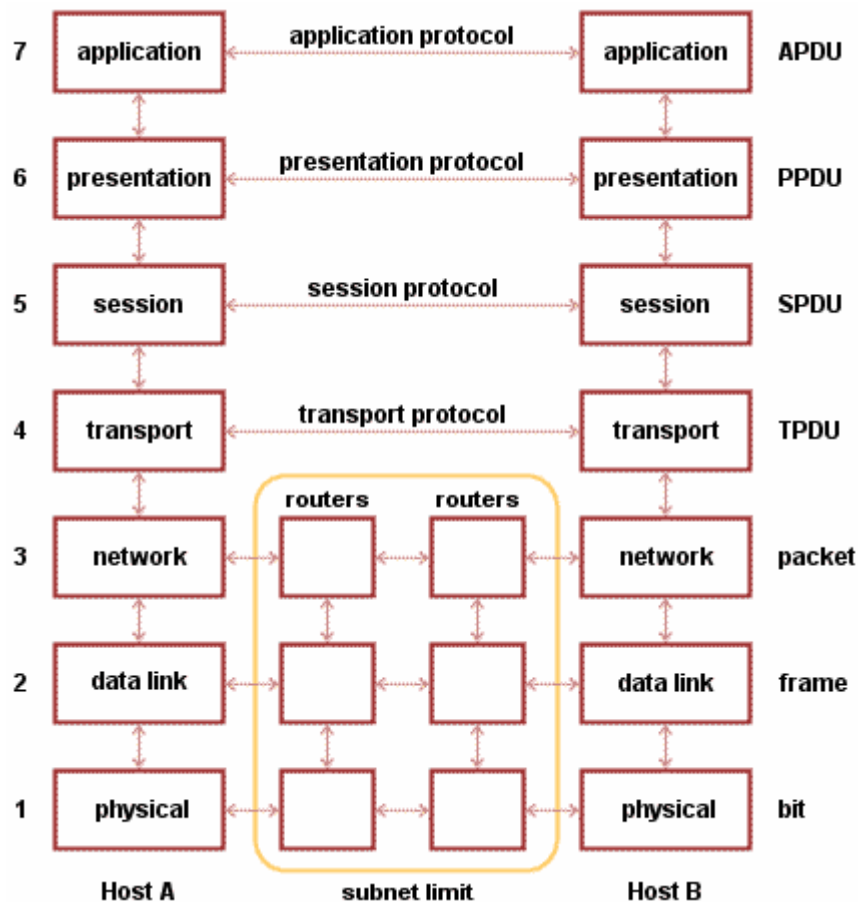


OSI Reference Model illustrated

Open Systems Interconnection (OSI) is a standard reference model for communication between two end users in a network. The model is used in developing products and understanding networks. Also see the notes below the figure.

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OSI divides telecommunication into seven layers. The layers are in two groups. The upper four layers are used whenever a message passes from or to a user. The lower three layers are used when any message passes through the host computer. Messages intended for this computer pass to the upper layers. Messages destined for some other host are not passed up to the upper layers but are forwarded to another host. The seven layers are:

Layer 7: The application layer...This is the layer at which communication partners are identified, quality of service is identified, user authentication and privacy are considered, and any constraints on data syntax are identified. (This layer is not the application itself, although some applications may perform application layer functions.)

Layer 6: The presentation layer...This is a layer, usually part of an operating system, that converts incoming and outgoing data from one presentation format to another (for example, from a text stream into a popup window with the newly arrived text). Sometimes called the syntax layer.

Layer 5: The session layer...This layer sets up, coordinates, and terminates conversations, exchanges, and dialogs between the applications at each end. It deals with session and connection coordination.

Layer 4: The transport layer...This layer manages the end-to-end control (for example, determining whether all packets have arrived) and error-checking. It ensures complete data transfer.

Layer 3: The network layer...This layer handles the routing of the data (sending it in the right direction to the right destination on outgoing transmissions and receiving incoming transmissions at the packet level). The network layer does routing and forwarding.

Layer 2: The data-link layer...This layer provides synchronization for the physical level and does bit-stuffing for strings of 1's in excess of 5. It furnishes transmission protocol knowledge and management.

Layer 1: The physical layer...This layer conveys the bit stream through the network at the electrical and mechanical level. It provides the hardware means of sending and receiving data on a carrier.