# Learning Guide Unit 3

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| Book: | Learning Guide Unit 3 | | |

# Description

Learning Guide Unit 3

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# Overview

## UNIT 3: Quality of Service

**Topics**

- Quality of Service (QoS) Overview
- Approaches to QoS
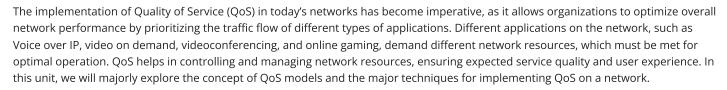- QoS in Wireless Networks

**Learning Objectives**

By the end of this Unit, you will be able to:

1. Compare and contrast IntServ and DiffServ models in a network environment.
2. List the pros and cons of traffic shaping and traffic policing QoS techniques.

**Tasks**

- Peer assess Unit 2 Written Assignment
- Read the Learning Guide and Reading Assignments
- Complete the Discussion Assignment by posting in the Discussion Forum
- Respond to three of your fellow classmates' posts in the Discussion Forum
- Complete and submit the Learning Journal
- Take the Self-Quiz
- Take the Graded Quiz

# Introduction

The implementation of Quality of Service (QoS) in today's networks has become imperative, as it allows organizations to optimize overall network performance by prioritizing the traffic flow of different types of applications. Different applications on the network, such as Voice over IP, video on demand, videoconferencing, and online gaming, demand different network resources, which must be met for optimal operation. QoS helps in controlling and managing network resources, ensuring expected service quality and user experience. In this unit, we will majorly explore the concept of QoS models and the major techniques for implementing QoS on a network.

**Watch**

Reference:

- SK Wish. (2020, February 2). *Communication networks quality of service (QOS)* [Video]. YouTube. https://www.youtube.com/watch?v=-cGMmSx9Ag0

# Reading Assignment

As you read through the learning resource consider the following:

- *What are traffic shaping and traffic policing, and how do they differ from each other?*
- *What are Quality of Service (QoS) indicators, and what are the different QoS Service Models?*

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**Read**

1. Fulber-Garcia, V. (2022, November 13). *Traffic engineering: Shaping vs. policing*. Baeldung.

- Read this document for an overview of traffic shaping and traffic policing.

2. Huawei. (2022, September 13). What Is quality of service (QoS)?

- Read this article on QoS indicators and QoS Service Models.

3. Mishra, A. (2022, July 13). *Quality of service in computer networks (QoS)*. Scaler Topics.

- Read this document for an overview of Quality of Service (QoS) and approaches to QoS.

4. Oleiwi, H. W., Al-Taie, H. L., Saeed, N., & Mhawi, D. N. (2022). A comparative investigation on different QoS mechanisms in multi-homed networks. *Iraqi Journal of Industrial Research*, *9*(1), 1-11.

- Read this article on studies of different QoS aggregation mechanisms (IntServ, DiffServ, best-effort, and IntServ-DiffServ) for improving the overall operational efficiency of wireless networks.

# Discussion Assignment

*Quality of Service (QoS) can be implemented in three different models, namely; Best effort, Integrated Services (IntServ), and Differentiated Services (DiffServ).*

- Compare and contrast the Integrated Services (IntServ) and Differentiated Services (DiffServ) Quality of Service (QoS) models in a network environment.
- When might it be most beneficial to implement one model over the other in a network environment? Share at least one justified example.

Your Discussion should be a minimum of 200 words in length.

In your responses to your classmates' posts, expand on their points and provide additional insights or examples to support your points. Use proper citation if you refer to any outside sources.

# Learning Journal

Reflecting on the reading resources and your own research, respond/complete the task mentioned in the following scenario:

As a network engineer, you have been hired by XYZ Company to implement Quality of Service (QoS) on their enterprise network in order to improve the quality of their network. You are considering using one of the major QoS techniques - scheduling or traffic policing - or a combination of both. In order to come to a conclusion, your supervisor has tasked you to list the pros and cons of traffic shaping and traffic policing QoS techniques.

The Learning Journal entry should be a minimum of 200 words and not more than 750 words. Use APA citations and references if you use ideas from the readings or other sources.

# Self-Quiz

The Self-Quiz gives you an opportunity to self-assess your knowledge of what you have learned so far.

The results of the Self-Quiz do not count towards your final grade. However,the quiz is an important part of the University's learning process and it is expected that you will take it to ensure understanding of the materials presented. Reviewing and analyzing your results will help you perform better on future Graded Quizzes and the Final Exam.

Please access the Self-Quiz on the main course homepage; it is listed inside the Unit.

# Graded Quiz

The Graded Quiz will test your knowledge of all the materials learned thus far. The results of the quiz will count towards your final grade.

Please access the Graded Quiz on the main course homepage; it will be listed inside the Unit. After you click on it, the quiz's introduction will inform you of any time or attempt limits in place.

Good luck!

# Checklist

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