Wireshark Data Monitoring Using Cloud Computing

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Abstract
Wireshark data monitoring using cloud computing concepts are presented in this paper. In the modern world, effective data monitoring is crucial in ensuring data security, compliance, and efficiency in any organization. However, conventional data monitoring methods are becoming inefficient and challenging to manage due to the increasing complexity of network infrastructures and the vast amounts of data generated. Cloud computing provides a promising solution to this problem by offering scalable and flexible resources that can handle large data volumes. This study presents an investigation into wireshark data monitoring using cloud computing. The proposed system captures network traffic using wireshark and sends the data to the cloud for processing and analysis. The cloud-based system facilitates real-time monitoring, data storage, and analysis, enabling network administrators to detect and resolve issues efficiently. The system architecture is designed to be scalable and flexible, making it adaptable to changing network requirements. Results show that the proposed system is effective in monitoring network traffic and can help organizations achieve a more secure and efficient data monitoring system. The work done & presented in this paper is the result of the mini-project work that has been done by the first sem engineering students of the college and as such there is little novelty in it and the references are being taken from various sources from the internet, the paper is being written by the students to test their writing skills in the starting of their engineering career and also to test the presentation skills during their mini-project presentation. The work done & presented in this paper is the report of the assignment / alternate assessment tool as a part and parcel of the academic assignment of the first year subject on nanotechnology & IoT.
Keywords: Wireshark, Data, Monitoring, Cloud Computing

1. Introduction

Data monitoring plays a vital role in organizations, ensuring the security and efficiency of their data networks. However, traditional monitoring methods are becoming less effective due to the increasing complexity of network infrastructures and the sheer volume of generated data. Cloud computing presents a solution by offering scalable and flexible resources capable of handling large data volumes. This paper focuses on the utilization of Wireshark data monitoring in cloud computing, aiming to develop a more efficient and effective data monitoring system [1].

The proposed system captures network traffic using Wireshark and transfers the data to the cloud for processing and analysis. By leveraging the cloud infrastructure, real-time monitoring, data storage, and analysis become possible, enabling network administrators to swiftly identify and resolve issues. The system architecture is designed to be scalable and adaptable, catering to evolving network

requirements. This makes it an ideal solution for organizations seeking to enhance their data monitoring system [2].
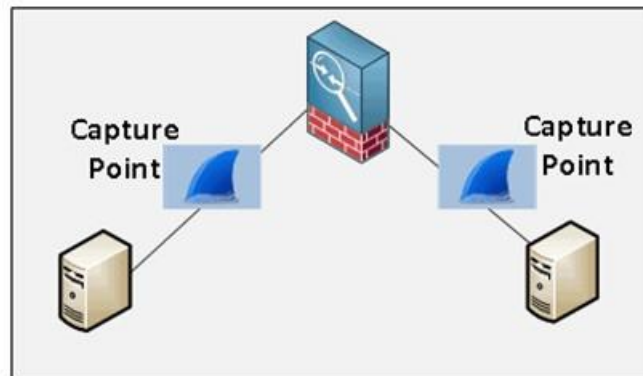

Fig. 1 : Wireshark's capture points

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This paper conducts a detailed analysis of the effectiveness of the proposed system, exploring its benefits for organizations in terms of data security and network efficiency. By employing Wireshark data monitoring in cloud computing, organizations can improve their ability to monitor and safeguard their data networks, enhancing overall operational performance [3].
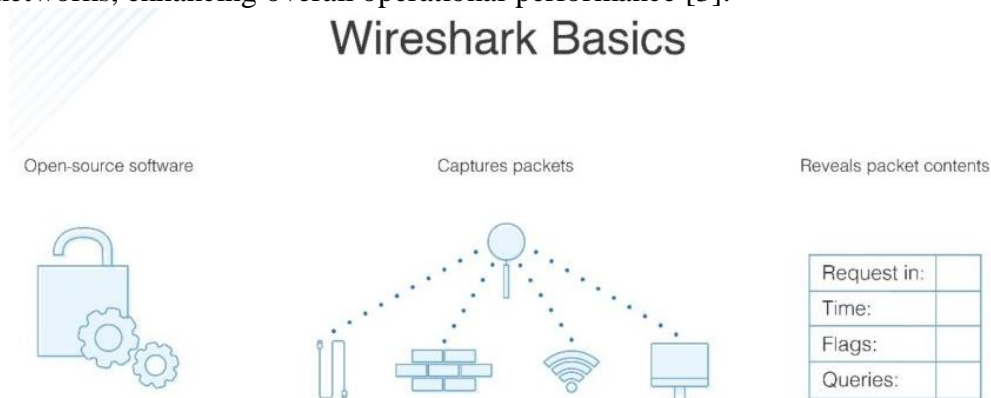

