### logical link control sublayer in Ethernet standards?

Logical link control is implemented in software and enables the data link layer to communicate with the upper layers of the protocol suite. Logical link control is specified in the IEEE 802.2 standard. IEEE 802.3 is a suite of standards that define the different Ethernet types. The MAC (Media Access Control) sublayer is responsible for the placement and retrieval of frames on and off the media. The MAC sublayer is also responsible for adding a header and a trailer to the network layer protocol data unit (PDU)

**MAC addresses**

Any vendor selling Ethernet devices must register with the IEEE to ensure the vendor is assigned a unique 24-bit code, which becomes the first 24 bits of the MAC address. The last 24 bits of the MAC address are generated per hardware device. This helps to ensure globally unique addresses for each Ethernet device.

A MAC address is composed of 6 bytes. The first 3 bytes are used for vendor identification and the last 3 bytes must be assigned a unique value within the same OUI. MAC addresses are implemented in hardware. A NIC needs a MAC address to communicate over the LAN. The IEEE regulates the MAC addresses.

**MAC addresses (apr)**

The purpose of an ARP request is to find the MAC address of the destination host on an Ethernet LAN. The ARP process sends a Layer 2 broadcast to all devices on the Ethernet LAN. The frame contains the IP address of the destination and the broadcast MAC address, FFFF.FFFF.FFFF.

### information is recorded by a switch to build its MAC address table?

A switch builds a MAC address table by inspecting incoming Layer 2 frames and recording the source MAC address found in the frame header. The discovered and recorded MAC address is then associated with the port used to receive the frame.

When the store-and-forward switching method is used, the switch receives the complete frame before forwarding it on to the destination. The cyclic redundancy check (CRC) part of the trailer is used to determine if the frame has been modified during transit.​​ In contrast, a cut-through switch forwards the frame once the destination Layer 2 address is read. Two types of cut-through switching methods are fast-forward and fragment-free.

uto-MDIX is a feature that is enabled on the latest Cisco switches and that allows the switch to detect and use whatever type of cable is attached to a specific port.​​

The process that a source host uses to determine the destination MAC address associated with an IPv4 address is known as Address Resolution Protocol (ARP). The process that a source host uses to determine the destination MAC address associated with an IPv6 address is known as Neighbor Discovery (ND).