Assume that a destination computer receives several packets from a source. How can it be sure that the fragments belonging to a datagram are not mixed with the fragments belonging to another datagram?

Step 1: Identification field

Step 2:

For a given source address, destination address, and protocol, the Identification (ID) field in IPv4 is a 16-bit number that is distinct for each datagram. As a result, it does not repeat during the maximum datagram lifetime.

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Based on the source logical address (network layer address) at which the fragment arrived, the destination computer must maintain track of the fragments.

An identity of the fragmentation that must be repeated in each fragment and be present in every packet that leaves the source. This identity is used by the destination computer to put back together all packet-related fragments.

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Explain why, using MPLS means adding a new layer to the TCP/IP protocol suite. Where is this layer located?

Step 1:

In order to handle forwarding over private wide area networks, the networking technology known as Multiprotocol Label Switching, or MPLS, uses "labels" rather than network addresses to determine the quickest path for traffic.

Step 2:

Because labelled packets still contain layer 2 encapsulation, MPLS is not a layer 2 protocol. Because the layer 3 Protocol is still in use, MPLS is not truly a layer 3 protocol. MPLS does not, therefore, fit well into the OSI stack. Perhaps the simplest course of action is to treat MPLS as the 2.5 layer protocol and move on.