DCON

An actual implememtation of a distributed multimedia conferencing framework compliant with the IP Multimedia Core Network Subsystem specification.

An extension to a standard centralized conferencing framework under definition inside the IETF XCON (Centralized Conferencing) working group.

DCON is built as an overlay network acting as glue among a number of centralized conferencing “islands”

IMS-enabled Distributed Conferencing Architecture

UNIVERSITY OF NAPOLI FEDERICO II
COMICS RESEARCH GROUP

Computer Science Department
Via Claudio 21
80125 Napoli, Italy
Tel.: +39 081 7683823
Fax: +39 081 7683816
E-mail: spromano@unina.it

University of Napoli Federico II

UNIVERSITY OF NAPOLI FEDERICO II
COMICS RESEARCH GROUP

DCON: DISTRIBUTED CONFERENCING

AN IMS-ENABLED DISTRIBUTED CONFERENCING ARCHITECTURE

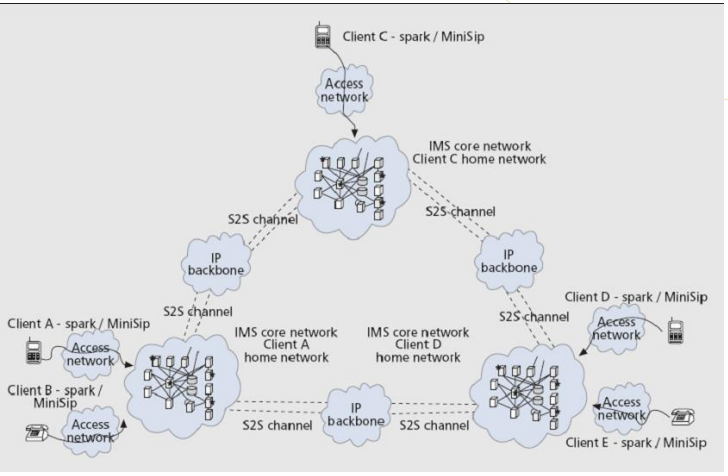
http://dcon.sourceforge.net

Contact:

Simon Pietro Romano
spromano@unina.it

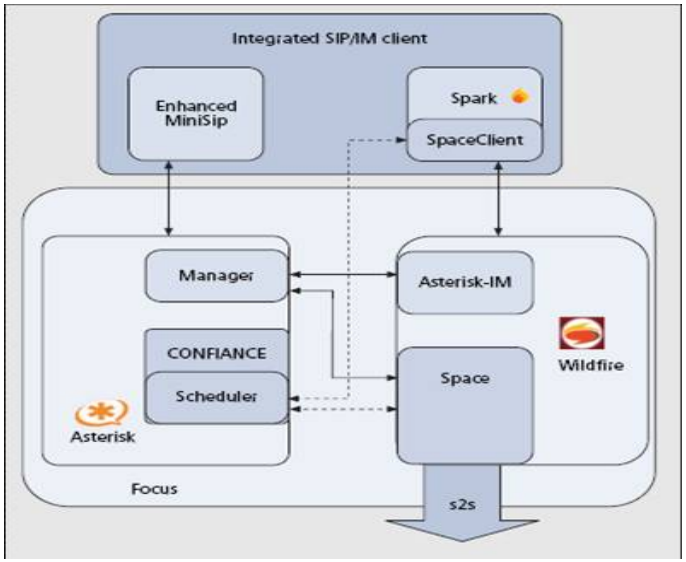
AN OPEN SOURCE DISTRIBUTED CONFERENCING FRAMEWORK

DCON [1] is an IMS-compliant architecture offering a distributed conferencing service with enhanced functionality, such as conference scheduling and moderation. It exploits existing achievements in the field of conferencing. We started from the IETF Centralized Conferencing (XCON) framework. We developed an open source XCON implementation which has been called CONFIANCE, standing for CONFerencing IMS-enabled Architecture for Next-generation Communication Experience [2]. Our architecture effectively supports the creation and management of a distributed conference in a scenario involving a number of IMS-compliant core networks, interconnected through a communication channel created on an ad hoc basis.



DCON IMPLEMENTATION

The figure depicts the main implementation choices of the DCON architecture. The lower box of the picture presents the logical view of the server side, integrating an *Asterisk* based implementation of the XCON focus (left-hand side) with a brand new module specifically conceived for the SPreAding of Conference Events (which we call SPACE). SPACE is realized as a plug-in for *Wildfire*, a popular open source instant messaging server. SPACE actually represents a key component of the architecture, since it enables inter-focus communication through the exchange of conference information. Inside DCON, communication between the legacy Confiance modules and the newly created distribution components occurs on the basis of an asynchronous paradigm in which a number of events are generated by Confiance modules whenever something relevant occurs in the XCON island they currently supervise. The upper box presents a view of the client side that logically can be viewed as a single, integrated entity capable of interacting with the framework by means of either SIP or instant messaging. The SIP part of the client was realized through the open source *Minisip* softphone, appropriately modified to support both the BFCP and the CCP protocols. For the IM client, we chose to adopt *Spark*, an open source cross-platform client using the XMPP protocol. We added the capability to interact with the DCON



platform through an ad hoc created plug-in (SpaceClient in the figure) to Spark.

[1] A. Buono, S. Loreto, L. Miniero, and S. P. Romano. A Distributed IMS Enabled Conferencing Architecture on Top of a Standard Centralized Conferencing Framework. IEEE Communications Magazine, 45(3), March 2007.

[2] CONFIANCE web page: http://confiance.sourceforge.net

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