

FCT Fundação para a Ciência e a Tecnologia

MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

SEMINAR SERIES on ICTs POLICY RESEARCH

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Spectrum Sharing and Real-Time Secondary Markets

Abstract:

Many believe that a shortage of available spectrum is limiting the development of new wireless products and services. We argue that this shortage can be substantially reduced through use of new methods of spectrum sharing. This presentation will first review a number of spectrum sharing models, including sharing among equals, sharing between primary users and secondary users, sharing based on cooperation and sharing based on coexistence. It will then show a quantitative assessment of one particular model: the real-time secondary market for spectrum. With this approach, a secondary device can transmit when and only when the primary license-holder grants permission. This explicit coordination makes it possible to protect the quality of service of both primary and secondary, while gaining the efficiency of dynamic spectrum sharing. In this presentation, we focus on the case where the primary license-holder is a cellular carrier, and the secondary systems are point-to-point links. We show that this sharing scheme works well even with simple admission control and primitive frequency assignment algorithms, and that cellular carriers could benefit from its adoption.

Wednesday, February 27th 2008 6pm

Room EA1, North Tower, Instituto Superior Técnico

Refreshments provided

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