

Paper-JT- 013: Jamming Attack Detection and Mitigation Based on Energy Power Consumption (Case Study IEEE 802.11 Wireless Ad Hoc Network)

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ABSTRACT

Quality of Service for data traffic is an important facet of a network, which in the case of wireless network can easily be disrupted by applying a device to broadcast signals. We formulate that the increased of the energy consumption, when a jamming attack occurs, can be used as a guiding indicator in order to mitigate the attack. We show that when a reactive jamming attack occur on a wireless network unmitigated, it can easily block the entire data traffic to the point there is no data can be delivered. We also show that, using NS3 simulation, in an event where a reactive jamming attack to the network happened, the source of attack can be identified through the increased of energy consumption , and successfully mitigated by avoiding sending data traffic through the same channel used by the attacker, by executing channel hopping.

Keywords: index terms-QoS, jamming, energy consumption, channel hop