

Talk Title: Wireless Time Sensitive Network (TSN) – From Ethernet to WI-FI, 5G and beyond

Speaker: Dr. Dave Cavalcanti

Location: Virtual

Date: Thursday, April 29, 2021

Time: 5:00 PM to 6:30 PST

Cost: The virtual event is free to attend.

Registration: You can register at <https://events.vtools.ieee.org/m/268644>

Abstract:

Emerging applications such as autonomous mobile robots, smart manufacturing, immersive experiences will require distributed computing across wireless and wired networks with deterministic low latency and high reliability. Time-Sensitive Networking (TSN) is emerging as a fundamental toolset, based on the IEEE 802.1 TSN standards, for enabling accurate time synchronization and timeliness across wired and wireless networks. This talk provides an overview of the evolution of TSN and challenges from extending TSN from Ethernet to Wi-Fi (802.11) and integration with 5G Rel. 16.

The presentation will discuss the state of the art in TSN features over Wi-Fi and 5G, including time synchronization, bounded latency, and high reliability. The presentation will also discuss Industry ecosystem activities currently underway by standards bodies and cross-industry alliances to make wireless TSN a reality, highlighting the TSN capabilities available on wireless networks now, certification and interoperability work that remains, and open research questions.

Speaker Bio:

Dave Cavalcanti is Principal Engineer at Intel Corporation where he develops next-generation wireless connectivity and distributed computing technologies to enable autonomous, time-sensitive systems and applications. He received his Ph.D. in computer science and engineering in 2006 from the University of Cincinnati. He leads Intel Lab's research on Wireless Time-Sensitive Networking (TSN) and industry activities to enable determinism in future wireless technologies, including next-generation Wi-Fi and beyond 5G systems. He is a Senior Member of the IEEE and serves as the chair of the Wireless TSN working group in the Avnu Alliance, an industry group facilitating an ecosystem of interoperable TSN devices and deterministic networking across Ethernet, Wi-Fi, and 5G technologies