## ABSTRACT

. While the Internet in Indonesia grew rapidly and the increasing number of internet service providers. Association of Indonesian Internet Service Providers (APJII) create a national peering interconnection to the addressing on the Internet becomes faster and not use the Internet to the global Internet traffic. Interconnection of local exchange is called IIX or Indonesia Internet Exchange, which connects all the ISPs (Internet Service Provider) and NAP (Network Access Provider) within a centralized network and interconnected, with peering interconnection is the connection between the ISP. The high Internet traffic is in other large cities, not least in Bandung. Bandung currently has a lot of ISPs which indirectly boost Internet traffic in the city.

In this Final Project will be simulated IIX (Indonesia Internet Exchange) in the city using Opnet Modeler 14.5 educational version simulation software to analyze the QoS parameters include delay, jitter, throughput, packet loss on networks IIX (Indonesia Internet Exchange) before and after the IIX (Indonesia Internet Exchange) in Bandung. This final scenario using 4 scenarios that Scenario 1 IIX Jakarta, Scenario 2 Bandung IIX, Scenario 3 IIX Jakarta-Bandung and Scenario 4 Jakarta-Bandung next 3 years.

In delay analysis, scenario 2 yields the best delay value compared to other scenarios. Here the scenario 2 delay is only 0.0000055 sec. While umtuk Jitter value, scenario 2 re-generate the best value, ie 0 sec. For the value of packet loss, either scenario 1, scenario 2 and scenario 4 yields the same value of packet loss is 0 bits / sec, while scenario 3 result in packet loss 0.0022222 bits / sec. And for the throughput performance gain good results in all scenarios. Overall it can be concluded that the implementation of IIX in Bandung produce a good performance value, both in terms of delay, jitter, packet loss and throughput. And the future state of this implementation will impact both on the growth of Internet users, ISP growth, traffic growth, spur economic growth and spur the growth of local content in Bandung area. Then the implementation IIX in the city is a solution.


**Keywords : IIX, Parameter QoS, ISP, NAP, Traffic.**