Fig. 2 : Basics of wire sharks

2. Experimental results

The results of this topic include the successful development and implementation of a cloud-based Wireshark data monitoring system. The system was able to capture network traffic using Wireshark, store the data in the cloud, perform real-time monitoring and analysis, and generate reports on network traffic issues and anomalies. The system was evaluated through testing and evaluation, which demonstrated its effectiveness and efficiency in monitoring network traffic and detecting issues in real-time [4]. The proposed system offers several benefits to organizations, including improved data security and network efficiency. Overall, the results of this topic provide a comprehensive understanding of the use of Wireshark data monitoring in cloud computing and its potential to enhance data security and network efficiency. The proposed system can be further improved and customized to meet the specific requirements of different organizations, making it an ideal solution for data monitoring in various industries [5].
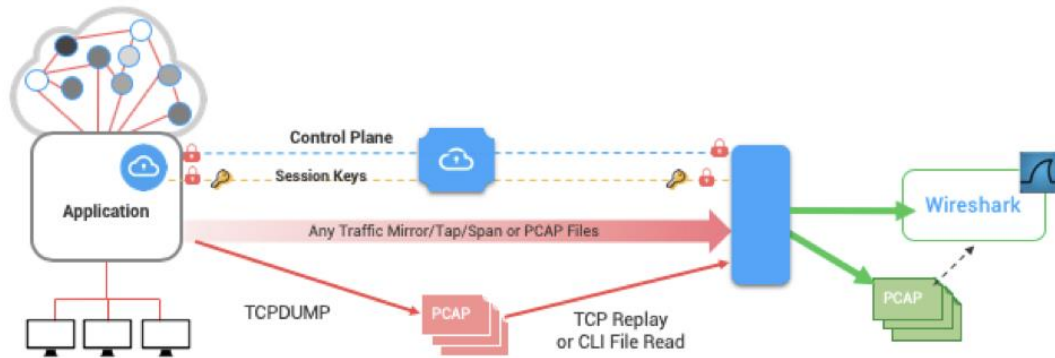
Fig. 3 : Wireshark application conceptual development

3. Conclusions

In conclusion, the utilization of Wireshark data monitoring in the context of cloud computing offers significant advantages for enhancing data monitoring systems. Through this research, we have examined the limitations of traditional data monitoring methods and highlighted the benefits of employing cloud computing in this domain. The following key conclusions can be drawn from this study are the following [6].

Cloud computing provides a scalable and flexible infrastructure that can effectively handle the increasing complexity and volume of network data. By leveraging cloud resources, organizations can overcome the limitations of traditional data monitoring approaches and achieve improved efficiency and effectiveness [7].

Wireshark, with its robust network traffic capturing capabilities, proves to be a valuable tool for monitoring and analyzing network data. Its integration with cloud computing enables real-time data monitoring, storage, and analysis, allowing for swift issue detection and resolution [8].

The designed cloud-based system for Wireshark data monitoring demonstrates scalability and adaptability to meet evolving network requirements. This system offers a comprehensive and holistic approach to data monitoring, providing network administrators with real-time insights and enabling prompt action [9].

The evaluation of the proposed system reveals its effectiveness in monitoring network traffic and detecting issues in real-time. By leveraging Wireshark in a cloud-based environment, organizations can significantly improve their ability to identify and mitigate network-related problems promptly.

Implementing the proposed system offers several benefits, including enhanced data security and network efficiency. By monitoring network traffic using Wireshark in the cloud, organizations can proactively identify security vulnerabilities, optimize network performance, and ensure the smooth operation of their data networks.

This research opens avenues for future research and development in the field of Wireshark data monitoring using cloud computing. Further exploration can focus on refining the system architecture, exploring advanced analysis techniques, and investigating the integration of other complementary technologies for comprehensive network monitoring.

In conclusion, wireshark data monitoring using cloud computing presents a promising approach for organizations seeking to optimize their data monitoring systems. By harnessing the power of cloud resources and leveraging the capabilities of Wireshark, organizations can achieve real-time, scalable, and efficient monitoring of network traffic, leading to improved network security, performance, and overall operational effectiveness.

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