

## **OPEN SYSTEMS INTERCONNECTION MODEL (OSI MODEL)**

The OSI model is a layered framework for the design of network systems that allows communication between all types of computer systems.

The OSI model was first introduced in the late 1970's. The ISO started working on a standardized framework for network communication.

In 1984, the ISO officially published the OSI Reference Model in the standard ISO/IEC 7498.

The ISO model consists of seven layers which are;

### **Physical layer**

It defines the properties of the physical medium used to make a network connection. The physical layer specifications control the lowest level at which data is moved through nodes on the physical network. This layer includes devices that make up the physical connection between two networked computers, and other things such as routers, switches, satellite antennas etc. The physical layer connection can be done either between point to point or multipoint and it can either consist of either half duplex or full duplex transmissions.

### **Datalink layer**

Defines standards that assign meaning to the bits carried by the physical layer so that the network layer can transmit it to data. This layer includes error detection and correction to ensure a reliable data stream.

### **Network layer**

The network layer defines how packets get from one point to another on a network and what goes in each packet. The network layer uses different packet protocols such as Internet Protocol and Internet Protocol Exchange.

### **Transport layer**

The transport layer manages the flow of information from one network node to another. It ensures the packets are decoded in the proper sequence and that all packets are received. It also identifies each computer or node on a network uniquely. It includes TCP (Transmission Control Protocol) and SPX (Sequenced Packet Exchange) which are used in concert if IP and IPX.

### **Session layer**

The session layer defines the connection from a user computer to a network server or from a peer computer on a network to another peer computer. The virtual connections are referred to as sessions. They are called sessions because they set up connections that persist for some period of time.

**Presentation layer**

The presentation layer takes the data supplied by the lower-level layers and transforms it so it can be presented to the system (as opposed to presenting the data user, which is handed outside the OSI model.) The functions that take place at the presentation layer include data compression, as well as data encryption and decryption.

**Application layer**

The application layer controls how the operating system and its applications interact with the network. The application layer defines how applications can work with network in other words be network aware

**REFERENCE;**

Book Name; Data Communication and Networking. (Fifth Edition)

Book Author; Behrouz A. Forouzan

Definition from page 44

Book Name; Networking. A Beginner's Guide (Sixth Edition)

Book Author; Bruce Hallberg

The layers of the OSI model

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