VISVESVARAYA TECHNOLOGICAL UNIVERSITY
Belgaum, Karnataka 590014

PROJECT REPORT
ON

"SPARE BANDWIDTH ALLOCATION USING RESOURCE MANAGEMENT CELL"

Submitted in partial fulfillment of the requirement for the curriculum of VIII Semester Bachelor of Engineering

By

SUJWALA.B.S	**(1EW05CS079)**
VIVEK.H.B	**(1EW05CS090)**
VINAY.K.R	**(1EW05CS088)**
SRIRANGA DIWAKAR HEGDE	**(1EW05CS078)**

Under the guidance of

Mr. SURESH.M.B
Asst. Prof. & H.O.D
Dept. of ISE

Department of Computer Science & Engineering
EAST WEST INSTITUTE OF TECHNOLOGY
Off Magadi Road, Anjananagar, Bangalore- 560091

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ABSTRACT

Let us consider a case where the network used by us have been allocated a specific amount of bandwidth, say 128 kbps. We may not utilize the entire bandwidth irrespective of the amount of work done using the network and let us assume that the bandwidth used by us does not exceed 100kbps. Now, what happens to the remaining unused 28kbps? If the similar case were to occur in large ATM network, there would be unnecessary bandwidth wastage that will in turn make cost unbearable.

The RM (Resource Management) cell is used when the ABR (available bit rate) service type has been selected for indicating the source about the state of traffic in the network. The RM cell reports on the network characteristics such as bandwidth availability, congestion state and impending congestion on the network. The process (in which RM cell is used) requires the source to send a resource management cell requesting the desired bandwidth before actually sending the cells. If the switch accepts the request, the RM cell is passed on to next switch until it reaches the next destination. However, if a switch cannot grant the request it simply drops the RM cell. The source waits till timeout and resends the request.

ATM is a data transfer technology which supports fixed packet size data transfer. ATM, as a connection-oriented technology, establishes a virtual circuit between the two endpoints before the actual data exchange begins.

The goal of this project is to utilize the spare bandwidth available in ATM network for the transmission of non-real time data. For this purpose we make use of RM cell format as specified by ATM forum Traffic Management Specification. The major advantage of this process is that its cost saving and greater utilization of bandwidth.