**ABSTRACT**

Mobile Ad hoc Network often called as MANET, which does not have any particular infrastructure, in which each mobile deviceis connected wirelessly and can move freely in any direction without having any restrictions in the network. Malicious nodes present in this network can easily launch highly vulnerable attacks like collaborative Black hole attack and Gray hole attack due to its dynamically changing topology. These attacks affect the routing process within MANET. Hence, Security is the primary concern for finding these nodes. But, to prevent or detect malicious nodes that causes Gray hole or a collaborative black hole attack is a challenge. In this scheme, the malicious nodes and its behaviors are detected using reverse tracing technique by sending RREQ and RREP. However, security for transmitting data is not considered by CBDS. In order to have secure transmission after the malicious node detection, our proposed system uses an improved Cooperative Bait Detection approach which incorporates CBDS with message security schemes. Finally, this approach is compared with the existing system by using performance metrics like End-to-End Delay, Packet Delivery Ratio (PDR), Throughput and Routing Overhead