

Comparative Study of QoS on Video Meeting Tool Application in 4G LTE Network using Wireshark

Sirmayanti Sirmayanti, Asriani Tain, Nurul Khaerani Hamzidah

Abstract

Video meeting is a broadband internet-based service for long-distance communication, both visual and audio, in one room or in different rooms at the same time. Network testing using wireshark software connects to the Telkomsel operator's 4G LTE network. QoS parameters can display network quality such as throughput, packet loss, delay and jitter. The research experiment test used two conditions with different variables in the five types of video meeting tools being compared; zoho meeting, cisco webex meeting, google meet, zoom meeting and microsoft teams. First-condition uses random variables that do not consider the value of the number of participants and camera & microphone conditions to each client. Second-condition uses a fixed variable that the number of each client is 5 participants for each application (camera & microphone is on). The first-condition results showed that only Zoom Meeting which had a QoS value classified as Poor (index 1), especially the jitter value, compared to other applications. This application has an average jitter of 151,871 ms, that compared to TIPHON standard of 125 ms to 255 ms. The second-condition obtained Very Good QoS on throughput, packet loss and delay variables in all applications. Their variable jitter in each application is Zoho Meeting (0.101 ms), Cisco Webex meeting (0.074 ms), Google Meet (0.179 ms), Zoom meeting (0.021 ms), and Microsoft Teams (0.015 ms) which only in the standard 0 ms to / d 75 ms. However, all applications according to the TIPHON standards are still in the Good category (index 3). The overall index average of all applications shows Good QoS.

Keywords: video meeting, wireshark, quality of service, 4G LTE.

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References

- W. Abdullah, "Model Blended Learning Dalam Meningkatkan Efektifitas Pembelajaran," Ejournal.Kopertais4, vol. 7, no. 1, hal. 855-866, 2018, [Online]. Available: ejournal.kopertais4.or.id/madura/index.php/fikrotuna/article/download/3169/2359/
- D. Sawitri, "Penggunaan Google Meet Untuk Work From Home Di Era Pandemi Coronavirus Disease 2019 (Covid-19)," Journal. Pengabd. Masy., vol. 2, no. April, hal. 13-21, 2020.
- I. B. A. I. Iswara dan I. P. P. K. Yasa, "Analisis Dan Perbandingan Quality of Service Video Conference Jitsi Dan Bigbluebutton Pada Virtual Private Server," Journal. Resist. (Rekayasa Sist. Komputer), vol. 4, no. 2, hal. 192-203, 2021, doi: 10.31598/jurnalresistor.v4i2.794.
- I. D. Amiza, L. Lindawati, dan S. Soim, "Implementasi dan Analisis Quality of Service (QoS) pada OpenMeetings dengan Virtual Private Network (VPN)," Journal. Fokus Elektroda Energi List. Telekomun. Komputer, Elektron. dan Kendali, vol. 5, no. 4, p. 19, 2020, doi: 10.33772/jfe.v5i4.13325.
- A. Setiani, "Efektivitas Proses Belajar Aplikasi Zoom di Masa Pandemi dan Setelah Pandemi Covid-19," Pros. Semin. Nas. Pascasarj. UNNES, vol. 2, hal. 523-530, 2020, [Online]. Available: http://www.academia.edu/download/64015904/M_Darul_Aksan_F.pdf
- O. A. Melala, R. Munadi, dan H. Walidainy, "Analisis Kualitas Layanan Video Call Menggunakan Aplikasi Skype Pada Jaringan Long Term Evolution (LTE)," Journal. Komputer, Inf. Teknol. dan Elektro, vol. 5, no. 1, hal. 38-44, 2020, doi: 10.24815/kitektro.v5i1.15537.
- A. H. Wafie dan E. P. Laksana, "Quality Of Service (QoS) Jaringan 4G LTE Pada Layanan Video Conference Studi Kasus Di Perpustakaan Univeristas Budi Luhur," Journal. Maest., vol. 1, no. 2, hal. 365-376, 2018.
- P. Hakimah dan E. Hesti, "Desain Kualitas Layanan Video Streaming Codec H . 264 Menggunakan Aplikasi Wireshark Pada Jaringan Wlan," Semin. Nas. Inov. dan Apl. Teknol. di Ind. 2018 Tema A - Penelit., hal. 25-30, 2018.
- M. Ulfah dan F. F. Kurnia, "Penentuan Jumlah Enodeb Jaringan 4g/LTE Di Kecamatan Penajam Kabupaten Penajam Paser Utara," Journal. Surya Energi, vol. 2, no. 2, hal. 179-184, 2018.
- R. Efriyendro dan Y. Rahayu, "Analisa Perbandingan Kuat Sinyal 4G LTE Antara Operator Telkomsel dan XL AXIATA Berdasarkan Paramater Drive Test Menggunakan Software G-NetTrack Pro Di Area Jalan Protokol Panam . Rendi Efriyendro *, Yusra Rahayu

