

Chakan Pramkaew 2008: Signal Strength Aided Routing (SSAR) in Extending WLAN. Master of Engineering (Computer Engineering), Major Field: Computer Engineering, Department of Computer Engineering. Thesis Advisor: Associate Professor Anan Phonphoem, Ph.D. 60 pages.

In the infrastructure wireless LAN, the system composes of a wireless access point and mobile nodes. The coverage connection area depends on the signal strength which can be heard by both access points and communicating mobile nodes. Therefore, to cover the required communicating area, a number of access points have to be installed which means more installation cost for implementing the system.

To overcome the short coming, the transmission power of the access point can be boosted called an extended infrastructure wireless LAN. Because an access point is fixed and connected to the power source, there is no issue for the shortage of power. However, the communicating mobile node who receives the packet from the boosted access point might not be able to transmit the data back to the access point due to its limited power. In the Ad Hoc wireless LAN, mobile node can transmit data to nodes that located for by using its neighbor nodes to relay their data packets. Therefore, from the neighbor node concept, the far away mobile node can send back data packets to the access point in the extended infrastructure wireless LAN without increasing the transmission power of mobile nodes.

In the thesis, Signal Strength Aided Routing protocol (SSAR) has been proposed by using the signal strength received from the access point. The closer to the access point, the stronger the signal strength. The results of the experiments reveal that SSAR protocol works well and supports for the moveable mobile nodes

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Thesis Advisor's signature

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