ABSTRACT

Electronic Toll Collection (ETC) is an automated electronic payment system that can improve efficiency at the toll booth transaction time thus reducing the queue of vehicles using the technology of Radio Frequency Identification (RFID) as the medium access and thus no longer in service manual toll booths. RFID implementation later designated as the automation of the toll booth so that it can speed up services for prospective users of toll gate.

Because ETC is a large series of many sub-systems with a device identification database server as a toll road customer data processing, the application required a proper and reliable network configuration model. This is because data communication between terminals and servers can occur at any time with a fairly dense traffic. In this final project will be tested RFID network that has been modeled before, so we can analized the most optimal system configuration.

The results show that a system built able to run smoothly. The connection between client and server can be done via WAN network (internet) with a minimum network specification so it can facilitate the implementation of devices in the field. In addition, the service time of transactions is more efficient than conventional toll payment system, which is under 2 seconds, shows the amount of benefits gained through the use of the system.

Keyword: network performance, electronic toll collection, RFID
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