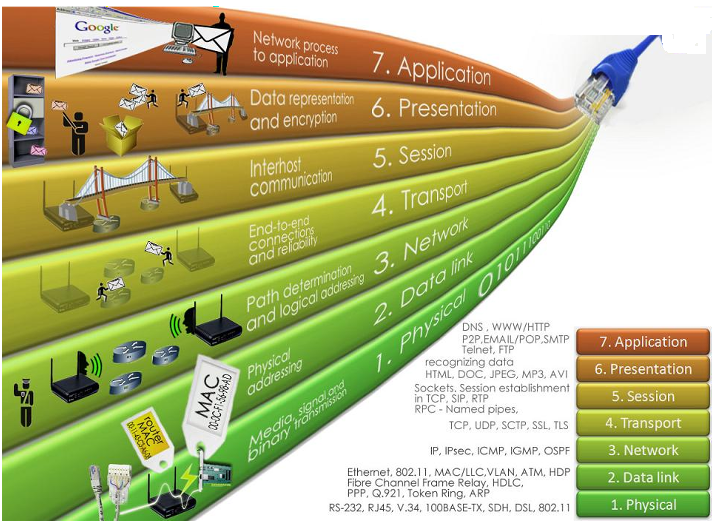
**OSI Model 7 Layers Functions**

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**OSI Model** -The Open Systems Interconnection model (OSI model) is a conceptual model that characterizes and standardizes the communication functions of a telecommunication or computing system without regard to their underlying internal structure and technology.

Its goal is the interoperability of diverse communication systems with standard protocols. The model partitions a communication system into abstraction layers. The original version of the model defined seven layers.

A layer serves the layer above it and is served by the layer below it.

For example, a layer that provides error-free communications across a network provides the path needed by applications above it, while it calls the next lower layer to send and receive packets that comprise the contents of that path.

Two instances at the same layer are visualized as connected by a horizontal connection in that layer.

**Layers Functions**

The OSI model (Open System Interconnection) model defines a computer networking framework to implement protocols in seven layers. A protocol in the networking terms is a kind of negotiation and rule in between two networking entities.

**Layers of OSI model:**

**Physical layer**

The Physical layer is also called as the Layer 1. Here are the basic functionalities of the Physical layer:

* Responsible for electrical signals, light signal, radio signals etc.
* Hardware layer of the OSI layer
* Devices like repeater, hub, cables, ethernet work on this layer
* Protocols like RS232, ATM, FDDI, Ethernet work on this layer

**Data Link layer**

The data link layer is also called as the Layer 2 of the OSI model. Here are the basic functionalities of the data link layer:

* Responsible for encoding and decoding of the electrical signals into bits.
* Manages data errors from the physical layer
* Converts electrical signals into frames
* The data link layer is divided into two sub-layers
  + The Media Access Control (MAC) layer
  + Logical Link Control (LLC) layer.
* The MAC sublayer controls how a computer on the network gains access to the data and permission to transmit it.
* The LLC layer controls frame synchronization, flow control and error checking.
* MAC address is a part of the layer 2.
* Devices like Switch work at this layer

**Network Layer**

The Network layer is also called as the layer 3 of the OSI model. Here are the basic functionalities of the network layer:

* Switching and routing technologies work here
* Creates logical paths between two hosts across the world wide web called as virtual circuits
* Routes the data packet to destination
* Routing and forwarding of the data packets.
* Internetworking, error handling, congestion control and packet sequencing work at this layer
* Router works at layer three
* Different network protocols like TCP/ IP, IPX, AppleTalk work at this layer

**Transport layer**

The Transport  layer is also called as the layer 4 of the OSI model. Here are the basic functionalities of the Transport layer:

* Responsible for the transparent transfer of data between end systems
* Responsible for end-to-end error recovery and flow control
* Responsible for complete data transfer.
* Protocols like SPX, TCP, UDP work here

**Session layer**

The Session  layer is also called as the layer 5 of the OSI model. Here are the basic functionalities of the Session layer:

* Responsible for establishment, management and termination of connections between applications.
* The session layer sets up, coordinates, and terminates conversations, exchanges, and dialogues between the applications at each end.
* It deals with session and connection coordination.
* Protocols like NFS, NetBios names, RPC, SQL work at this layer.

**Presentation layer:**

The Presentation layer is also called as the layer 6 of the OSI model. Here are the basic functionalities of the presentation layer:

* Responsible for data representation on your screen
* Encryption and decryption of the data
* Data semantics and syntax
* Layer 6 Presentation examples include encryption, ASCII, EBCDIC, TIFF, GIF, PICT, JPEG, MPEG, MIDI.

**Application Layer:**

The Application layer is also called as the layer 7 of the OSI model. Here are the basic functionalities of the Application layer:

* Application layer supports application, apps, and end-user processes.
* Quality of service
* This layer is responsible for application services for file transfers, e-mail, and other network software services.
* Protocols like Telnet, FTP, HTTP work on this layer.