

available bandwidth capacity of 4 Mbps who have used the path FO (Fiber Optic) and develop a computer network expansion into sub-sections in the respective local and courses with media UTP (Unshielded Twisted Pair). STIK Bina Husada have local servers include DHCP server so no need to give the client an IP address manually and other servers to support the academic and financial information systems (SIPMAYA, SIMBHA and SIMKEU). The Routers used is DLX-1000 with Mikrotik RB series in 1100 [6].

Existing bandwidth capacity in use is divided into 2 (two), are: 3 Mbps for office used (Rector, Prodi, BAAK, Administration, Library and Computer Laboratory) while the remaining 1 Mbps for Public Wifi. The number of computers that have as many as 35 PCs in the computer lab and as many as 65 PCs, so the total existing computer of approximately 100 PCs to support day-to-day activities. While the number of students 3419 people spread across 5 study program. With a bandwidth of 4 Mbps if all of the computers used to access the internet will be a delay with internet access. And from the observations, bandwidth management is running it more higher than the quota limit assigned by the Internet Service Provider (ISP) [6].

2 ANALYSIS OF NETWORK TRAFFIC FOR HIGH BANDWIDTH OPTIMIZATION

Analysis of the system can be defined as the decomposition of a complete information system into component parts with a view to identify and evaluate the problems, opportunities, constraints occur and needs to be expected that the amendments can be proposed. Analysis of network traffic can provide a snapshot of a network of relationships that affect QoS (Quality of Service), traffic load and bandwidth capacity [3].

2.1 Review of Literature

Network Traffic: Traffic Management Concept is how to manage all network equipment (switch, routers, firewalls, etc.) can recognize the passing traffic so that it can be made a rule of its own. Therefore, the analysis of traffic on the network is necessary so that we can make a profile of customs in the access network and then we adjust the policy of the company/institution to use the network to access the existing network will be more stable, fast, convenient and secure.

MikroTik RouterOS: Mikrotik is independent Linux-based operating system specifically for computers that function as a router, Mikrotik is designed to provide convenience to its users. Administration can be done through the Windows application (Winbox). In addition to the installation can be performed on standard PC computer. PCs which will be used as a router proxy does not require any resource that is large enough to use a standard, for example, only as a gateway. For the purposes of large loads such networks are complex, complicated routing and so it is advisable to consider the selection of adequate resource PC [2].

Bandwidth: Bandwidth is the capacity or the capacity of an ethernet cable in order to be passed a data packet traffic in a certain amount. Bandwidth can also mean the number of data packets consumption per unit time is expressed with units of bits per second (bps). Internet bandwidth provided by the internet service provider with a certain amount depending on the rental customer. Bandwidth management is the process of measuring and controlling the communications (traffic packets) on a network link by allocating channel used for uploading and downloading process. Based Bandwidth Allocation, divided by 2 (two) in the proxy rules,