Technical FAQs

Question: What is the difference between unicast, multicast, and broadcast?

Question Type: Application

Solutions:

- Three methods can be used to transmit packets over a network: unicast, multicast, and broadcast.
- Unicast involves communication between a single sender and a single receiver. This is a type of point-to-point transmission; since the packet is transmitted to one destination at a time.
- Multicast is used to send packets to a group of addresses, represented by a "group address." In this case, packets are transmitted from a single sender to multiple receivers. Since the same data packet can be sent to multiple nodes by sending just one copy of the data, the load of the sender and the overall load of the network are both reduced.
- Broadcast involves sending packets to all nodes on a network simultaneously. This type of transmission is used to establish communication with another host, and for DHCP type methods of assigning IP addresses. In the first case, it's needed because your packets must know the proper MAC address to send packets to a machine on your local network. Suppose you know the IP address (obtained, for example, by querying a DNS server), but have not yet determined the MAC address that belongs to the node. If you broadcast a packet that asks requests the identity of the node with that particular IP address, every machine on the network will receive the message, but only the one with that IP address will respond.
- Please contact us at dhe@henrich-inc.com if you have any additional questions.