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International Network Generations Roadmap

2022 Edition

Edge Services and Automation

IEEE Future NETWORKS

An IEEE 5G and Beyond Technology Roadmap

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ABSTRACT

The Key drivers have certainly changed, and the 5G-hype has reached the cycle of disillusionment globally in 2021-2022. Communication Service Providers have started re-focusing on few use cases that can leverage the markets for better average revenue per unit (ARPU) for both consumers & Enterprises.

The list is short includes

1. 1.Service based use cases based on Service constraints (low latency, high throughput, low jitter)
    a. IIOT (Industry 4.0)
    b. V2X (Autonomous Vehicle/ Intelligent Transportation/Traveling Edge)
    c. Telehealth / Telemedicine / Remote diagnostics
    d. Content delivery (with Caching, Realtime, Reach Media Internet Applications)
    e. Ad hoc, Temporary or as needed basis Specfic mission Edge services (Emergency, ad hoc major events, DoD combat mission,and more)
2. Radio Based Multi-Access Edge (MEC) with different flavors
    a. Real Time / Near Real Time enabled Radio Control, Management and XApps based on O-RAN
    b. Constrained based Edge Infrastructure to optimize Power,Form Factor and Updates to NFV-SDN with OneM2M from ETSI to cover IoT Applications
    c. The focus on Data Privacy, Security, Data Localization & Analytics Big or Small
    d. Smart Edge with Containers and Compute & Network acceleration are emerging from Infrastructure and Semiconductor players.

We name item 1 in above as Edge Service Platform Framework (ESPF-2021) supplementary updates and item 2 in above as Edge Automation Platform Framework (EAPF-2021) updates for INGR.2021 efforts released here in 2022.

Key words: ESPF, ENS, IIOT, V2X, XApps, EAPF, O-RAN, MEC,OneM2M, IoT, 5G

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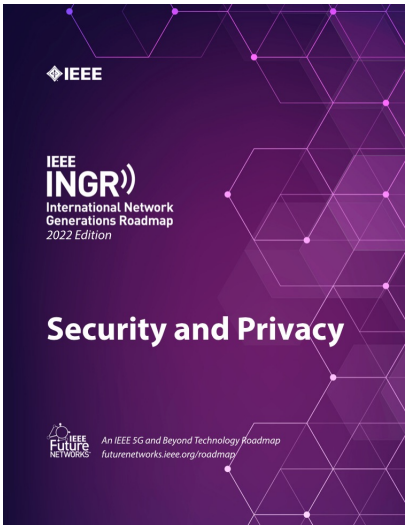

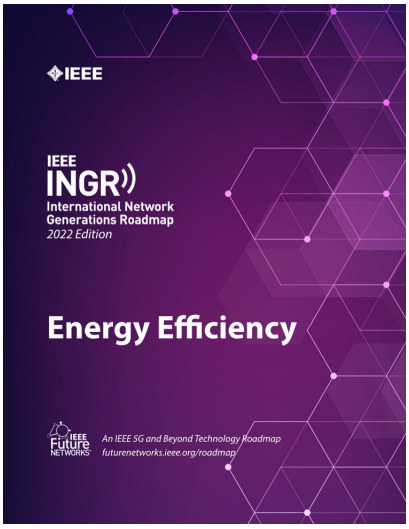

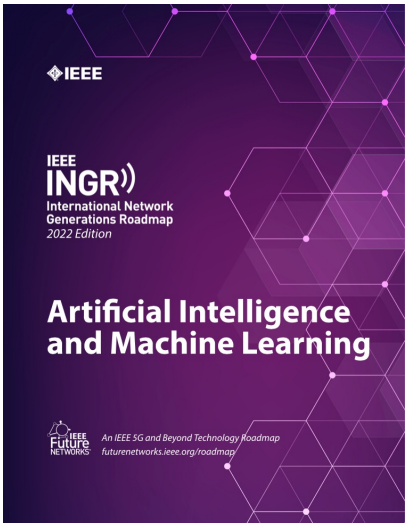

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