QoS Impact on Multimedia Traffic Load (IPTV, RoIP, VoIP) in Best Effort Mode

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Abstract—This paper summarizes the work we have done to obtain results that clearly show the importance of QoS to ensure optimal transmission of traffic and media streams on IP/MPLS network. In short, we were able to install and configure the IP / MPLS network through the GNS3 simulator and install the multimedia services we tested and emulated in a virtual lab (GNS3, VirtualBox, Wireshark, …). And we have particularly demonstrated the influence of the Best Effort load on the quality of multimedia streams: IPTV, RoIP, VoIP. The peculiarity of multimedia streams on the MPLS network is not to manage micro-flows but to group flows into service classes. This makes it possible to rely on a dimensioning phase and to scale up. We used the DiffServ architecture to deploy QoS. In this work, we underlined the influence of the diffserv approach in terms of the delay and the jitter applied to the services and tested in the absence and presence of QoS…

Keyword—QoS, Flows, IP/MPLS, DiffServ, IPTV, RoIP, VoIP, GNS3, VirtualBox, Wireshark.

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