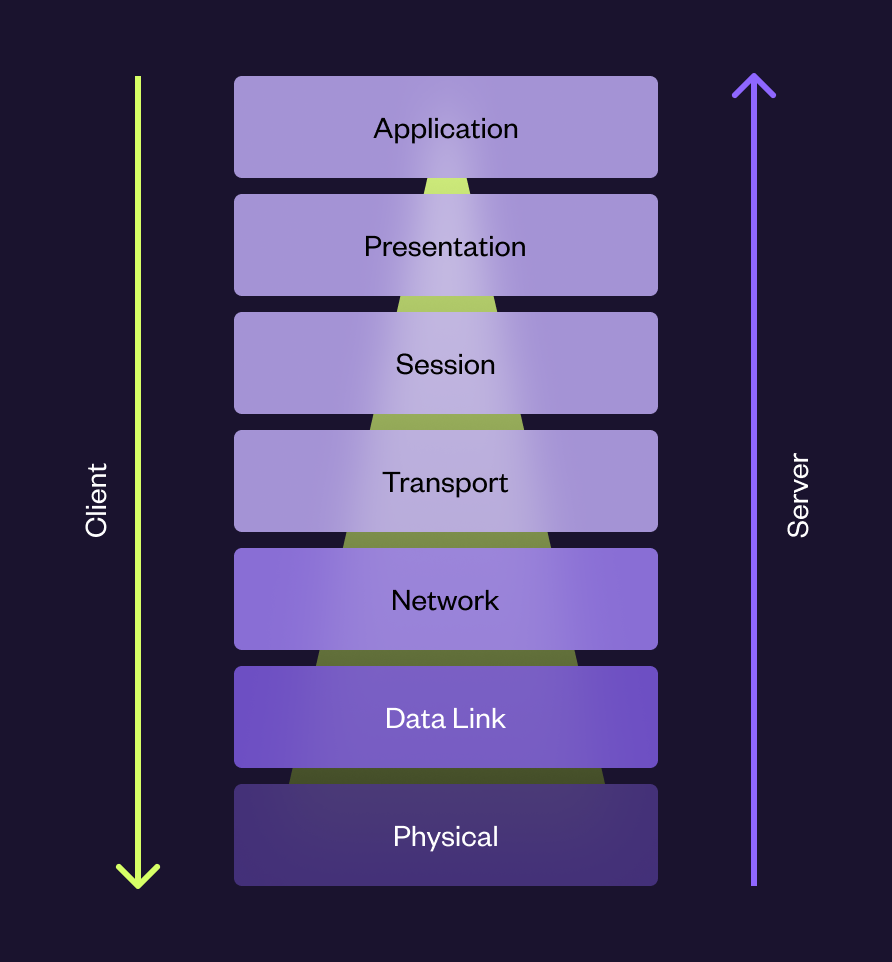
OSI model

Open Systems Interconnect



# OSI description

**OSI = Open Systems Interconnect**

*The OSI-model was created by ISO to give an overview of all phases of the transition. The model consists of 7 layers which are the following: Application, Presentation, Session, Transport, Network, Data Link and Physical. Each of these layers are described under.*

*Can also be remembered as:*

**P**robably **- P**hysical

**D**idn't  **- D**ata link

**N**eed **- N**etwork

**T**hose **- T**ransport

**S**tupid **- S**ession

**P**ackets **- P**resentation

**A**nyway **- A**pplication

# OSI-Layers

***The layers transfer and receives to the closest layer***

**Application**

Provides network services to the end user for example (HTTP, FTP)

The using of API’s

HTTP, HTTPs: Web surfing

FTP: File sharing

Emails: SMTP

Virtual terminals: Telnet

**Presentation**

Syntax processing converting one form of data, for example from human-readable to binary (1-0-1) and vice versa. This is kind of an outdated layer, but still connected.

Uses SSL (Secure Sockets Layer) encryption using Translation, Data Compression and Encryption/Decryption

ASCII <----> EBCDIG

**Session**

Responsible for authentication and authorization.

NETBIOS for input and output

Last layer of the upper layer

**Transport**

Segmentation, Flow Control and Error control

Normally uses Transmission Control Protocol / **TCP** or user datagram protocol **UDP**

First layer of the second layer

Connection and Connectionless Transmission

**Network**

Handles packets through routing, manages mapping between logical (IPv4 and IPv6) and physical addresses uses Address Resolution Protocol also known as **ARP**and path determination.

Path determination uses OSPF (Open Shortest Path First), BGP (Border gateway protocol), IS-IS (Intermediate system to Intermediate system) to find the best possible path for data delivery.

**Data Link**

Contains IP addresses from sender and receiver.

Two types of addressing:

* Logical Addressing

- Done at Network Layer for data packet containing IP-addresses

* Physical Addressing

- Done at Data Link layer for source and destination mac for forming frame

* Media Access Control (**MAC**) is a 12-digit alphanumeric number and burner into the Network interface card(NIC)
* Logical Link Control (**LLC**)

**(THIS IS ONE FRAME)**



Et bilde som inneholder tekst, Font, skjermbilde, line

Automatisk generert beskrivelse

**Physical**

The primary physical connection between devices such as:

Network cables, power plugs, cable pinouts, radio frequency, transceivers, receivers, repeaters, pulses of light, volts. Etc.

# DOD-model

*For TCP/IP there is a simplified model used called the DOD-model and is only distinguished with 4 steps. The different peer layers communicate with its individual type of addressing.*

*The DOD model consists of:*

* **Process / Application** *- (Ports are used)*
* **Transport -** *(Protocols are addressed directly)*
* **Internet** *- (IP-addresses are used)*
* **Network access** *- (Mac-addresses are used)*