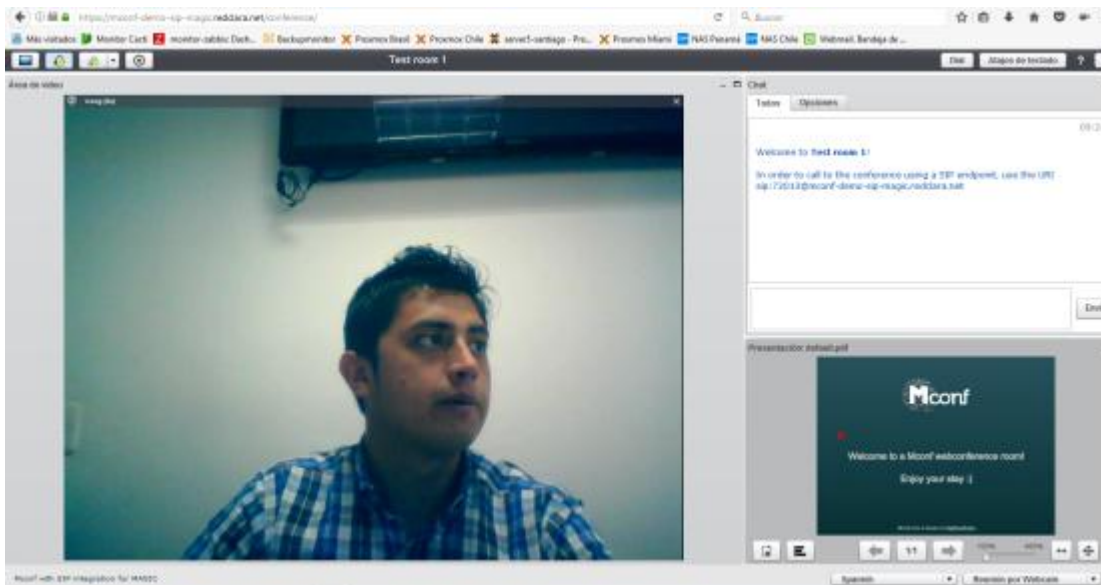


Figure 2. Joining a webconference

b) Open a MCU Room

Another user opened a conference room, but this time a MCU was used. In this case, using a system provided by the Magic partner CUDI:

<http://vc.cudi.edu.mx/>
alias: redclara



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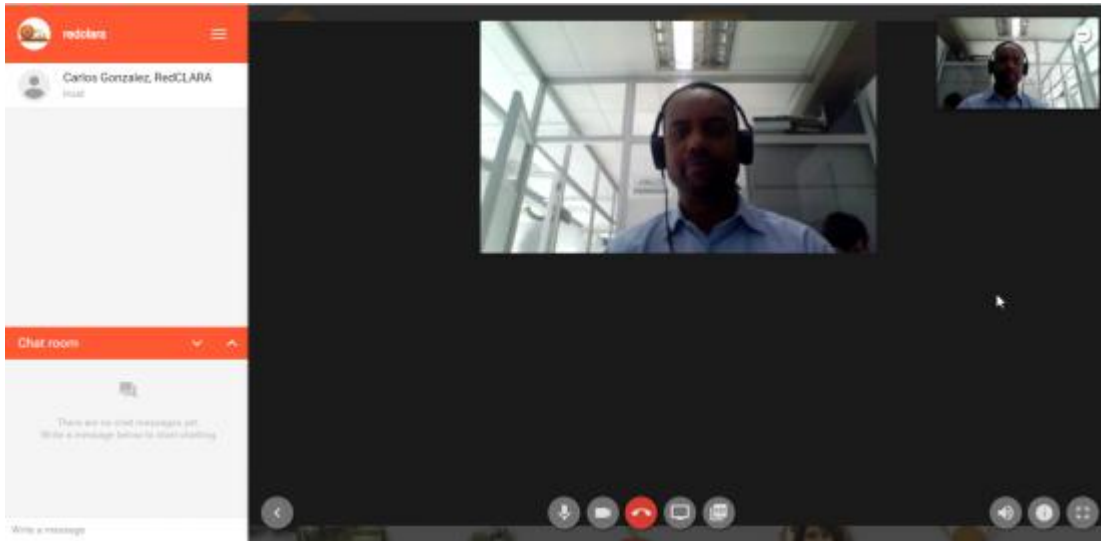


Figure 3. Joining a SIP enabled MCU

c) Linking the MCU and webconference rooms

Finally, a connection via SIP between the legacy video-network room and the webconference room was enabled.

In this example, the call was made from the MCU to the webconference Room using the SIP address

72013@mconf-demo-sip-magic.redclara.net

This is the same showed to the user in the chat window (see Figure 2).

