**ABSTRACT**

Development Voice Over Internet Protocol(VoIP)
with secuity of Virtual Private Network(VPN)
in PT Neuronworks Indonesia

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PT NEURONWORKS INDONESIA needs for cheap communication among employees to communicate. In addition, companies also need secure communications to communicate. Said communications is safe if the lack of an open security loopholes that can lead to communications made by other people in tapping.

Focusing on starting with a problem that occurs, it will try to build a long-distance communication based Internet Protocol by using the Internet as the communication is VoIP or Voice Over Internet Protocol. For security lane that it tries to be built using a safety line VPN or Virtual Private Network. Where, VPN is A safe way to access a local area network that is in range, using the Internet or other public network to perform packet data transmission in private.

Based on the results of testing of communication that has been built, it can be concluded that VoIP without VPN security can be intercepted by others and can be reconstructed so it can be heard again the conversation that took place. While the VPN communication becomes more secure because the resulting RTP packet that results in encryption that can not be captured. The results obtained from the QoS that a minimum bandwidth of delay, jitter, and packet loss is generated is generated 128kbps for better communication.

Keywords: VoIP, VPN, Delay, Jitter, Paket loss.