



Virtual Energy Based Keying in Wireless Sensor Networks

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Abstract: In order to satisfy the higher demand for communication systems, a Virtual Energy Based Keying system in Wireless Sensor Networks has been proposed. Key management is one of the most important issues of any secure communication. Virtual energy-based keying module ensures that each detected packet is associated with a new unique key generated based on the transient value of the virtual energy. The process of key generation is initiated when data is sensed; thus, no explicit mechanism is needed to refresh or update keys to break the encoding algorithm. The performance of the virtual key is estimated with Virtual cost (E_{vc}), Synchronize Energy (E_{synch}) and Virtual Perceived Energy (E_p).