ABSTRACT

Multicast methods based on RDMA and corresponding node devices are disclosed, which are suitable for distributed collective communication involving a sender and N receivers. According to an example of the methods, the sender sends a multicast packet based on a QP with a first UD type, where the multicast packet carries a first virtual endpoint ID and a first multicast group ID; and each receiver may send a unicast packet to the sender based on a QP with a second UD type, where the unicast packet carries a second virtual endpoint ID and a second multicast group ID. The first multicast group ID of the sender is the same as second multicast group IDs of the *N* receivers, and the first virtual endpoint ID of the sender and second virtual endpoint IDs of the N receivers are different from each other. In this way, the multicast packet from the sender may be forwarded to all the receivers by using a multicast function of a network switch, and each receiver may reply to the sender with the unicast packet, so as to improve the reliability of distributed collective communication.

[FIG. 8]