

## **ABSTRACT**

### ***Performance Analysis of Computer Networks using The Unequal Load Balance Method in Local Networks***

By

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*One of the network constraints that needs to be watched out for is the disconnection of the connection path that causes the network to be unable to transmit data at all. To overcome this, load balancing techniques are performed using the unequal load balance method. With the unequal load balance method, in addition to anticipating the disconnection of the connection, this technique can also alleviate the traffic load because not only one path will support the computer network traffic. The implementation of unequal load balance is simulated on the GNS3 network emulator in the local network using a Cisco 7200 router. The measurement results of the Quality of Service (QoS) on the unequal load balance from the three topologies can be concluded to have a very good category, both in throughput, delay, jitter, or packet loss. The result of the link transition delay before the unequal load balance affects which link / path is disconnected, whether it is the link on the main path or the link on the backup path that is disconnected. Meanwhile, the result of the link transition delay after unequal load balance is not affected by which path is disconnected.*

**Keywords:** *computer network, load balance, unequal*