OSI REFERENCE MODEL

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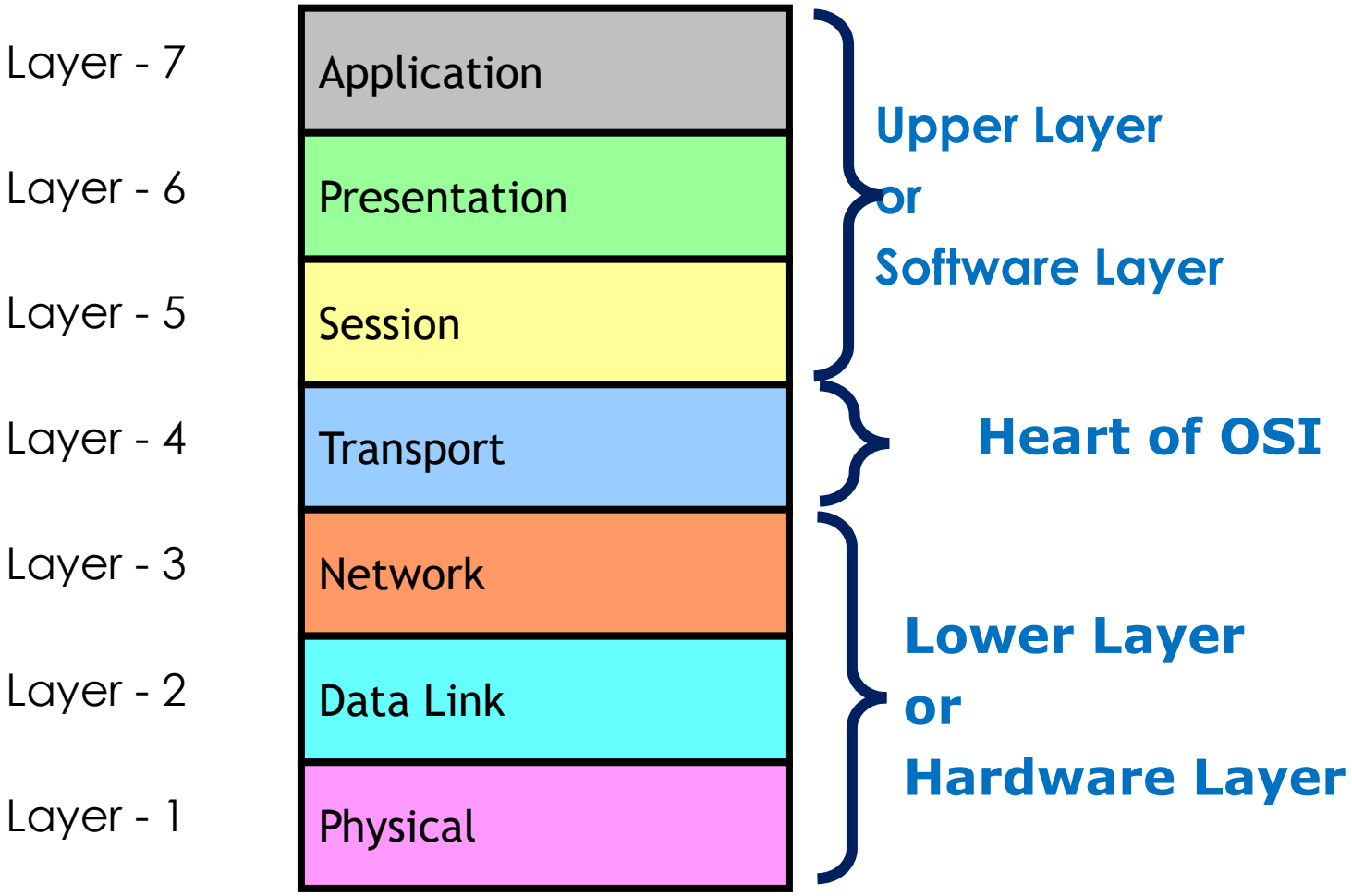
Linkedin

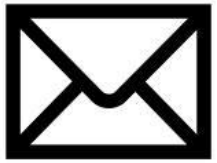
- OSI means Open System Interconnect model.
- Created by the International Organization for Standardization in late 1970s.
- It allows vendors create interoperable network devices and software in the form of protocols so that different vendor networks could work with each other
- It consists of seven layers.
- Each layer has a different but specific processing function.


Layer - 7
Application
Layer - 6
Presentation
Layer - 5
Session
Layer - 4
Transport
Layer - 3
Network
Layer - 2
Data Link
Layer - 1
Physical
Upper Layer
or
Software Layer
Heart of OSI
Lower Layer
or
Hardware Layer

Application Layer - 7

All the application begins with application layer

Provides a user interface

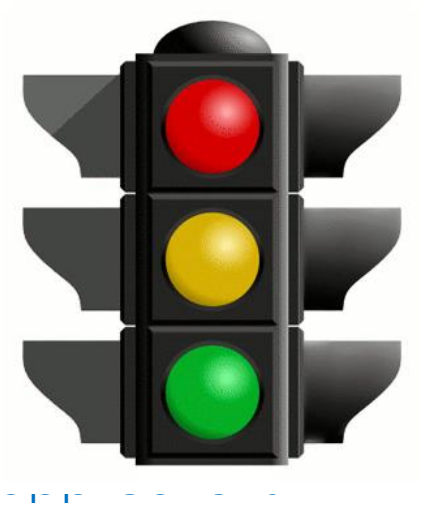


Presentation Layer - 6

- Presentation Layer is responsible for converting data into standard format.
- Examples : ASCII, EBCDIC, JPEG, MPEG, BMP, MIDI, WAV, MP3
- Following tasks are perform at Presentation layer :
  - Encoding – Decoding
  - Encryption – Decryption
  - Compression – Decompression

Session Layer - 5

Session Layer is responsible establishing, maintaining and terminating session.



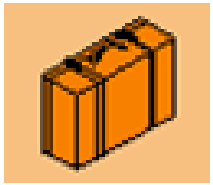
Keeps different

Data separate

Transport Layer - 4

- Transport Layer is responsible for end-to-end connectivity. It is also known as heart of OSI Layers

- How data is to send



Network Layer - 3

- Provides Logical Addressing
- Finds the best path to the destination

- Device working on Network Layer is Router

Data Link Layer- 2

- Ensures that messages are delivered to the proper device on a LAN using hardware addresses
- Data link layer formats the messages into pieces called a data frame
- Data link Layer is divided into two Sub Layers :

- LLC – Logical Link Control

  It talks about Wan protocols e.g. PPP, HDLC, Frame-relay

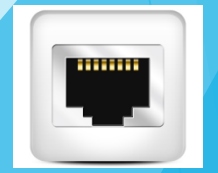
- MAC – Media Access Control

  It talks about Physical Address. It is 48 bit Addressing It is also responsible for Error Detection

  Device working on Data Link Layer is Switch & NIC

Physical Layer -1

- Responsible for electrical, mechanical or procedural checks.
- Data will be converted in Binary that is 0's & 1's
- Devices working at Physical Layer are Hubs, Repeaters, Cables, Modems etc.



How data flows from Physical Layer