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MORNING CLASS 9:00 TO 11:00

Here are some important differences between the OSI and TCP/IP model:

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| **OSI Model** | **TCP/IP Model** |
| It is developed by ISO (International Standard Organization) | It is developed by ARPANET (Advanced Research Project Agency Network). |
| OSI model provides a clear distinction between interfaces, services, and protocols. | TCP/IP doesn’t have any clear distinguishing points between services, interfaces, and protocols. |
| OSI refers to Open Systems Interconnection. | TCP refers to Transmission Control Protocol. |
| OSI uses the network layer to define routing standards and protocols. | TCP/IP uses only the Internet layer. |
| OSI follows a vertical approach. | TCP/IP follows a horizontal approach. |
| OSI layers have seven layers. | TCP/IP has four layers. |
| In the OSI model, the transport layer is only connection-oriented. | A layer of the TCP/IP model is both connection-oriented and connectionless. |
| In the OSI model, the data link layer and physical are separate layers. | In TCP, physical and data link are both combined as a single host-to-network layer. |
| Session and presentation layers are a part of the OSI model. | There is no session and presentation layer in the TCP model. |
| It is defined after the advent of the Internet. | It is defined before the advent of the internet. |
| The minimum size of the OSI header is 5 bytes. | The minimum header size is 20 bytes. |

**Advantages of the OSI Model**

Here are the major benefits/pros of using the OSI model:

* It helps you to standardize router, switch, motherboard, and other hardware
* Reduces complexity and standardizes interfaces
* Facilitates modular engineering
* Helps you to ensure interoperable technology
* Helps you to accelerate the evolution
* Protocols can be replaced by new protocols when technology changes.
* Provide support for connection-oriented services as well as connectionless service.
* It is a standard model in computer networking.
* Supports connectionless and connection-oriented services.
* It offers flexibility to adapt to various types of protocols.

**Advantages of TCP/IP**

Here, are pros/benefits of using the TCP/IP model:

* It helps you to establish/set up a connection between different types of computers.
* It operates independently of the operating system.
* It supports many routing-protocols.
* It enables the internetworking between the organizations.
* TCP/IP model has a highly scalable client-server architecture.
* It can be operated independently.
* Supports several routing protocols.
* It can be used to establish a connection between two computers.

**Disadvantages of OSI Model**

Here are some cons/ drawbacks of using OSI Model:

* Fitting of protocols is a tedious task.
* You can only use it as a reference model.
* It doesn’t define any specific protocol.
* In the OSI network layer model, some services are duplicated in many layers such as the transport and data link layers
* Layers can’t work in parallel as each layer need to wait to obtain data from the previous layer.

**Disadvantages of TCP/IP**

Here, are few drawbacks of using the TCP/IP model:

* TCP/IP is a complicated model to set up and manage.
* The shallow/overhead of TCP/IP is higher-than IPX (Internetwork Packet Exchange).
* In this, model the transport layer does not guarantee delivery of packets.
* Replacing protocol in TCP/IP is not easy.
* It has no clear separation from its services, interfaces, and protocols.