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A comparative investigation on performance and which is the preferred methodology for spectrum management; geo-location spectrum database or spetrum sensing

Ezebuka, Chijioke Ifakandu

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ABSTRACT

Due to the enormous demand for multimedia services which relies hugely on the availability of spectrum, service providers and technologist are devising a means or method which is able to fully satisfy these growing demands. The availability of spectrum to meet these demands has been a lingering issue for the past couple of years. Many would have it tagged as spectrum scarcity but really the main problem is not how scarce the spectrum is but how efficiently allocated to use is the spectrum. Once such inefficiency is tackled effectively, then we are a step closer in meeting the enormous demands for uninterrupted services. However, to do so, there are techniques or methodologies being developed to aid in the efficient management of spectrum.

In this research project, two methodologies were considered and the efficiency of these methodologies in the areas of spectrum management. The Geo-location Spectrum Database (GLSD) which is the most adopted technique and the Cognitive radio spectrum sensing technique are currently the available techniques in place. The TV whitespaces (TVWS) was explored using both techniques and certain comparison based on performances; implementation, practicability, cost and flexibility were used as an evaluation parameter in arriving at a conclusion.

After accessing both methodologies, conclusions were deduced on the preferred methodology and how its use would efficiently solve the issues encountered in spectrum management.