UNIVERSITY OF MINES AND TECHNOLOGY
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FACULTY OF COMPUTING AND MATHEMATICAL SCIENCES DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

LITERATURE REVIEW OF TEN ARTICLES
REVIEW TOPIC
REVOLUTIONIZING NETWORKS WITH SOFTWARE DEFINED NETWORKING

BY
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COURSE : RESEARCH METHODS AND ETHICS
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LITERATURE REVIEW

Networking and communication are essential parts of human life and have come a long way since the introduction of computers. This review emphasizes Software Defined Networking (SDN) and how it is changing traditional network control and management.

According to Mohammed (2019), the adoption of SDN has facilitated a shift in network management from the traditional necessity of on-site network monitoring to a more efficient approach. This transition has resulted in the separation of the intelligence (control planes) from the physical infrastructure (network devices), enabling more flexible and dynamic network operations.

Software Defined Networking (SDN) is a revolutionary approach to network management that decouples the control plane from the data plane, allowing for more flexible and efficient network configuration and management. SDN enables centralized control of the network, which simplifies the management of complex network environments and enhances the ability to respond to changing network demands.

Key Features of SDN

1. Centralized Control: SDN centralizes network intelligence in one network component by separating the forwarding process of network packets (data plane) from the routing process (control plane).
2. Programmability: Network administrators can program and manage the network centrally using software applications, which allows for rapid response to network events.
3. Flexibility: SDN provides a flexible framework for managing network services, enabling the dynamic allocation of resources and the easy deployment of new services.
4. Cost Efficiency: By using standard hardware and separating control and data planes, SDN reduces the need for specialized hardware and lowers overall network costs.

Impact on Traditional Networking

Traditional networking relies on distributed protocols for control and data planes, often leading to complex configurations and slower response times to network changes. SDN addresses these challenges by offering a centralized and programmable network architecture, which simplifies network management and enhances performance.

References

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