



RESEARCH ARTICLE

Detection of Mobile Replica Nodes in Wireless Sensor Networks

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Abstract— In wireless sensor networks (WSN), there are many nodes and they are unattended so an adversary can easily capture and compromise the sensor nodes and take secret key from the nodes then make many replicas (duplicate) of them. After getting the secret key from the sensor node the sensitive data which is present in the nodes get leaked so an adversary can quickly degrades the network communication. To avoid this node compromised attack we use sequential probability ratio testing (SPRT). In literature several compromised node detection works well in static sensor networks and they do not work well in mobile sensor networks. Using SPRT we detect the compromised node in mobile sensor networks. This paper show analytically and through ns2 simulation experiments that the scheme detects duplicate node in an efficient and robust manner.

Key Terms: - mobile sensor nodes; static sensor networks; mobile sensor networks; network communication; sensitive
