Title

Next-Generation Wi-Fi: Performance Issues and Research Challenges

Speaker

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Abstract

There has been tremendous growth in the deployment of Wi-Fi technologies (IEEE 802.11 standards) in recent years. This growth is due to the flexibility, low cost, simplicity, and user mobility offered by the technology. Such networks are being deployed widely in homes, offices, apartments, schools, shops, hotels, warehouses, factories, and almost anywhere that people live and work. This talk will highlight some of the most recent developments in Gigabit Wi-Fi such as the latest Wi-Fi 7 (802.11 be) and ongoing research activities in the next generation wireless network technologies. Network performance issues and challenges in protocol design and system deployment scenarios will be discussed. Empirical results will be presented to support the discussion. This is a knowledge-sharing talk suitable for a general audience.

Biography

Nurul I. Sarkar (Senior Member, IEEE) received a PhD in Electrical, Computer, and Software Engineering (field of study: wireless networks) from the University of Auckland, New Zealand. He is currently a Professor and Director of the Networking and Security Research Lab, Auckland University of Technology, Auckland, New Zealand. He has authored over 220 articles (20+ Q1 journals since 2018) in network and communications, including the IEEE Communications Magazine, IEEE Internet of Things Journal, IEEE Transactions on Vehicular Technology, IEEE Transactions on Network and Service Management, IEEE Transactions on Education, Ad Hoc Networks, Computer Communications, and Computer Networks. "Improving the Performance of Wireless LANs: A Practical Guide," his second book has been published by Taylor and Francis in January 2014.

Prof Sarkar is a member of many professional organisations and societies. He was on the Editorial Review Boards of several prestigious journals and was a Guest Editor

for the IEEE Communications Magazine. He has spent research leave in China, Japan, and South Korea in recent years. He was the conference General Co-Chair for the ITNAC'19, CECNet'18 and the TPC Co-Chair for the ICOIN'24-26, IEEE ICC'14, and IEEE TENCON'10. His research interests include wireless network protocols, cognitive radio ad hoc networks, IoT, UAV, and cloud/fog/edge networking.