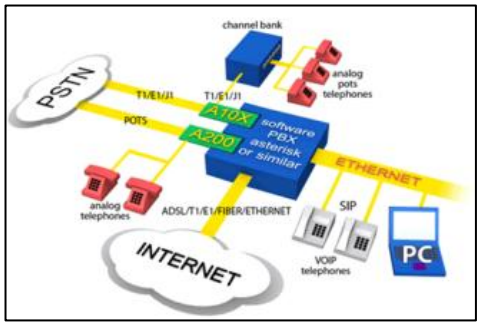
IP Based TV Studio Intercom System Employing Open Source Technology And Smartphones Simplifies Remote Live Production At Ryerson's Rogers Communication Centre

From: Office of Program Director, Operations and Technology, Rogers Communications Centre

March 1, 2011 – Over the past few years the Rogers Communications Centre has invested in a Trilogy Broadcast Mercury Intercom System to operate across its Television Studios. The systems flexible design suits every application ranging from small single studios to the largest multi-studio complex. Employing an IP interfacing system known as Session Initiation Protocol or SIP, the intercom system can be expanded almost limitlessly in terms of system size and geographic location via LAN, WAN or Satellite employing readily available wireless Internet availability.

SIP is a signaling protocol and it is widely used for controlling multimedia communication such as voice and video calls over Internet Protocol (IP). The protocol can be used for creating, modifying and terminating two-party (unicast) or multiparty (multicast) sessions consisting of one or several media streams. Recently the work employing SIP to allow softphone interconnectivity via the internet, Wi-Fi, Cellular and G4 devices with the TV studio intercom system was undertaken by the Centre. The goal was to allow for remote production originating anywhere globally to interconnect with the Centre's television studios.



The work, overseen by RCC staff member David Tom and Computer Science student Tyler Pham involved employing an Open Source VOIP based PBX system. The Open Source PBX known as "Asterisk" acts as a bridge between the Internet based "voice over IP" technologies generated by SmartPhones and the Mercury Intercom System. In November 2010 the system was tested live as part of an RTA practicum project where a live video link was set up between Ricoh Coliseum on Toronto's CNE grounds and the Rogers Communications. The students at the Coliseum dialed a number on their iPhones and were instantly connected by Asterisk to TV Studio A's intercom system with no notable delay in the communication. The iPhone app employed was the NetDial SIP Phone.

Ultimately this will allow for Intercom connectivity to remote locations like Ryerson's Maple Leaf Gardens Athletic Centre and complement the H.264 low latency video streaming technology that will allow for live TV production via IP networks, being developed in the Centre. In addition Asterisk and SIP will be explored to examine its capabilities of combining IP video streams.

More information on the Rogers Communications Centre, the shared FCAD facilities it operates and the specifics of the labs that encompass the Cluster can be found at
http://www.rcc.ryerson.ca/technology/index.htm