IEEE Transactions on Consumer Electronics

Call for Papers

Special Section on "Performance Evaluation Techniques for Next-Generation Wireless Networks"

Theme:

Our society's dependence on information networks has highlighted the importance of network survivability. The lack of network services influences public safety and commercial trustworthiness, making the survivability assessment an essential part of system design and validation. A system's capability to promptly fulfill its mission in the presence of attacks, failures, or accidents is one of the qualitative definitions of survivability. Network survivability reflects the ability of a network to continue to function during and after failures. Survivability is a notion related to the Information Assurance (IA) area, which is ensuring that networks and systems provide an assured level of functionalities even in the case of disruptive events that violate their security and dependability goals. Survivability evaluation has been done so far using various measures or technologies such as blocking probability, availability, Excess Loss due to Failure (ELF), the number of users still connected after failure, the number of nodes connected to a central node, and the routing performance. The development of these technologies is impossible without substantial progress in the field of modulation and coding schemes, channel access methods, QoS/QoE support and energy efficiency, the theory and recommended practice of reliable data delivery in multi-hop wireless networks (wireless mesh networks, MANET, VANET, FANET, etc.), analytical modelling, of wireless networks and their protocols.

This special issue aims to seek high-quality submissions focusing on developing efficient algorithms for wireless networks and mathematical frameworks for wireless networks' survivability analysis. Visionary, work-in-progress, and unpublished original research and survey/tutorial articles are solicited on survivability, performance evolution, safety, and security aspects of wireless networks.

Topics of interest in this Special Section include (but are not limited to):

Submissions of papers describing original work in following topics are enthusiastically encouraged.

- Survivability techniques for IoT/M2M/IoE
- Network analytics for efficient and reliable network operation
- Transmission Reliability Evaluation for Wireless Sensor Networks
- Queues and queueing networks for wireless network performance evaluation
- Simulation tools for wireless network performance evaluation
- Improving Wireless Sensor Network Survivability using Human-Inspired Deep Learning
- Reliability and dependability of mobile and wireless communication networks
- Assessing dependability of wireless networks using Data Mining
- Real-time support in heterogeneous wireless networks
- Reliable Machine-to-machine (M2M) communication for future networks;
- Decision Making for Wireless Networks
- Energy-efficient real-time wireless networks
- Network coding-based survivability
- Safety, security, and privacy for network survivability
- Availability Evaluation of Wireless Sensor Networks for Industrial Applications;
- Reliability of Software Defined Wireless Sensor Network;
- Fuzzy Inference System for Increasing of Survivability in Wireless Sensor Networks

Important dates:

- End of submission of Manuscripts: January 31, 2024
- Expected publication date (tentative): 4th quarter 2024

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Instructions for authors:

Manuscripts should be prepared following guidelines at: https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html and must be submitted online following the IEEE Transactions on Consumer Electronics instructions: https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html. During submission, the Special Section on "**Performance Evaluation Techniques for Next-Generation Wireless Networks"** should be selected.