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Privacy-Preserving Wireless Communications Using Bipartite Matching in Social Big Data

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Abstract

The enhanced wireless data transmissions have enabled the dramatical improvement of the service deployment, such as social networks and big data applications. The multi-channel wireless communication is one of the approaches for disseminating information when the user popularity is large in the dynamic and heterogeneous wireless networking environment. *Channel Scheduling Controllers* (CSCs) are vital components in data transmissions, which uses *Nodes* to arrange real-time task scheduling. However, a fixed communication scheduling can hardly meet the requirement of the higher-level privacy protections because of the conflict caused by the performance and security demands. To address this issue, this paper proposes a novel algorithm using communication management techniques for enhancing the security of the systems and supporting applications with real-time constraints. The experimental results depict that the proposed approach can reduce the security cost by up to 32.62% and 23.37% on average, respectively, compare to the traditional methods.

Keywords: Privacy-preserving, Wireless Communication, Bipartite Matching, Social Big Data

1. Introduction

Many recent studies have investigated in generating high-level privacy protection wireless communications, which is a paradigm increasing the performance of the electronic infrastructure for matching the various fields' demands,

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