

Server Selection Mechanism for VoIP System in Wireless Mesh Networks

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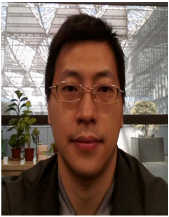
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Abstract—With the rapid development of wireless communication technology and mobile devices, network traffic on smart mobile devices has increased gradually. VoIP is a well-known and mature technology and communication anywhere is emerging as an important application that requires an entirely different way of thinking about communications. In practice VoIP system one kind of issue that vitally impacts the communication is known as service unavailable when loss of Internet connection. In this study we propose a VoIP system architecture that involves the implementation of SIP server and client on a smart mobile device. Every user can play the roles of both SIP server and client, and users can form a self-organized group in Wireless Mesh Networks (WMN) to solve the problem of the unavailability of VoIP in specific area with limited Internet connection. Moreover, this study also proposes a Server Selection Mechanism (SSM) that evaluates the capacity of each smart mobile device to select the most appropriate one to act as the SIP server. The Server Selection Mechanism enhanced the period of whole group connectivity and provided better service for group users. A comparison reveals that the Server Selection Mechanism increase the period of group connectivity to 63% and 28% over those achieved using the non-regular select and random select mechanisms respectively.

Keyword—VoIP, Wireless Mesh Network, Power-Saving, Server Selection Mechanism



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