

Spectrum Occupancy Sensing (SOS) Study Group under the 802.22 Working Group

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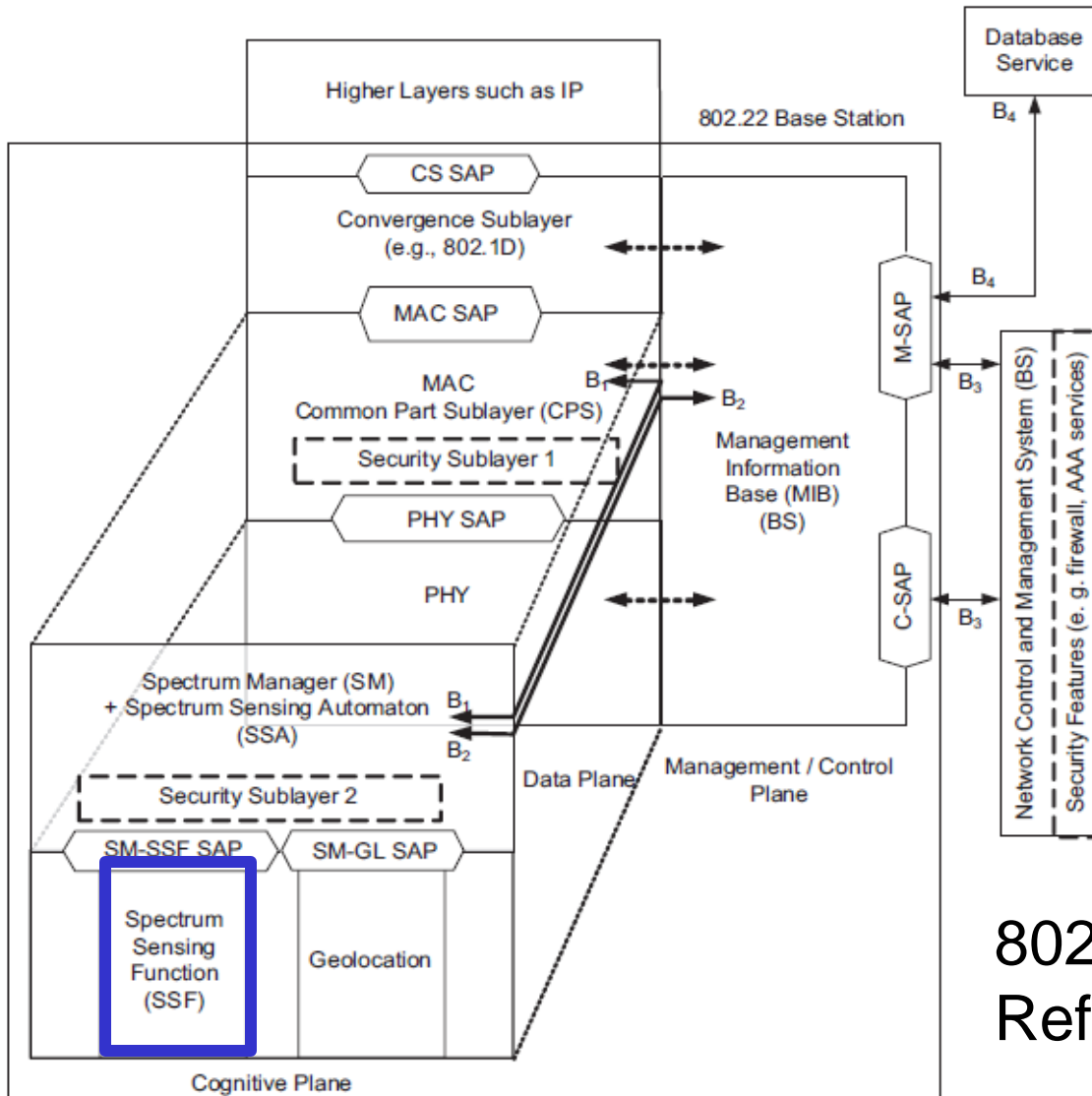
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Summary and Motivation

