FACULTY OF ENGINEERING & TECHNOLOGY

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Topics Covered

Ad Hoc on demand distance vector routing (AODV)

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AODV enables “dynamic, self-starting, multi-hop routing between mobile nodes wishing to establish and maintain an ad hoc network”[1] . • AODV allows for the construction of routes to specific destinations and does not require that nodes keep these routes when they are not in active communication. • AODV avoids the “counting to infinity” problem by using destination sequence numbers. This makes AODV loopfree.

Ad Hoc on demand distance vector routing (AODV)

• AODV defines 3 message types: – Route Requests (RREQs) – Route Replies (RREPs) – Route Errors (RERRs) • RREQ messages are used to initiate the route finding process. • RREP messages are used to finalize the routes. • RERR messages are used to notify the network of a link breakage in an active route.

The AODV protocol is only used when two endpoints do not have a valid active route to each other. • Nodes keep a “precursor list” that contains the IP address for each of its neighbors that are likely to use it for a next hop in their routing table. • Route table information must be kept for all routes even short-lived routes.

routing table fields used by AODV

The routing table fields used by AODV are: – Destination IP Address – Destination Sequence Number – Valid Destination Sequence number flag – Other state and routing flags – Network Interface – Hop Count – Next Hop – List of Precursors – Lifetime