

A Prior Topology-Configurable Method for Bluetooth Scatternet Formation

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Abstract

In this paper, a prior topology-configurable method in forming Bluetooth scatternet is proposed. The heuristic method describes two mechanisms including the const-hop and the variant-hop algorithms. With a constant k parameter, the const-hop algorithm propagates k in its downstream direction to determine roots and constructs their associated subnets. With a constant k , a counter variable v , and return variable r as parameters, the variant-hop algorithm generates appropriate roots locally and evenly configures the subnet size. Computer simulation shows that our method achieves good network scalability and generates an efficient scatternet configuration for Bluetooth multihop network.

Keyword : Ad-hoc networks, scatternet formation, topology control