

security. It used UHF radio waves in bandwidth of 2.4-20485 GHz. Each interface can have 7 simultaneous connections. This technology was originally designed for short range personal area network, but its widespread use opened the door to new form of exploitation.



Figure 4: Bluetooth Communication

When Bluetooth is used as a physical layer for a MANET, we come across several constraints like connected-oriented nature of Bluetooth, no broadcast capability, restricted number of connections, etc. To overcome these problems, a new protocol Bluetooth Scattering routing (BSR) has been developed. It is a reactive routing protocol that keeps additional information on the state of links and tries to avoid long delays.

7. Intrusion Detection in Mobile Ad Hoc Network

An intrusion detection system is a device or software application that monitors network or system activities and produces reports to a management station. It involves runtime gathering and analysis of data from system operation. The main focus is on the behavior as it is more efficient and light weight. On the basis of behavior, it is broadly categorized as: anomaly detection, signature or misuse detection and specification based detection. In signature based, data is matched against known attack characteristics while in anomaly based, the normal behavior of system is compared with the actual activity of the system. In specification based, the correct behavior of critical objects are manually distracted and crafted, which are now compared with the actual behavior of objects.

8. Location Based Routing Protocol

When a source node wants to transmit a packet, the address of destination is received first, and then the header is attached to it. Due to the movement of destination node, the multi hop path may diverge from its true location and the packet would be dropped even if it has been delivered to the neighbourhood of final destination. To deal with such issue, additional check has been introduced. At each hop, the node that transmits the packet checks the range of destination node. This is susceptible to MAC collision. If a packet with same ID is received, it is discarded.

9. Anti Jamming Metrics

Earlier, several metrics were proposed to evaluate the effectiveness of a jammer. To reduce the impact of jamming, dynamic control channel allocation strategy has been adopted where each cluster establishes its own channel and maintains it. By varying the temporal frequency allocation, the impact of long range jamming can be reduced. This would also reduce the delay and communication overhead channel re-establishment process.

10. Security

In this type of network, security is not a single layer issue but a multi layered one. On network layer, the attacks are endangered. Some of the attacks that come across are Black hole, Gray hole and Sybil attack. Due to such threats on network layer, it is not advisable to transmit information via single path as it can be easily lost or hacked. To avoid this, sender may send multiple copies through multiple disjoint paths. But this also increases the risk of leakage of information. This threat can be reduced by using shared cryptography. In this section, a copy of original data is kept which is termed as share. Here some bits are present and some bits are missing. It transmits different shares of information via multiple disjoint paths at multiple time intervals. This reduces the risk of leakage of information and also reduces chance of network level attacks.

11. Conclusion

When a packet is received, the data link layer of a node measures its bandwidth along with channel busyness ratio. The receiver sends this information along with acknowledgement packet to the sending node, which is enclosed by link and physical layer headers. This will result in advent of new applications and services like forwarding of data cannot be done without the use of routing algorithm. The problem of control-channel jamming in multi channel ad hoc network was addressed. This proposal can work at an actual environment.

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