

JIWAJI UNIVERSITY, GWALIOR

Center For Hospital Administration

MBA HA II SEMESTER

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TECHNOLOGY AND HOSPITALS**

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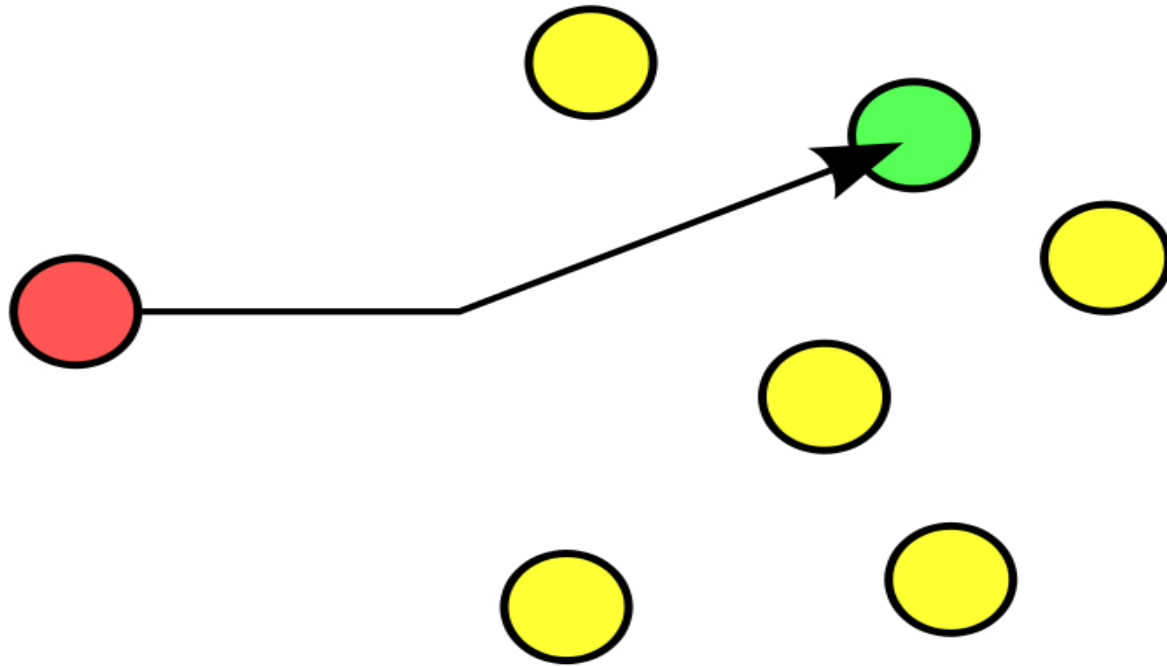
NETWORK TOPOLOGIES

The application in use, such as multimedia, database updates, e-mail, or file and print sharing, generally determines the type of data transmission. LAN transmissions fit into one of these three categories:

- Unicast
- Multicast
- Broadcast

Unicast

- With unicast transmissions, a single packet is sent from the source to a destination on a network. The source node addresses the packet by using the network address of the destination node. The packet is then forwarded to the destination network and the network passes the packet to its final destination.

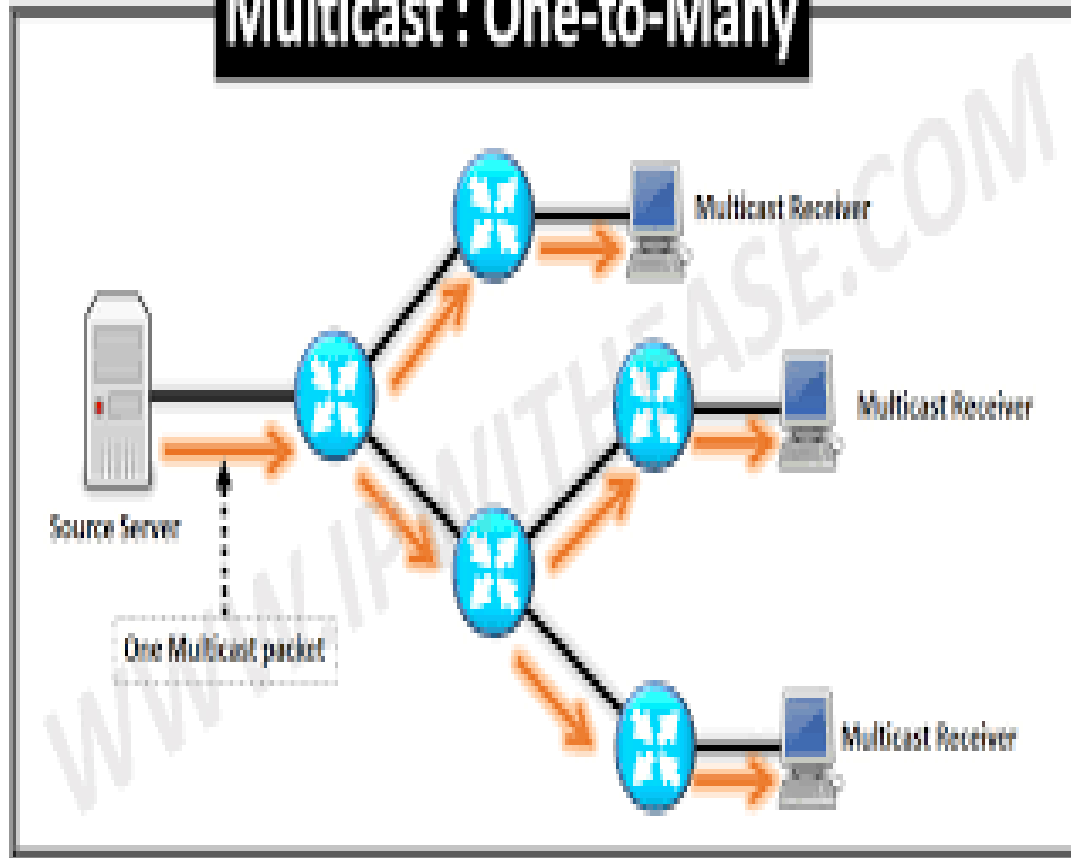


Unicast is data transmission from a single sender (**red**) to a single receiver (**green**). Other devices on the network (**yellow**) do not participate in the communication.

Multicast

- With a multicast transmission, a single data packet is copied and forwarded to a specific subset of nodes on the network. The node addresses the packet by using a multicast address. For example, the TCP/IP suite uses 224.0.0.0 to 239.255.255.255. the packet is then sent to the network, which makes copies of the packet and sends a copy to each segment with a node that is part of the multicast address.

Multicast : One-to-Many



Broadcast

- Broadcasts are found in LAN environments. Broadcast do not traverse a WAN unless the layer 3 edge-routing device is configured with a helper address (or the like) to direct these broadcast to a specified network address.
- This layer 3 routing device act as an interface between the local area network (LAN) and the wide-area network (WAN).
- Broadcasts traverse a (WAN) if the WAN is bridge

- Ethernet (broadcast) operation should not be confused with other LAN or WAN broadcast, where the frame addressed to the broadcast address (a broadcast frame) is copied and forwarded across the network.

Broadcast

