

The OSI Reference Model: Layering Network Communication

The Open Systems Interconnection (OSI) model is a conceptual framework for standardizing network communication protocols.

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Layer 7: Application

User-Facing Interactions

This layer handles user interactions with network services like web browsing, email, and file transfer.

Examples

HTTP, FTP, SMTP, DNS



Layer 6: Presentation

■ Data Formatting

Ensures data is presented in a format that the application layer can understand, handling encryption and compression.

■ Examples

JPEG, GIF, PDF

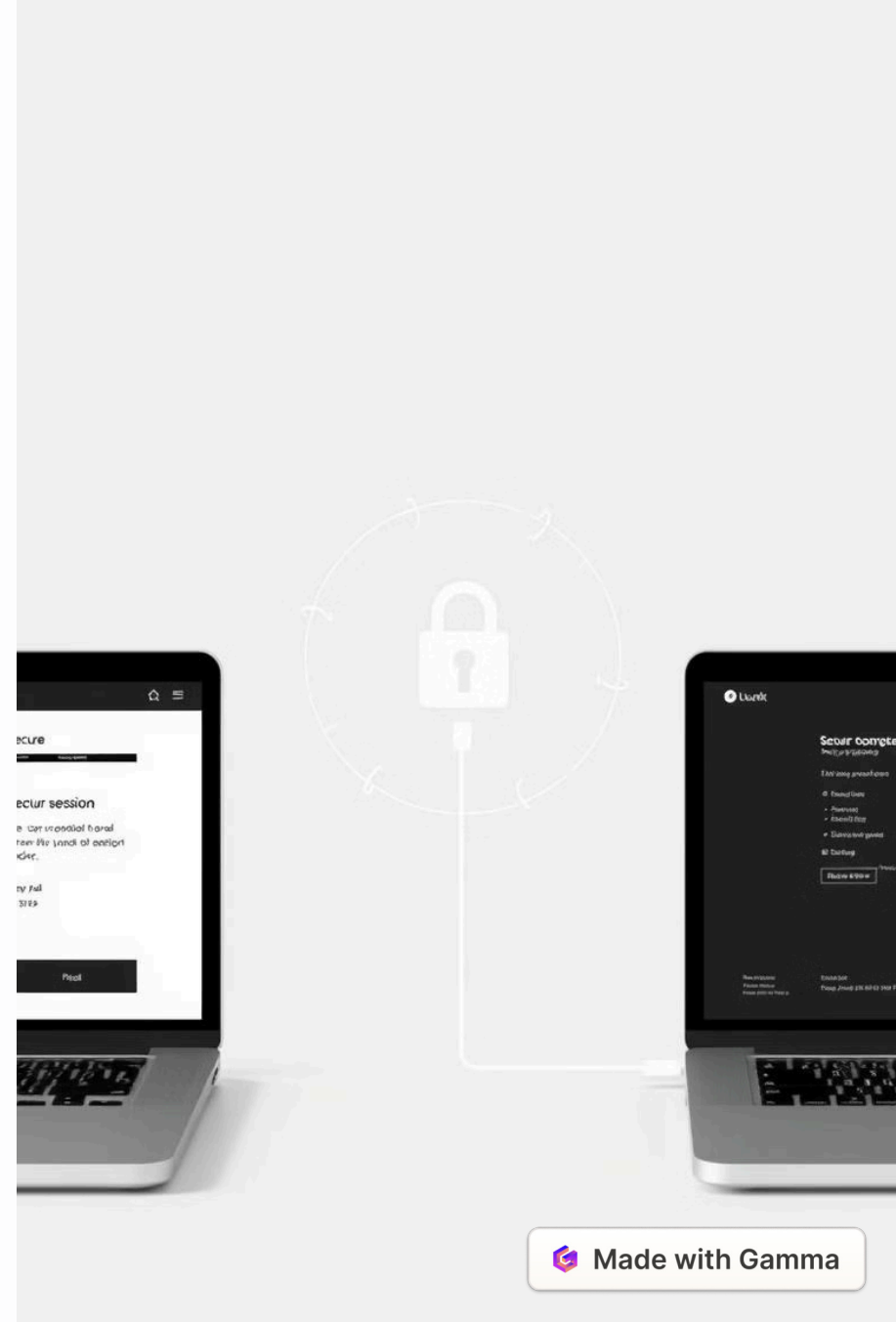
Layer 5: Session

Session Management

Establishes, maintains, and terminates communication sessions between applications.

