FACULTY OF ENGINEERING & TECHNOLOGY

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Topics Covered

Reactive Protocol

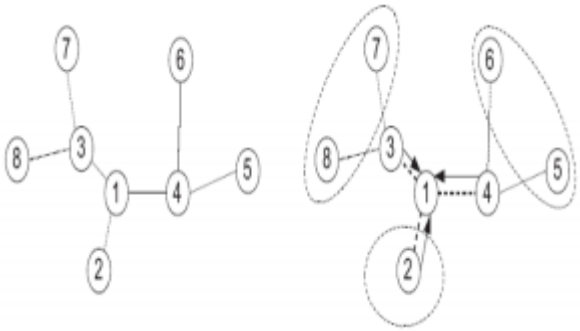
Reactive Protocol

Reactive Routing Protocol (RRP) is a bandwidth-efficient on-demand routing protocol for MANETs. In this protocol the originator node initiates the route search process, whenever it needs to send data packets to a target node. Thus the need for a route triggers the process of route search, hence the name Reactive Routing Protocol.

RRP is intended to be implemented in the network layer of mobile nodes i.e. in the layer 3 of ISO OSI reference model.

Route Discovery

RRP is different from other suggested on-demand routing protocols, mainly in the way that it does not use any broadcast based method for new route discovery but uses the Incremental Search Method (ISM), thus making it more bandwidth-efficient and reducing the number of links traversed for the same routes discovered as compared to a broadcast based method .



Route Maintenance

RRP uses Surroundings Repair Method (SRM), for the detection of link breaks and repair of an existing route. To implement Surroundings Repair Method each node keeps record of next hop and next to next hop for each target entry in its routing tables . This method works both proactively and reactively.

In the proactive approach, each node ëAí when it detects a change in its neighbor list in the way that its link to an old neighbor node ëBí is now broken, it initiates Surroundings Repair Method for those routes in its Active Routing Table that use ëBí as their next hop. In the reactive approach, when node ëAí is unable to forward data packets to node ëBí due to a break in its link to ëBí, it initiates Surroundings Repair Method for all those routes in its Active Routing Table that use ëBí as their next hop.

Packet Formats of Routing Packets

Route Discovery Packet ‘DIS’

			(TYP) Packet Type
(HPC) Hop Count	(RCT) Route Cost	(DIN) Dis_Identification No.	(K) No. of Dis_Targets
(DIV) Dis_Via Address			
(DIT [1]) Dis_Target Address [1]			
|			
(DIT [K]) Dis_Target Address [K]			
(ORG) Originator Address			
(TGT) Target Address			