

03_The OSI Specifications

EUAD04_OSI-Specs

Training Clarusway

Pear Deck - August 20, 2020 at 4:35PM

Part 1 - Summary

Use this space to summarize your thoughts on the lesson

Part 2 - Responses

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Open System
Interconnection (OSI)
Specifications

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- ▶ What is OSI Reference Model?
- ▶ Layers of OSI Model
- ▶ Data Encapsulation

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1 What is OSI Reference Model?

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► What is OSI Reference Model? »

The **OSI** provides a standard for different computer systems to be able to communicate with each other

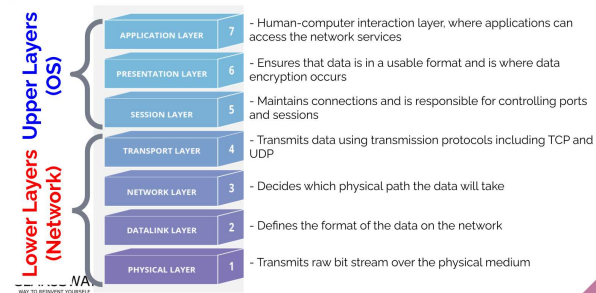
Developed by ISO in 1984

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► What is OSI Reference Model? »



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Layers of the OSI Model

Physical Layer
Data Link Layer
Network Layer
Transport Layer
Session Layer
Presentation Layer
Application Layer

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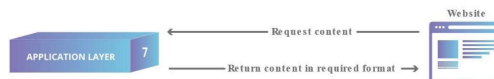
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► Application Layer (Layer 7)

- Directly interacts with data from the user
- Software applications (web browsers, email clients, etc.) rely on the application layer to initiate communications



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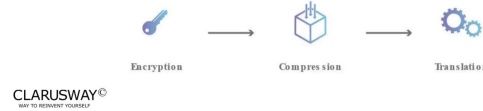


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► Presentation Layer (Layer 6)

- Primarily responsible for preparing data
- Translates, encrypts, and compresses data



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► Session Layer (Layer 5)

- Responsible for opening and closing communication between the two devices
- The time between when the communication is opened and closed is known as the session
- Synchronizes data transfer

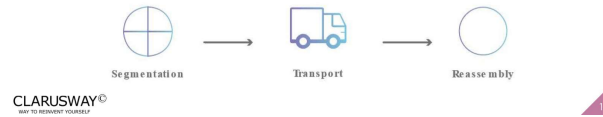


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► Transport Layer (Layer 4)

- Responsible for end-to-end communication between the two devices
- Takes data (from upper layer) and breaks into segments
- Responsible for flow control and error control

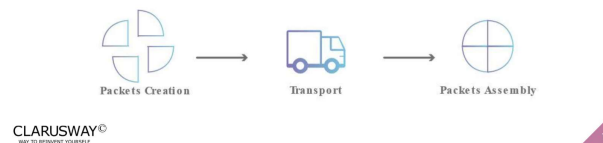


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► Network Layer (Layer 3)

- Facilitates data transfer between two different networks
- Takes data segments (from upper layer) and breaks into packets

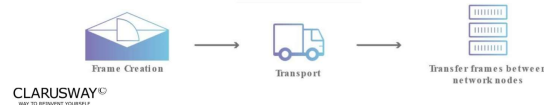


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► Data Link Layer (Layer 2)

- Facilitates data transfer between two devices on the same network
- Takes data packets (from upper layer) and breaks into frames
- Responsible for flow control and error control



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► Physical Layer (Layer 1)

- Includes physical equipment
 - cables
 - transceivers
 - etc.
 - repeaters
 - media converters
 - modems
 - hubs
- Data is converted into bit streams



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3 Data Encapsulation

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► Data Encapsulation



- For two nodes communicate they must use the same protocol
- Each layer (*OSI* or *DoD*) communicates with its equivalent layer on the other node via the lower layers of the model
- Each layer provides services for the layer above and uses the services of the layer below

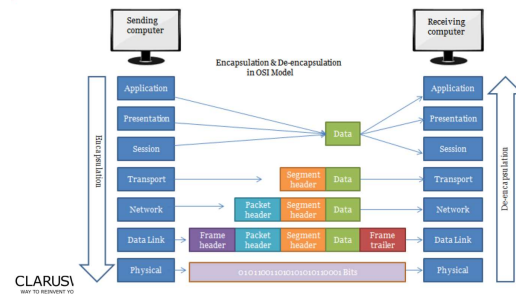
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► Data Encapsulation



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THANKS!

Any questions?

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