APEX STANDARDS

IEEE 802.11 STANDARDIZATION & STANDARD ESSENTIALITY SEARCH

APEX STANDARDS IEEE 802.11 Standardization & Standard Essentiality Search (Apex IEEE) has joined APEX's flagship lineup!

Similar to APEX 3GPP TDoc Search (APEX 3GPP) and APEX TS/TR Section and Standard Essentiality Search (APEX TS/TR) designed to service the 3GPP Community, Apex IEEE inherits the many core features that simplify and streamline standard-related businesses within the IEEE 802.11 community and beyond. They include:

- Systematic tracking of standardization proposals and full text search

- Document Control Number (DCN) indexing and updated statuses

- Revision (history) difference search

- User friendly search interfaces

- Standard source & technical interests tracking by company

- Easy comparison amongst company views and positions

- Easy comparison of progress across different Working Groups

- Easy comparison between evolving/ongoing and released/published standards

- Easy cross referencing between IEEE 802.11 proposals and 3GPP ongoing TDocs and published standards

How is APEX IEEE different from APEX 3GPP or APEX TS/TR?

IEEE 802.11 is part of the IEEE 802 set of local area network (LAN) standards that specify the set of Media Access Control (MAC) and Physical Layer (PHY) protocols for implementing Wireless Local Area Network (WLAN) or Wi-Fi. It enables most household and office networks to allow laptops, printers, smartphones, and most recently, emerging Smart Home, Enterprise and Industry 4.0 devices to communicate with each other and access the Internet wirelessly.

IEEE 802.11 Working Groups (WG), Task Groups (TG), Study Groups (SG), as well as, Topic Interest Groups (TIG) meet regularly to define these standards: one of the latest -- IEEE 802.11ax (the 6th generation of Wi-Fi technology, or Wi-Fi 6). The 3rd Generation Partnership Project (3GPP), similarly, runs Working Groups that define cellular communications standards, most recently, the fifth generation technology standard for broadband cellular networks (5G) throughout Releases 15, 16, 17. Both Wi-Fi 6 and 5G are complementary technologies that provide faster connectivity, lower latency and increased capacity over their predecessors.

Differently, APEX IEEE enables search over the IEEE 802.11 standardization documents and published standards; APEX 3GPP supports analysis over evolving TDocs; APEX TS/TR allows to drill the search down to the Section Level of the published 3GPP standards or Technical Specifications (TS).

Shared Technology on the Standardization Forefront

What does this mean for IEEE 802.11 and/or 3GPP standardization delegates?

Orthogonal Frequency-Division Multiple Access (OFDMA), Multi-User Multiple-Input and Multiple-Output (MU-MIMO), as well as, Beamforming (enhanced from Wi-Fi 5 from four antennas to eight) are the key technologies that drive the advancements of Wi-Fi 6 and therefore remain the major topics along the IEEE 802.11 standardization agenda.

Parallelly, 3GPP actively explores new possibilities enabled by OFDMA, MU-MIMO and Beamforming. Most companies' standardization delegates are involved in either IEEE or 3GPP. In fact, both communities are intensive — it is time consuming to keep track of one, letting alone two. Yet, most delegates, when asked to investigate: "what relevant standards have been handled in the past", do history construction manually. The ability to systematically search and cross reference documents between IEEE and 3GPP would allow standardization researchers to minimize blind spots.

Squared SEP

What does this mean for IPR professionals?

Communication patents carry more economic values if they can be read against existing standards, in which case, they become Standard Essential Patents (SEP). Manufacturers implementing that standard would have no choice but license the SEP to fulfill the interoperability requirements. As suggested earlier, certain underlying standards developed in IEEE and 3GPP may have an overlap. If a patent proves essential to that overlap, it carries different values depending on the industrial applications over Wi-Fi 6 or 5G and therefore requires different formulas over (Fair) Reasonable and Non-Discriminatory (F/RAND) in the licensing negotiations. Such analysis can be hard to do or to do thoroughly without a tool that provides proper landscapes beforehand.

The power to see the bigger picture and stay on top of critical standards - APEX STANDARDS

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Apex Standards / IEEE 802.11 Standardization Tracking, Standard Essentiality and Cross Referencing Platform
Case Study for IEEE 802.11ax (Wi-Fi 6)