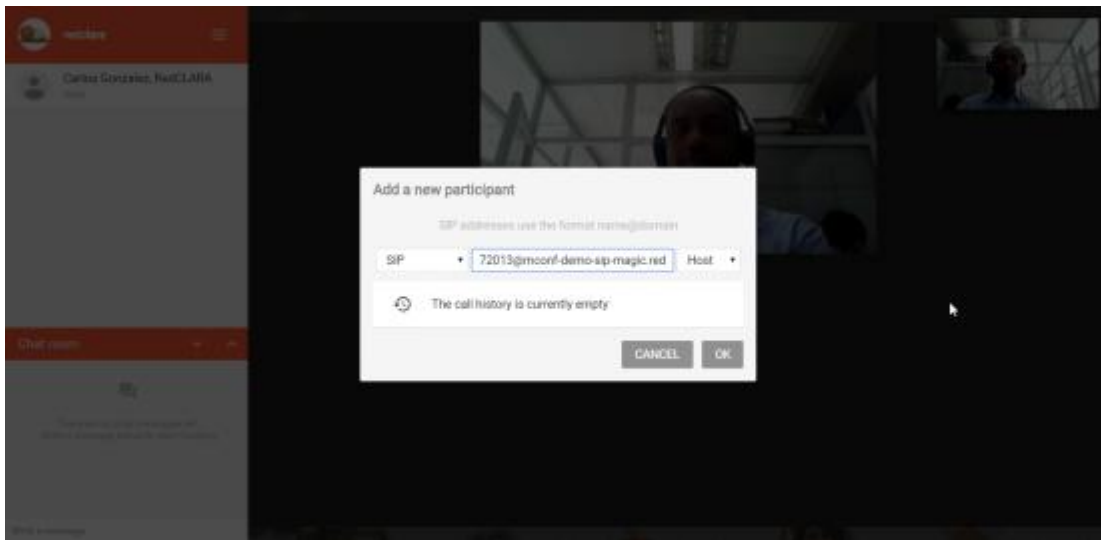


Figure 4. Linking the MCU Room and the webconference calling via SIP

Once this is done, the rooms are linked and the MCU and webconference room users are able to see and listen each other.

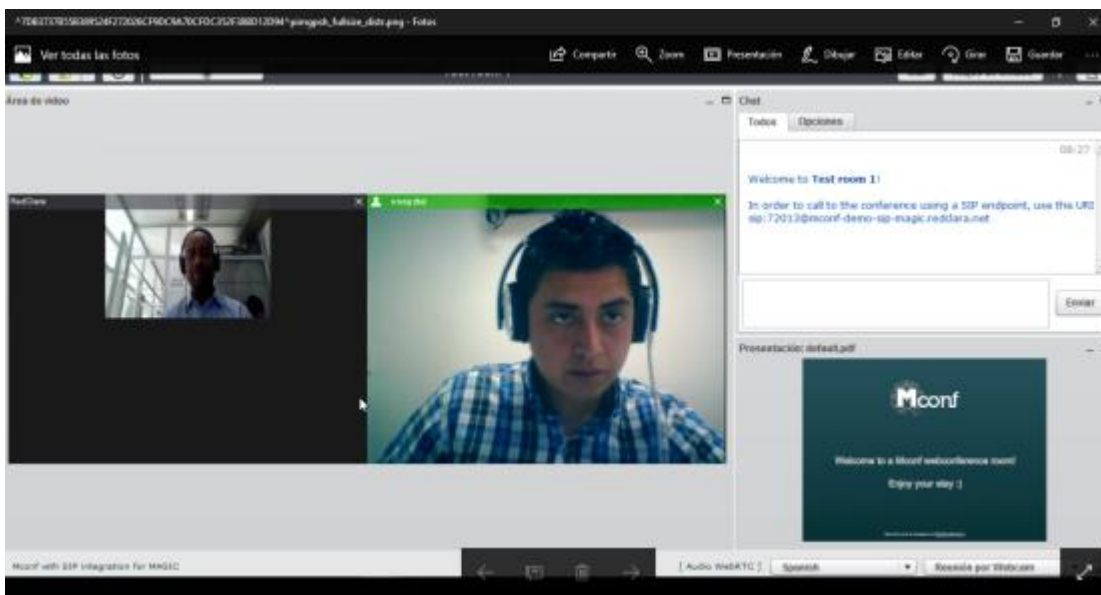


Figure 5. View from the webconference room



Figure 6. view from the MCU room

8. CONCLUSIONS

The pilot implementation was carried out with success, and the expected functionalities were tested. The video-conferences can be established in both directions, and the content can be shared. This gateway is now available for the use of all MAGIC partners.



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