Learning Guide Unit 7

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Description

Learning Guide Unit 7

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Overview

UNIT 7: Securing Networks

Topics

- Security in Local Area Networks
- Security in Wide Area Networks
- Wireless networks security
- Future of network security

Learning Objectives

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

1. Compare network security in Wired and wireless Local Area Networks.
2. Explain the security measures required for a WAN network design.
3. Discuss the future of network security.

Tasks

- Read through the Learning Guide and the Reading Assignment
- 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 Written Assignment
- Complete and submit the Learning Journal
- Take and submit the Self-Quiz

Introduction

Network security is crucial in today's digital age. Imagine a scenario where your organization's confidential data has been compromised, and you're left to face the consequences - from reputational damage to financial loss. This is where network security comes to our aid. When designing a network, security should be the top priority to ensure the safety and availability of data. In this unit, we will explore the essential network security considerations to ponder when designing Local Area Networks (LANs), Wide Area Networks (WANs), and wireless networks. We will also explore the future of network security, discussing the emerging technologies and trends that will shape the industry.

Watch

Reference:
- MS TECH. (2022, June 13). *What is network security? | Network security explained* [Video]. YouTube. https://www.youtube.com/watch?v=ijtOfjiOTF8

Reading Assignment

As you read through the learning resource consider the following:

- *How do hackers breach LAN security, and what are the potential consequences of a security breach?*
- *What measures can be taken to ensure Wi-Fi security, and what are the most common security threats faced by wireless networks?*
- *What are some best practices for improving WAN security, and what advancements are expected to shape the future of network security?*

Read

1. Bialy, M. (2022, August 1). *LAN security and how it is hacked*. Grandmetric.

   - Read this article to learn about LAN security and how it is hacked.

2. Cepero, R. (2020, August 23). *How to improve your WAN security*. Bleuwire.

   - Read this article to learn how to improve WAN security.

3. Morillo, C. (2022, March 15). *The future of security: Surveying your cybersecurity landscape*. O'Reilly.

   - Read this article to know the future of network security.

4. *What is Wi-Fi security?* (n.d.). Cisco.

   - Read this article to learn security measures in wireless networks.

Discussion Assignment

Security measures are a major consideration while planning any network. Compare security needs in "wired" Local Area Networks (LAN) and wireless LAN networks. Which network type do you think requires more stringent security measures?

In your responses to your peers, compare and contrast your answer to those of your peers.

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

Written Assignment

You have recently joined a prominent IT firm as a senior network engineer. Your company has landed a major client who requires a Wide Area Network (WAN) design. The client is a leading financial institution that deals with sensitive financial data and is highly concerned about the security of its network.

In order to test your firm's expertise in designing a WAN network that meets the client's requirements, the client has asked your company to propose three possible security measures that should be incorporated into the WAN network design. Based on this the client will confirm the design project.

Task:

Explain three possible security measures that should be incorporated into a WAN network design.

Submit the complete assignment in an MS Word or PDF file. The assignment should be with proper APA citations and should be at least 1-page long.

You will be assessed on:

- Your detailed explanations of the three feasible security measures that are relevant to a WAN network design.
- Organization and style of the essay (including APA formatting).

Learning Journal

Cybersecurity threats with ever-evolving complexities have become pervasive in today's networks. With the evolution of networks: cloud computing, the Internet of Things (IoT), and the Internet of Everything (IoE), it has become an increasing challenge to secure networks. What does the future hold for network security? Several cybersecurity trends are emerging and seem to point to the future of network security such as Zero Trust (ZT) security, cloud security, and automation.

Write a short essay on your perspective on the future of network security.

NOTE: Your submission should be between 200 and 500 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, but 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. 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 will be listed inside the Unit.

Checklist

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