

Abstrak

Jaringan internet di SMA Negeri 1 Bondowoso disediakan sebagai sarana untuk mengakses informasi-informasi yang dibutuhkan oleh guru, staf tata usaha (T.U), perpustakaan dan siswa. Kebutuhan internet di SMA Negeri 1 Bondowoso hanya digunakan untuk akses internet sebagai sarana belajar mengajar, tetapi jaringan tersebut masih kurang stabil. Faktor-faktor penyebabnya adalah belum adanya manajemen *bandwidth* pada jaringan internet SMA Negeri 1 Bondowoso menyebabkan QoS (*Quality of Service*) sering terjadinya overload. Dengan metode manajemen *bandwidth* HTB (*Hierarchical Token Bucket*) yang merupakan teknik manajemen *bandwidth* secara schedule merupakan solusi untuk memperbaiki kuantitas QoS (*Quality of Service*) jaringan internet di SMA Negeri 1 Bondowoso. Dengan hasil pengujian parameter QoS (*Quality of Service*) terhadap metode HTB (*Hierarchical Token Bucket*) dengan nilai rata-rata *delay* : 29,2 ms, *throughput* : 453,2 bps dan *packet loss* : 3,4% pada jam sibuk yang termasuk dalam kategori sangat bagus setelah dianalisa pada standart ETSI. Sedangkan *delay*, *throughput* dan *packet loss* pada saat tidak sibuk juga termasuk dalam kategori sangat bagus dengan nilai rata-rata 27,8 ms, 500,8 bps, 1,53%.

Kata Kunci : manajemen *bandwidth*, QoS (*Quality of Service*), HTB (*Hierarchical Token Bucket*), *delay*, *throughput*, *packet loss*, ETSI.

Abstract

Internet network in SMA Negeri 1 Bondowoso is provided as a means to access the information that is needed by teachers, administrative staff (T U), libraries and students. Internet needs in SMA Negeri 1 Bondowoso who only used to access the internet as a means of teaching and learning, but the network still less stable. Cause factors is not yet the existence of internet network bandwidth management of SMA Negeri 1 Bondowoso causing QoS (Quality of Service) is often the onset of overload. Bandwidth management method with HTB (Hierarchical Token Bucket) which is a bandwidth management techniques in schedule is the solution to fix the quantity of QoS (Quality of Service) internet network in SMA Negeri 1 Bondowoso. With the results of testing the parameters of QoS (Quality of Service) against a method of HTB (Hierarchical Token Bucket) with an average value of delay: 29.2 ms. througput: 453.2 bps and packet loss: 3.4% during rush hour which is included in the category of very nice after the standard has been analyzed in ETSI. While the delay, packet loss and througput on when not busy is also included in the category of very good with average value of 27.8 ms, 500.8 bps, 1.53%

Keywords : bandwidth management, QoS (Quality of Service), HTB (Hierarchical Token Bucket), delay, througput, packet loss, ETSI.