

Computer Networks and Internet Technologies: Concepts and Emerging Trends

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Abstract

Computer networks and Internet technologies have transformed the way individuals, organizations, and institutions communicate, access information, and share resources. The rapid development of networking technologies has contributed to significant changes in education, business, healthcare, banking, and communication. This paper reviews the fundamental concepts of computer networks and examines important Internet technologies and emerging trends. It discusses network architectures, communication protocols, Internet services, wireless networking, web technologies, and the growing importance of broadband connectivity. The study also considers emerging developments in networking that were gaining importance during the period, including cloud-based services, mobile Internet, Internet of Things, and advanced wireless communication. The paper highlights both the opportunities and challenges associated with the expansion of network technologies, including security, privacy, reliability, and accessibility. It concludes that continuous technological development and appropriate network infrastructure are essential for effective and secure digital communication.

Keywords: Computer Networks, Internet Technologies, Wireless Networking, Cloud Computing, Internet of Things, Network Protocols, Digital Communication

