**Introduction :**  
In this paper, three primary cryptographic algorithms, Travel-Demand Distance Vector (AODV), Sequenced Distance Vector (DSDV) and Optimized Link State Routing (OLSR) mechanisms, are analyzed either with or without Black Hole Attack to evaluate quality using various factor matrices including-throughput, delay, packets drop ratio.

**Working of AODV Protocol:**

An Ad Hoc On-Demand Distance Vector (AODV) is a dynamic routing developed for ad hoc mobile and wireless modems. This method carries on-demand paths to targets and enables both unicast including multicast routing. During 1991, Nokia Research facility, the University of California, Santa Barbara as well as the University of Cincinnati developed and produced a AODV Framework

The AODV mechanism establishes paths among node unless the origin routes request it. Thus, AODV is deemed the on-demand mechanism but does not produce anything additional interaction activity across the connections. Those paths are retained for however frequently when the origins require it. These also form trees to connect members of the wireless group. AODV utilizes series percentages to maintain quality of both the path. besides being scalable to multiple mobile nodes, they are self-starting and loop free.

Networks in AODV remain silent until connections are made. Network nodes which require connectivity broadcasting a communication request. The rest of the AODV nodes forward the message and record the node that asked for a connection. We therefore construct a set of temporary routes back to the node that requests.

A node that gathers these messages and maintains a path to that of a preferred node transfers a reversed message to all the demanding node through transient routing. The node which started the request utilizes that path through nodes which contains the least number of hops. After some time, the entries which are not included in routing tables are recycled. When a connection fails, the routing error is transferred back to the node being transmitted, and the cycle repeats itself.

**Working of DSDV Protocol:**

Destination Sequenced Distance Vector Routing is a updated version of Bellman Ford Algorithm based on Distance Vector Routing concepts.

In Distance Vector Routing(DVR), each node transmits a table containing its distance from directly connected nodes and based on this, the modified routing is transmitted by other nodes. Those nodes which are directly inaccessible Called "infinite."

Yet this routing tables update continues to happen, creating an infinite loop commonly known as the Count-To-Infinity problem.

To solve this problem of counting to infinity by generating sequence number in the routing table, the routing table must be modified each time. The DSDV process is the same as the Distance Vector Routing process .

**Working of (OSLR)**

**Conclusion**

We find that AODV is performing best overall. DSR output improved with pause time increases, but decreased when the number of nodes was increasing. In the presence of heavy traffic OLSR has worked best. DSDV throughput decreased with higher number of nodes.