

## CSE398 Lab#2 Part II: A Multicasting Multimedia Demo

CSE398: Network Systems Design, Lehigh University

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**Purpose:** In this lab, students will be grouped to design a multicasting multimedia demo using MBone tools Vic/Vat. Students will learn to configure routers to enable the multicast features (IGMP). The demo will show a video/audio conference among group members and multicasting traffic including ICMP packets will also be observed and studied.

**Devices:** The routers, switches and the network topology are the same as those in part I. Headphones, speakers and video cameras will be used for the demo.

**Tools:** Install `mash` package from UC Berkeley, which can be downloaded from [www.openmash.org](http://www.openmash.org)

Mash includes the following tools:

### 1. Vat/Vic

Vat is a real-time, multiparty, multimedia application for audio conferencing over the Internet. While vat is used as an independent audio conferencing tool, it is frequently used as the audio part of a full videoconference.

Vic is a videoconferencing tool which provides the video portion of a multimedia conference. Although vic can be run for one-to-one conferences, it is primarily intended as a multiparty conferencing application. It can be used in different computing environments and can accommodate both lower and higher bandwidth conditions.

The install instructions can be found at the above website.

### 2. Nsdr

Nsdr is a tool for announcing and scheduling multimedia conferences on the MBone. Users can use nsdr to see what conferences are available and to join them. They can also use it to announce conferences and to specify timing, media and other details.

### **Steps:**

1. Configure Cisco routers to enable multicast routing based on IGMP;
2. Launch Vat/Vic from nsdr and test the audio/video equipment;
3. Video/Audio conference demo and observe the multicast traffic including IGMP packets.
4. A group report on the demo setup and an individual report for traffic observation and ICMP/CGMP protocol studies.