

DESIGN AND EVALUATION OF MULTICHANNEL MULTIRATE WIRELESS NETWORKS

ECE Scholarly Paper Presentation

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ABSTRACT

The term paper is based on the IEEE publication, "Design and Evaluation of Multichannel Multirate Wireless Networks-by Niranjana, Sugam Pandey, and Aura Ganz". Their work proposes a method to increase the network performance by allotting proportionately more resources to high data rate links than low data rate links; which in the current scenario use up proportionately more network resources than their high data rate counterparts. It is suggested that the use of multiple non-overlapping frequency channels in multirate wireless networks can diminish this performance degradation. To achieve that a new algorithm; the Data Rate Adaptive Channel Assignment (DR-CA) algorithm is developed, along with a new layer. The layer is called the Intermediary Multichannel Layer (IML), which would reside between the link layer and the network layer. This layer would be absolutely transparent to both the link and network layers. Therefore no changes are required in either the link or the network layers, unlike the revised 802.11MAC and other routing schemes, which required modifications to be made to the link and network layers, respectively.