Examples

Negotiates data transfer protocols, synchronizes communication between devices, and ensures data integrity.





Layer 4: Transport



Reliable Data Transfer

Ensures data is delivered reliably, handling error detection and retransmission.



Examples

TCP, UDP, SCTP

Layer 3: Network

1

Logical Addressing

Provides logical addressing and routing of data packets across the network.

2

Examples

IP, IPX, AppleTalk



Layer 2: Data Link

1

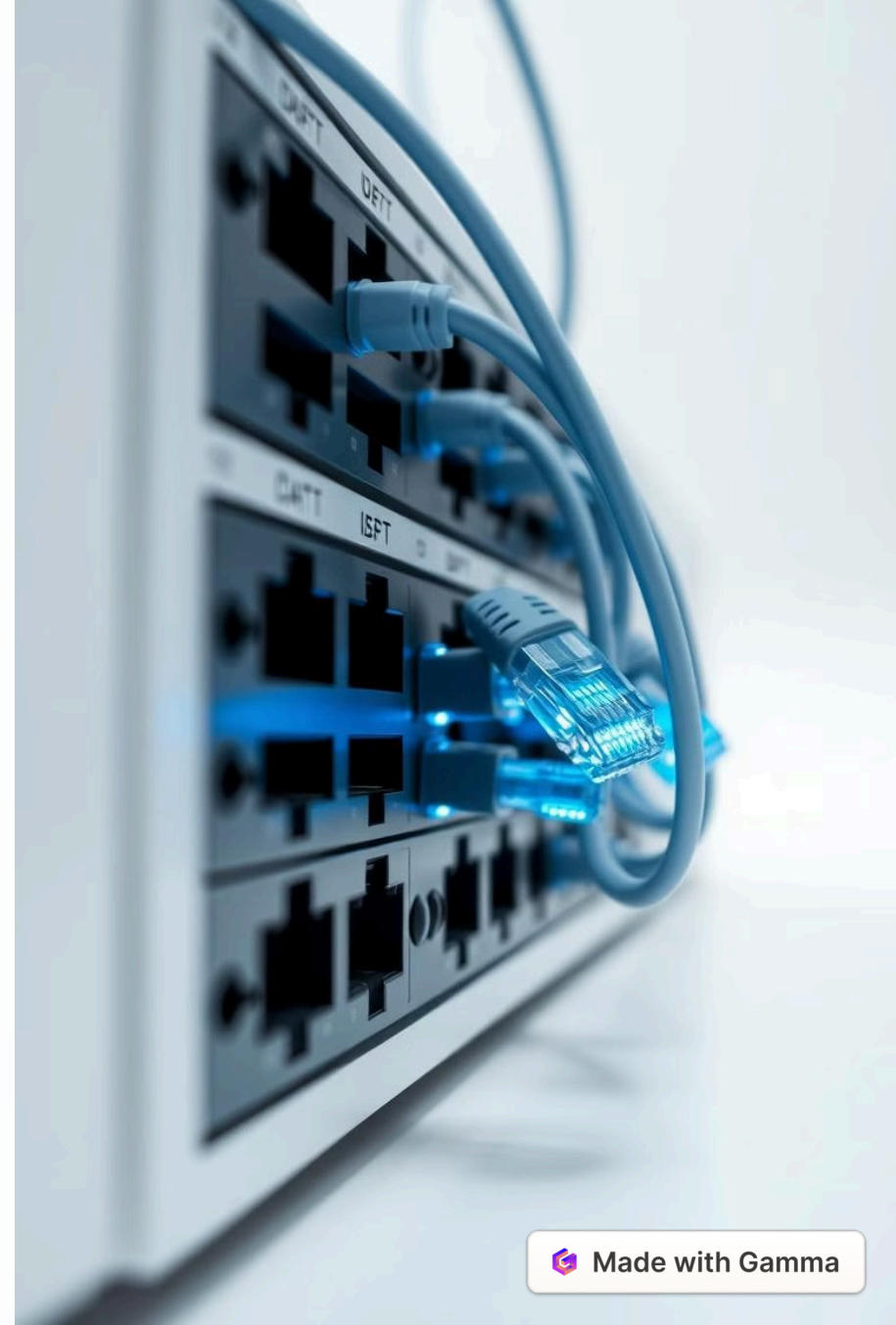
Frame Transmission

Handles the physical transmission of data frames across the network.

2

Examples

Ethernet, Token Ring, FDDI



Layer 1: Physical

