**The OSI model stands for Open Systems Interconnection model.**

🌲 Networking Explained in 100 Terms -> https://youtu.be/ySu4RBWHz7o

It is a conceptual framework that divides the complex process of network communication into seven layers.

The main purpose of the OSI model is to provide a common language and standard for network programming and design.

The OSI model provides several advantages for network programming and applications, such as simplifying the architecture into manageable modules, allowing network programmers to focus on one layer at a time.

These are the famous seven layers of the OSI Model.

🍇 Layer 7 - Application:

Function: Provides network services directly to end-users or applications.

Examples: HTTP, FTP, SMTP.

🍈 Layer 6 - Presentation:

Function: Translates, encrypts, or compresses data for proper interpretation.

Examples: SSL/TLS, ASCII, JPEG.

🍊 Layer 5 - Session:

Function: Establishes, manages, and terminates communication sessions.

Examples: NetBIOS, RPC.

🍒 Layer 4 - Transport:

Function: Manages end-to-end communication and ensures data integrity.

Examples: TCP, UDP.

🥝 Layer 3 - Network:

Function: Routes data between different networks.

Examples: IP, ICMP.

🌶 Layer 2 - Data Link:

Function: Provides error detection and correction within a local network.

Examples: Ethernet, PPP.

🍄 Layer 1 - Physical:

Function: Defines the physical connection and transmission of raw data bits.

Examples: Cables, connectors, switches.

🚧 Key Concepts:

Encapsulation: Data is encapsulated at each layer with a header or trailer.

Decapsulation: Data is decapsulated as it moves up the layers.

PDU (Protocol Data Unit): A unit of data specific to each layer.

🥦 Relevance

The OSI model is still relevant and useful for network programming and applications today, despite its limitations and alternatives.

It provides a common foundation and reference for network communication that can help network programmers to understand, design, and troubleshoot network system.

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