INSE 7110/4 – Winter 2009
Value Added Services in Next Generation Networks
(Semester long project):
Dial-Out Conferencing in Next Generation Networks

1. Introduction

The main goal of the project is to help the students get a deeper and hands-on understanding of the concepts, principles, and interfaces discussed in the course. Another goal is to help them get acquainted with the development tools and platforms that are available for engineering value added services in next generation networks.

2. Scope

A dial-out conference is a conference where the participants are called by the conferencing application. The main system components are as follows

- **The conferencing application:** It takes as input the list of participants, interacts with the application server to initiate the conference from both signaling and media handling standpoints. The interactions are done via either a standard paradigm for next generation networks (e.g. SIP servlet) or an emerging paradigm (e.g. Web services).

- **The application server:** It is based on either a standard paradigm for next generation networks (e.g. SIP servlet) or an emerging paradigm (e.g. Web services). On one hand it interacts with the application via the interface of the selected paradigm and on the other hand, it interacts with the end-user devices, via the basic signaling protocol. This interaction may be via nodes such as SIP servers, or CSCF depending on the development tool / platform that is used. The session initiation protocol (SIP) is recommended as signaling protocol.

- **The end-user devices:** They are the devices used by the end-users to participate in the conference. They support SIP for signaling and RTP/RTCP for media handling.

The following functions should be supported:
- Start a conference
- End a conference
- Add a participant to a conference
- Remove a participants from a conference

2. Logistics

- **Teams:** The recommended size is 3 students per team.

- **Demo and report:** The demo should be run in one of Concordia's lab. However, it is possible to agree with the lecturer on running in another lab (e.g. LARIM - Polytechnique). The report should have a very maximum of 20 pages and should include the overall architecture, the software architecture and the list of tool kits used in the project.

- **Tool kits:** The tool kits that can be used for this project are all freely available on Internet. The

students should select the paradigm (i.e. SIP servlet or Web services) and the development tool that goes with it. Potential choices are:

- Ericsson Service Development Studio (SDS) (http://www.ericsson.com/mobilityworld/sub/open/technologies/ims_poc/tools/sds_40), a tool kit that relies on SIP servlet paradigm and provides an emulated IMS environment.

- Java Media Framework (JMF): http://java.sun.com/javase/technologies/desktop/media/jmf/

- BEA Weblogic, a tool kit that relies on Web services paradigm.