Efficient Network Management Protocols for Enhanced Performance: A Comprehensive Analysis

Loid Marxz E. Israel and Jerry I. Teleron

0009-0005-3276-3891,0000-0001-7406-1357

Department of Graduate Studies, Surigao Del Norte State University, Philippines

loidmarxz@gmail.com and jteleron@ssct.edu.ph

Abstract*: This paper explores the critical realm of network management protocols, delving into their significance in maintaining and optimizing network performance. The study investigates various existing protocols, assesses their strengths and weaknesses, and proposes a conceptual framework for enhancing network management efficiency. Through a rigorous methodology involving protocol evaluation and performance testing, this research aims to contribute valuable insights to the field of network management. The results and discussions section elucidates the findings, highlighting key considerations for protocol selection and implementation. Ultimately, the paper concludes with recommendations for optimizing network management practices to meet the evolving demands of modern communication infrastructures.*

Keywords: Network Performance, Protocol Evaluation, Protocol Selection, Optimization Recommendations, Network Management Protocols

REFERENCES

[1] Agarwal, J., & Gupta, G. (2020). Performance Evaluation of Network Management Protocols. In Proceedings of the IEEE International Conference on Network Protocols (ICNP), 1-6.

[2] Ahmad, S., & Rehman, M. U. (2021). A Survey of Network Management Protocols. IEEE Transactions on Communications, 69(4), 2391-2405.

[3] Al-Safadi, S., & Al-Shatri, H. (2018). Design and Implementation of an Efficient Network Management Protocol for Wireless Networks. International Journal of Computer Networks and Applications, 41(8), 1615-1630.

[4] Al-Zahrani, A., & Al-Rawi, A. (2019). Adaptive Network Management Protocols for Enhanced Performance. IEEE Transactions on Network and Service Management, 16(3), 896-907.

[5] Ansari, S., & Ahmad, S. (2020). A Survey of Network Management Protocols for IoT Environments. In Proceedings of the IEEE International Conference on Internet of Things (IoT), 1-6.

[6] Aslan, M., &Derbas, N. (2019). A Novel Network Management Protocol for SDN-Enabled Networks. Future Generation Computer Systems, 97, 66-75.

[7] Bhuiyan, S. Z., & Rahman, M. S. (2018). A Comparative Analysis of Network Management Protocols for Cloud Computing Environments. In Proceedings of the IEEE International Conference on Cloud Computing Technology and Science (CloudCom), 1-6.

[8] Chen, H., & Zhang, J. (2020). Design and Implementation of a Hierarchical Network Management Protocol for Large-Scale Networks. IEEE Transactions on Communications, 68(1), 30-43.

[9] Cui, J., & Wang, X. (2019). A Scalable Network Management Protocol for Software-Defined Networks. IEEE Journal on Selected Areas in Communications, 37(3), 608-621.

[10] Das, S., & Bandyopadhyay, S. (2021). A Secure and Efficient Network Management Protocol for Heterogeneous Networks. IEEE Transactions on Network Science and Engineering, 8(1), 34-47.

[11] Devi, S., & Kumar, P. (2018). A Survey of Network Management Protocols for Next-Generation Networks. In Proceedings of the IEEE International Conference on Communication Systems (ICCS), 1-6.

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-14025

200

ISSN
2581-9429
IJARSCT

[12] Dong, M., & Liu, Y. (2020). A Lightweight Network Management Protocol for Mobile Edge Computing Environments. IEEE Transactions on Mobile Computing, 19(7), 1102-1115.

[13] Garg, S., & Verma, A. (2021). A Comprehensive Analysis of Network Management Protocols for Real-Time Applications. In Proceedings of the IEEE International Conference on Real-Time Computing (RTC), 1-6.

[14] Gupta, A., & Singh, B. (2019). Design and Implementation of a Fault-Tolerant Network Management Protocol for Wireless Sensor Networks. IEEE Sensors Journal, 19(2), 247-256.

[15] Haque, A., & Ahmad, S. (2020). A Performance Evaluation of Network Management Protocols for Cognitive Radio Networks. In Proceedings of the IEEE International Conference on Cognitive Radio, Networking and Communications (ICCRC), 1-6.

[16] Hassan, M. A., & Khalil, I. (2021). A Secure and Scalable Network Management Protocol for IoT Networks. In Proceedings of the IEEE International Conference on Internet of Things (IoT), 1-6.

[17] Hong, X., & Zhang, Y. (2019). A Multi-Agent Network Management Protocol for Autonomic Networking. IEEE Transactions on Network and Service Management, 16(1), 244-257.

[18] Islam, S. M., & Rahman, M. H. (2020). A Survey of Network Management Protocols for Smart Grid Communication Systems. In Proceedings of the IEEE International Conference on Smart Grid Communications (SmartGridComm), 1-6.

[19] Israel, L. M. E. (2022). Adaptive Network Management Protocols for Enhanced Performance. IEEE Transactions on Network and Service Management, 19(2),

[20] Cisco Network Management Academy: https://www.netacad.com/

[21] Juniper Networks Network Management Guide: https://www.juniper.net/documentation/us/en/software/junos/network-mgmt/topics/topic-map/network-management.html

[22] IETF Network Management Working Group: https://datatracker.ietf.org/wg/

[23] Auerbach, J. S., &Dordal, P. B. (2017). Efficient Network Management. Auerbach Publications.

[24] Bernstein, P. A., & Andersen, D. D. (2016). Network Management and Control with SDN and NFV. Cambridge University Press.

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-14025

ISSN
2581-9429
IJARSCT

201