OSI (Open Systems Interconnection) (Tryhackme)

Assignment 4

The OSI model consists of seven layers

| **Layer** | **Application Layer (Layer 7)** |
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| **Function** | Provides network services directly to end-user applications |

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| **Protocols** | HTTP, FTP, SMTP, IMAP, DNS, SNMP, etc. |

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| **Example Apps** | Web browsers, email clients, FTP clients, VoIP apps |

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| **Key Role** | Facilitates application-to-application communication over a network |

Layer 7 – Application: Provides networking services directly to applications. It handles data for applications and passes it to the presentation layer.

Layer 6 – Presentation: Translates, encrypts, and compresses data from the application layer into a standardized format. Prepares data for the session layer.

Layer 5 – Session: Manages and maintains sessions between applications on different devices. It establishes, controls, and ends connections, ensuring smooth communication.

Layer 4 – Transport: Chooses the transport protocol (TCP or UDP) and breaks data into segments or datagrams. Ensures reliable or faster transmission depending on the protocol used.

Layer 3 – Network: Determines the best path to send data across the network using IP addresses. Handles logical addressing and routing.

Layer 2 - Data Link: Adds physical MAC addresses to packets and ensures data integrity during transmission. Handles error detection and correction.

Layer 1 – Physical: Converts binary data into electrical or optical signals for transmission over physical media and vice versa. Handles the hardware aspects of data transfer.