- **Administrations all over the world are looking to improve the utilization of the spectrum. White Space Database access is one of the techniques to enable spectrum sharing and the use of unused frequency bands also known as the White Spaces.**
- **However, in many administrations, locations and characteristics of the radiators are not well documented. Individual and collaborative spectrum sensing is one of the tools to complement the information contained in databases to create an accurate spectrum occupancy survey.**
- **Such a Spectrum Occupancy Sensing (SOS) system will combine information from multiple sensors along with local terrain information to predict the spectrum occupancy patterns.**
- **This could lead to more efficient use of spectrum especially in places where the information about the primary users is difficult to find.**
- **The SOS Study Group will explore on-going research, challenges and aspects that require standardization.**

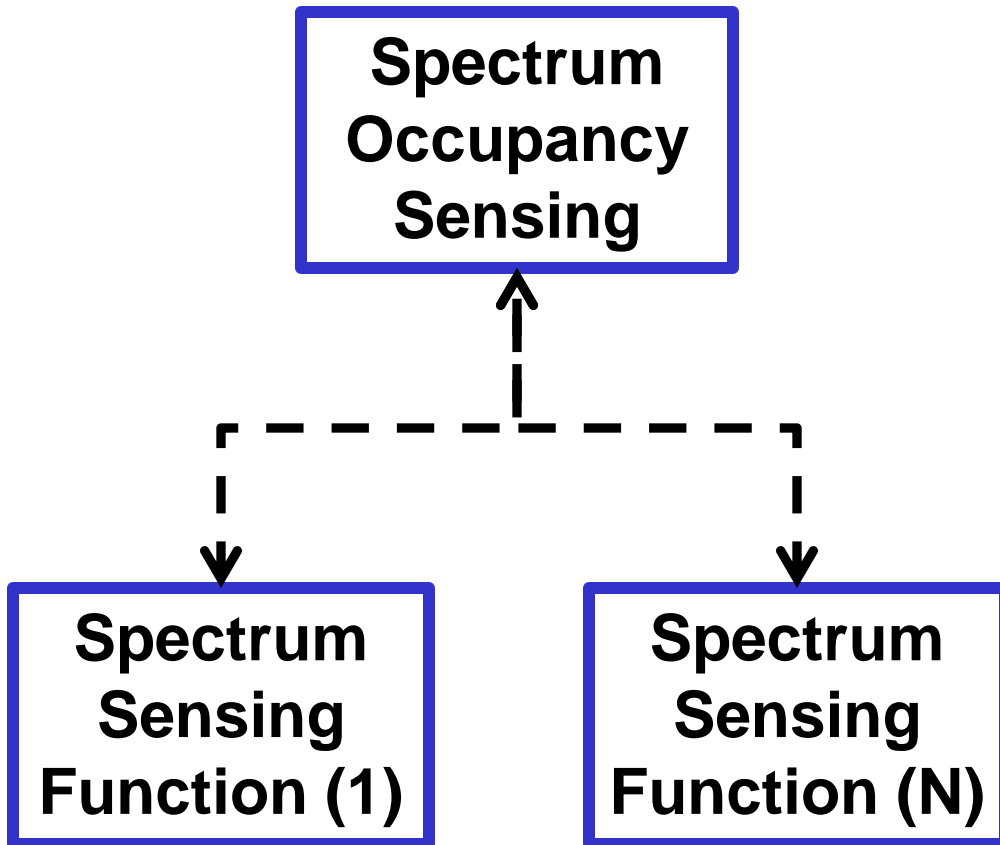
Relevance to the IEEE 802.22 WG



- 802.22 supports **sensing**, beaconing and database access to enable cognitive sharing
- 802.22 has defined the MAC messaging formats to transfer sensing information from Customer Premises Equipment (CPEs) to the Base Station

802.22 Protocol Reference Model

Spectrum Occupancy Sensing (SOS) System



- SOS will bring the Spectrum Sensing Functions (SSF) and sensing related messaging formats out of the current 802.22 spec to create a stand-alone system of external sensors dedicated to creating a Spectrum Occupancy Survey.

Timelines of the Study Group

