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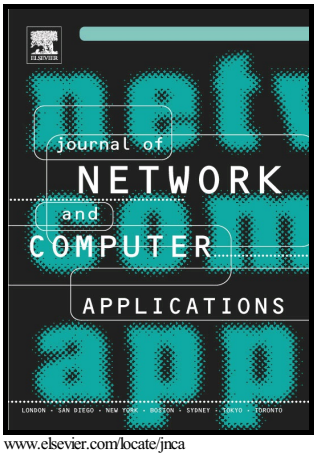

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Peer discovery for D2D communications based on social attribute and service attribute

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Abstract

As one of the essential components of future information network architecture, D2D communication can effectively improve the spectral efficiency and also alleviate the bottleneck of limited radio resources. In particular, peer discovery is the key technique affecting the D2D functioning. However, most of the conventional researches on peer discovery of D2D communications are mainly service requirements-oriented. In fact, communications between users are often affected by trust degree and other social attributes. Therefore, it can not guarantee an effective establishment of D2D communication link to perform peer discovery only according to the service attribute. Aiming at the deficiency of conventional peer discovery methods, this paper proposes a novel peer discovery scheme with assist of social network, which introduces a two-dimensional abstract model by analyzing the social attribute and service attribute. Based on the above model, the trust degree is quantified by user service attributes, and the communication willingness is evaluated combined with demand of user for the social attribute. Finally, the trust degree and communication willingness are utilized to form neighbor cluster recommendation.

Keywords: D2D, social attributes, peer discovery

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