

# **A SURVEY:PERFORMANCE ANALYSIS OF BLACK HOLE ATTACK IN MANET**

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## **ABSTRACT:**

*Mobile ad-hoc network(MANET) is a collection of wireless mobile nodes dynamically forming a temporary network without any standard infrastructure.the network topology changes in MANET.manet cannot prevent itself from the attck.one of the attack is black hole attack.It creates the malicious nodeto get the packet itself.This survey paper says about attack on ad-hoc network using aodv protocol.*

## **KEYWORDS**

*MANET,AODV RREQ,RREP,RERR,BLACK HOLE ATTACK,OPNET.*

## **1.INTRODUCTION**

*Mobile ad-hoc network(MANET) is a wireless nodes of connections.it is a decentralised system.Without any centralised access or the base stations the nodes communicate with each other.MANET act itself as a router and at a host at same time.MANET has tha advantage of dynamic nature.its workstations are easy to handle.the limited transmission range and due to this multiple hops are needed.MANET works on TCP/IP structure in order to provide*

*communication between the work stations.Manet provide efficient functionality of network.*

## **2.AODV ROUTING PROTOCOL**

*AODV protocol is used to find a special route between source and destination.it has three types of messages,route request(RREQ),route reply(RREP)and route error(RERR),AODV has its capability of both unicast and multicast routing.when the network*

*needs a connections then it broadcast a request for connections.if the route is not available*

### **3.BLACK HOLE ATTACK**

*The possible attack in the manet is black hole attack.in the black hole attack a malicious node send the message to the source node tha it has the shortest path to the destination node.if this route is created,malicious node receives the data packet black hole attack is of two types:*

#### **3.1 Internal black hole attack**

*This attack is internally caused.the internal malicious node sits in between the routes of source and destination it make an internal attack in the active data riute element.it has the conducting attack inside of data transmission.this is called internal attack.*

#### **3.2 External black hole attack**

*This type of attack present externally outside of the network it wont access the network traffic in the*

*network.external attack can be changed to internal attack when it gets control of the malicious node .*

### **4.RELATED WORKS**

**AI SHURMAN,S-M YOO AND PARK[1]** proposed the solutions by suggesting unicasting a ping packet for source to destination and through multiple routes and to choose a soft route based on acknowledge ment received.

**AKANSHA SAINI,HARISH KUAR[2]**found the problem of black hole attack on aodv and designed a simulation to check the performance.

**IRSHAD ULLAH,SHOAIB UR REHMAN[3]** analysed the black hole attack on manet using different manet routing protocols and he used the approaches of OLSR and AODV and found it is not effective in DSR,TORA,GRP etc.

**AMOLE A.BHOSLE,TUSHAR P.THOSAR AND SNEHAL MEHATRE[4]**done the work on black hole and wormhole attack in routing protocol aodv in manet and find that propogation of (RREQ) message can be rectified by watchdog mechanisum.

**SURANA K.A,RATHI S.T.B THOSAR T.P AND SNEHAL MEHATRE[5]** faced the challenges of how to secure the black hole attack in routing protocol in manet and they used the watch dog mechanism.

**E.A MARY ANITA,V.VASU DEVAN[6]** developed the prevention in multicast routing protocol for mobile ad hoc network based on demand distance vector using certificate chaining

**SHYAMALA RAMACHANDRAN,VALLI SHANMUGAM[7]** has the performance comparison of routing attack in manet and he used (LEACH)(PEGASIS)(GMR)(GPS) protocols to avoid the rushing attacks in manet

**EKTA BARKHODIA,PARULPREET SINGH,GURLEEN KAUR WALIA[8]** has the performance analysis of aodv ,and has the traffic attack in manrt and uses the opnet simulator

## 5.REFERENCES

[1] **A.I Shurma,s.m yoo and S.Park,**  
"Black hole attack min mobile ad-hoc network",

*Acm south east regional conference 2004,pp(96-97)*

**[2]Akansha Saini,Harish kumar,**

*"effect of black hole attack on AODV routing protocol in manet"*

*International journal of computer science and technology*

*Vol 1.issue 2,December 2010  
ssn:2229.4333,issn:0976-8491.*

**[3]Jurshad ullah,Shoaib ur Rehman,**

*"analysis of black hole attack on manets,using different manet routing protocols"*

*Bleking institute of technology,*

*June 2 network periodically keeps upd*

**[4] Amol abhosle,Tushar p.thosar and Snehal Mehatre.**

*"international journal of computer science engineering and applications(IJCSEA)"*

*Vol 2,no 1 february 2012.*

**[5] Suranta k .a, rathi s.b, thosar t.p  
and snehal mehatre**

“securing black hole attack in routing  
protocol AODV in manet with watch  
dog mechanism”

World research journal of computer  
architecture

ISSN:2278-8514?&ISSN :2278-8522

Volume 1, issue 1, 2012, pp[19-20]

**[8] ekta barchodia, parul preet  
singh, gurleen kaur walia.**

“performance analysis of aodv using  
HTTP traffic under black hole attack  
in manet”

Computer science engineering an  
international journal(cse-ij)

Vol 2, no-3, june 2012.

**[6] E.A Mary anitha, v.vasudevan**

“black hole attack prevention in  
multicast routing protocols for  
mobile ad-hoc networks”

International journal of computer  
application(0975-8807)

volume no 12.

**[7] shyamala ramachandran, villi  
shanmugam.**

“performance comparison of routing  
attack in manet & wsn”

International journal of ad-hoc sensor  
& ubiquitous computing(IJASUC)

Vol 3, no 4 august 2012.