Abstract

Delay Tolerant Networks (DTNs) have high end-to-end latency, which is often faces disconnection, and unreliable wireless connections. It does not mean a delay service instead DTNs provides a service where network imposes disruption or delay. It operates in challenged networks with extremely limited resources such as memory size, CPU processing power etc. This paper presents an efficient trust managing mechanism for providing secure environment. The proposed dynamic trust management protocol uses a dynamic threshold updating which overcomes the problems with time changing dynamic characteristics by dynamically updating the criteria in response to changing network conditions. This reduces overheads and increases the efficient use of routing network even in conditions change. Also the dynamic threshold update reduces the false detection probability of the malicious nodes. To show the effectiveness of the proposed system, a detailed simulation in the presence of selfish and malicious nodes is performed with ONE simulator. Finally a comparative analysis of our proposed routing with previous routing protocols is also performed. The results demonstrate that presented algorithm deals effectively with selfish behavior with providing significant gain on effective delivery ratio in trade off with message overhead and delay.
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Index Terms

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Keywords

Delay Tolerant Networks (DTN)  Selfish Attack  Network Security  Trust Management.