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(54) Title: OPTIMIZED ROUTE FOR TIME-CRITICAL TRAFFIC IN MESH NETWORK

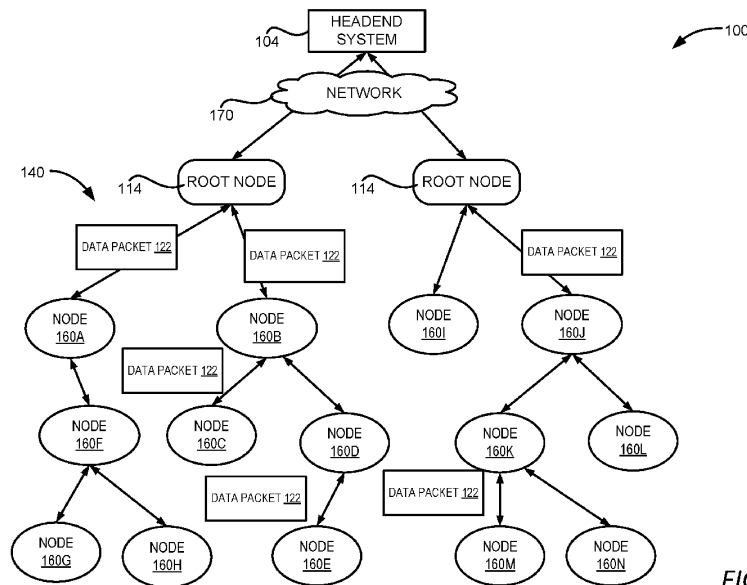


FIG. 1

(57) Abstract: A system for optimizing routes for time-critical messages in a mesh network is provided. For example, a child node in a mesh network can communicate with the root node through any of its parent nodes. The child node is configured to transmit regular data to the root node through a primary route associated with its primary parent. When there is a time-critical message to be transmitted to the root node, the child node estimates a round trip time (RTT) for each route between the child node and the root node. The child node selects, among its parent nodes, a parent node whose associated route has the lowest RTT and transmits the time-critical message to the root node through the selected parent node. After the transmission of the time-critical message, the child node switches back to the primary route to transmit additional regular data to the root node

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