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AL-Asmarya Islamic University /Faculty of Engineering

EVALUATION OF THE LOSS AS QUALITY OF SERVICE PARAMETER IN SOFTWARE-DEFINED NETWORK

A graduation project submitted to the Electrical and Computer Engineering Department in partial fulfillment of the requirements for the degree Bachelor in Communication Engineering

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ABSTRACT

The increasing demand for network services and quality across wide selections of digital applications in the internet era has caused growing congestion and raised questions about how to deal with prioritizing data in ways tailored to particular uses of applications and managing peak congestion times. Traditionally, information about the available data rate in the network is completely gathered by sources and sink without interaction with the network infrastructure. Software-defined Networking (SDN) is a promising and powerful concept to introduce new dimensions of flexibility and adaptability in today's communication networks. In particular, the realization of Quality of Service (QoS) concepts becomes possible in a flexible and dynamic manner with SDN.

In this project, introduction of traditional network architecture is followed by detailing different methods of the quality of service (QoS), and studying software-defined network and elaborating the challenges ahead. In fact, the objective of the project is to evaluation the loss experimentally on real network equipments in different scenarios, in traditional networks and with quality of service, and to study the effect of use of software-defined network on quality of service on the loss.

QoS policies do not enable network equipment to use significant powers in the control plane, and this is due to the decentralized network architecture. Therefore, to solve this

weakness SDN architecture was used, by SDN the network become more automated and more effective. Utilizing the SDN architecture to implement QoS mechanisms gives more dynamism to the network and provides maximum use of its resources.