



Thesis Title	Adaptive video multicast over the internet
Research Field	Computer networks
Supervisor Name(s)	Dr. Zuhair D. Shebeeb
Student Name	Emad Younis Abd-Ala Alasady
Abstract	
<p>The multicast distribution of real time video is an important component of internet applications such as video conferencing, distance learning and media on demand. It is efficient mechanism required for delivery of data to many receivers. The Internet was originally designed as a data communication network, primarily supporting asynchronous applications, such as file transfer and electronic mail.</p> <p>While there is an increasing demand for streaming video applications on the Internet, there will be various network characteristics can be made for the deployment of these applications as more challenging than traditional Internet applications such as email and the Web. The applications that transmit data over the Internet must cope with the End-to-End delay and delay variant characteristics of the Internet, minimizing these characteristics allow for increased user interactivity and better video quality, so the system architecture is certainly little hard in design.</p> <p>This thesis presented these challenges and a proposed system design is implemented, using OPNET simulator, which improve some of the important problems with video streaming over the Internet. Also the rollout of Asynchronous Transfer Mode (ATM) and Resource reSerVation Protocol (RSVP) is proposed with the ability to control Quality of Services (QoS).</p> <p>A scheme for transmission of constant bit-rate compressed video over ATM networks using the Constant Bit Rate (CBR) service is proposed. The video transmitting behavior can naturally take the advantage of the CBR service, since the CBR schemes allow sources to request constant amounts of bandwidth over time, while reserving a minimum for the entire duration of the connection. Trace driven simulations is used, as available on OPNET simulator, to examine how effective the (CBR) and (RSVP) schemes are in "rate matching" between the , network / source and the effect on End-to-End delay and jitter. Finally, using encoder programs to convert among many available video files' extensions to know which one is the best to use as encoding scheme to video transmitting over the internet.</p>	
Student email	