

METHOD AND SYSTEM FOR FLOODING AND MULTICAST ROUTING IN AN AD-HOC NETWORK

ABSTRACT

5 A wireless ad-hoc-multicast-network comprising:

- a plurality of nodes forming at least one multicast-group, a plurality of said nodes are super-nodes and the remaining nodes are ordinary-nodes, said super-nodes forming a routing-backbone of said network, each of said nodes including:
 - a transmitter;
 - 10 a receiver;
 - a local-topology-processor, maintaining a local-topology-database, and dynamically determining said role of said node;
 - a network-topology-processor, maintaining a network-topology-database, and establishing and terminating a dedicated-backbone-routing
 - 15 link with one-hop super-node neighbors;
 - a backbone-multicast-processor, maintaining a backbone-multicast-registration-table, for transmitting backbone-multicast-update-messages and for forwarding multicast packets; and
 - a local-multicast-processor, maintaining a local-multicast-registration-table, at least transmitting local-multicast-update-messages to each one-hop
 - 20 ordinary-node neighbor, transmitting a multicast-group-subscription-message to a selected one-hop super-node neighbor, and forwarding a multicast packet to a one-hop super-node neighbor serving one of said at least one multicast-group associated with said multicast packet,
 - 25 wherein, each of said nodes attempts to communicate with at least a minimal number of one-hop super-node neighbors.

Fig. 2A