

Point to point protocol

- ▶ Point - to - Point Protocol (PPP) is a communication protocol of the data link layer that is used to transmit multiprotocol data between two directly connected (point-to-point) computers. It is a byte - oriented protocol that is widely used in broadband communications having heavy loads and high speeds.

Services Provided by PPP

- ▶ Defining the frame format of the data to be transmitted.
- ▶ Defining the procedure of establishing link between two points and exchange of data.
- ▶ Stating the method of encapsulation of network layer data in the frame.
- ▶ Stating authentication rules of the communicating devices.
- ▶ Providing address for network communication.
- ▶ Providing connections over multiple links.
- ▶ Supporting a variety of network layer protocols by providing a range of services.

Components of PPP

- ▶ **Encapsulation Component** – It encapsulates the datagram so that it can be transmitted over the specified physical layer.
- ▶ **Link Control Protocol (LCP)** – It is responsible for establishing, configuring, testing, maintaining and terminating links for transmission. It also imparts negotiation for set up of options and use of features by the two endpoints of the links.
- ▶ **Authentication Protocols (AP)** – These protocols authenticate endpoints for use of services. The two authentication protocols of PPP are –
 - ▶ Password Authentication Protocol (PAP)
 - ▶ Challenge Handshake Authentication Protocol (CHAP)
- ▶ **Network Control Protocols (NCPs)** – These protocols are used for negotiating the parameters and facilities for the network layer. For every higher-layer protocol supported by PPP, one NCP is there. Some of the NCPs of PPP are –
 - ▶ Internet Protocol Control Protocol (IPCP)
 - ▶ OSI Network Layer Control Protocol (OSINLCP)
 - ▶ Internetwork Packet Exchange Control Protocol (IPXCP)
 - ▶ DECnet Phase IV Control Protocol (DNCP)
 - ▶ NetBIOS Frames Control Protocol (NBFCP)
 - ▶ IPv6 Control Protocol (IPV6CP)

