OSI Layers Discussion

Application layer

The application layer serves as an interface between user applications and

network services, such as electronic mail. Data input by the user is then sent to the next layer, the presentation layer.

Presentation layer

Header information is added by presentation layer protocols. This layer is

responsible for translation, encryption, and compression of data. If necessary, it is this layer that translates local data, such as ASCII and EBCDIC.

Session layer

At the session layer, checkpoints are built in to ensure successful data transmission. If transmissions are proceeding smoothly, they continue. If not, retransmission of data takes place. This layer provides the user interface, in the form of passwords and logins, which allow network access.

Transport layer

The transport layer provides for message segmentation and ensures error free delivery, without loss or duplication.

Network layer

At the network layer, header information identifies the “logical” source and

destination addresses of the network. The logical network differs from the physical MAC address. The logical address assists with the routing of data from network to network. Factors affecting routing decisions include cost, speed, network conditions, and priorities

Data link layer

Frames are built at the data link layer. The headers and trailers added at this layer control error handling and synchronization over the local segment. This is where the “physical” address of the destination and the source address of the sender are added.

Physical layer

The physical layer of the OSI controls the electrical aspects of data transfer, such as voltage levels, signal timing, and encoding.