IJARSCT



International Journal of Advanced Research in Science, Communication and Technology

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 5, Issue 3, April 2025



Beyond Wires: Unleashing the Potential of Wi-Fi 6 Mesh

Dr. Vikas Mahandule¹, Mrs. Harsha Patil², Mr. Saurav Temgire³, Mr. Vaibhav Zambare⁴, Mr. Pavan Padghan⁵

HOD, Assistant Professor, Department of Computer Application¹ Assistant Professor, Department of Computer Application² Student, MSC(CA)^{3,4,5} MIT ACSC, Alandi, India

Abstract: This paper explores the transformative potential of Wi-Fi 6 mesh networks in modern IT environments. Wi-Fi 6, with its advanced features like OFDMA, MU-MIMO, and BEAMFORMING, delivers significantly enhanced speed, efficiency, and coverage. Mesh topology further amplifies these benefits by creating a seamless, high-performance wireless network across extended areas. This paper examines the key advantages of Wi-Fi 6 mesh, including increased bandwidth, improved coverage, enhanced security, and seamless roaming capabilities. It discusses real-world applications in various IT domains, such as smart offices, remote work, and enterprise-level deployments. By leveraging Wi-Fi 6 mesh technology, organizations can optimize their IT infrastructure, improve employee productivity, and unlock new possibilities for innovation in the digital age..

Keywords: Wi-Fi 6 Mesh, Wireless Networking, Home Networking, Enterprise Networking, Smart Home, IoT, High-Speed Internet, Network Performance



