

## **ABSTRACT**

The Fastest growth of transportation and communications in the world have the impact to various sector specially Banking world in Indonesia. To support the growth, PT Bank Negara Indonesia, Tbk (Persero) changed the data communication system from distribution system to centralized system (ICONS). This transition was constituted by market demand that obliging a bank have the good performance and service like fast customer service, security of client data, and ability to create the banking product offering mobility like SMS Banking, Phone Banking and Internet Banking . To support the changed, PT Bank Negara Indonesia, Tbk (Persero) changed into the centralized system using VPN-MPLS network (Multi Protocol Label Switching) technology as a backbone of WAN BNI's network replaced VSAT (Very Small Aperture Terminal) technology. In this time, BNI finished the integration ICONS system base on the VPN-IP MPLS network to all regional office, branch, smallbranch and cash unit. For that reasons, we need to do a analysis for test the network performance, whether as according to pursuant quality of Service Level Agreement ( SLA) with the client and service provider or not yet.

In this final project, was executed the analysis of five network parameter like delay, throughput, service time, availability and utility to assess the storey of BNI's VPN-IP MPLS network condition with the network quality that written in policy of BNI's Service Level Agreement (SLA).

Result of network eligibility analysis, showing VPN-IP MPLS network BNI is competent and have fulfilled the standard which have been specified in service level agreement (SLA) in supporting implementation od centralized system (ICONS). The result obtained from level of fifth average value of network parameter measured and perceived still reside in below the mark SLA. Assess the the parameter for example, highest delay = 86,73382 ms (SLA = 125 ms), highest mean busy time utility = 21,56 kbps (SLA = 25 kbps), highest service time = 126,6617 s (SLA = 180s), minimum availability = 99,74 % (SLA=99,5%) and highest network utility = 11.04167 kbps (SLA = 102,4 Kbps).

*Keywords : MPLS, ICONS, SLA, BNI*