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S. M. Sari, A. Fahmi, dan B. Syihabuddin, "Algoritma pengalokasian resource block berbasis qos guaranteed menggunakan antena mimo 2x2 pada sistem LTE untuk meningkatkan spectral efficiency," hal. 6-8, 2015.

R. Wulandari, "Analisis Qos (Quality Of Service) Pada Jaringan Internet (Studi Kasus : Upt Loka Uji Teknik Penambangan Jampang Kulon - Lipi)," Journal. Tek. Inform. dan Sist. Inf., vol. 2, no. 2, hal. 162-172, 2016, doi: 10.28932/jutisi.v2i2.454.

M. R. Pipit Wulandari, Sopian Soim, "Monitoring Dan Analisis Qos (Quality Of Service) Jaringan Internet Pada Gedung Kpa Politeknik Negeri Sriwijaya Dengan Metode Drive Test Pipit," Pros. SNATIF ke-4 Tahun 2017, no. 2007, hal. 341-347, 2017.

ETSI, "Telecommunications and Internet Protocol Harmonization Over Networks (TIPHON); General aspects of Quality of Service (QoS)," Etsi Tr 101 329 V2.1.1, vol. 1, hal. 1-37, 1999.

M. Thalhah, T. Y. Arif, dan Y. Away, "Komparasi QoS Video Call dan Video Conference Pada Google Hangouts Dan Google Duo Di Jaringan 3G Dan 4G LTE," Journal. Komputer, Inf. ..., vol. 6, no. 1, hal. 38-43, 2021, [Online]. Available: <http://e-repository.unsyiah.ac.id/kitektro/article/view/19924%0>.

A. I. Diwi, R. R. Mangkudjaja, dan I. Wahidah, "Analisis Kualitas Layanan Video Live Streaming pada Jaringan Lokal Universitas Telkom," Bul. Pos dan Telekomun., vol. 12, no. 3, p. 207, 2015, doi: 10.17933/bpostel.2014.120304.

M. Farid, A. D. Utami, dan N. Rohman, "Penerapan Aplikasi Google Meet Pada Pembelajaran Sosiologi Ekonomi Di Masa Pandemi Covid-19," hal. 1-12.

T. M. Diansyah, "Analisa Pencegahan Aktivitas Ilegal Didalam Jaringan Menggunakan Wireshark," Journal. TIMES, vol. IV, no. 2, hal. 20-23, 2015, [Online]. Available: <http://ejournal.stmik-time.ac.id/index.php/jurnalTIMES/article/view/229>

F. Huzaeni, I. Gunawan, D. Cahya, M. Yanti, dan N. Krisdayanti, "Analisis Keamanan Data Pada Website Dengan Wireshark," JES (Jurnal Elektro Smart), vol. 1, no. 1, hal. 13-17, 2021, [Online]. Available: <https://www.sttrcepu.ac.id/jurnal/index.php/jes/article/view/161>

Priska Restu Utami, "Analisis Performa Aplikasi Video Conferencepada Sistem Point To Multipointjaringan Wireless," Ug Journal., vol. VOL.14, hal. 43-55, 2020.

Y. A. Pranata, I. Fibriani, dan S. B. Utomo, "Analisis Optimasi Kinerja Quality of Service Pada Layanan Komunikasi Data Menggunakan Ns-2 Di PT. PLN (Persero) Jember," Sinergi, vol. 20, no. 2, hal. 149, 2016, doi: 10.22441/sinergi.2016.2.009.

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