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**Similarities between OSI and TCP/IP models**

* They are logical models.
* Define standards for networking.
* They simplify and divide the network communication process into making their layers.
* Both provide a framework for creating and implementing networking standards and devices.
* Both models simplify the troubleshooting process by dividing complex functions into simpler components.
* In both models, a single layer defines a particular functionality and set standards for that functionality only.
* Their manufacturers allow making sets of devices and network components that can co-exist and work with the devices and components that are made by the other manufacturers.
* Instead of defining the already defined standards and protocols, both models referenced them.

**Difference between the 7 layer OSI Model and the TCP/ IP Model**

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| **Parameter** | **OSI Model** | **TCP/IP Model** |
| Full Form | OSI stands for Open Systems Interconnection | TCP/IP stands for Transmission Control Protocol/Internet Protocol. |
| Layers | Has 7 layers: Physical, Data Link, Network, Transport, Session, Presentation, Application | Has 4 layers: Network, Interface, Internet, Transport, Application |
| Definition | It is a structured model which deals which the functioning of a network. | It is a communication protocol that is based on standard protocols and allows the connection of hosts over a network. |
| Delivery | Delivery of the package is guaranteed in OSI Model. | Delivery of the package is not guaranteed in TCP/IP Model. |
|  | An OSI Model is a reference model, based on which a network is created. | The TCP/IP is the implementation of the OSI Model |
| Protocol dependency | OSI is a generic, protocol independent standard. It is acting as an interaction gateway between the network and the final-user. | TCP/IP model depends on standard protocols about which the computer network has created. It is a connection protocol that assigns the network of hosts over the internet. |
|  | The OSI model was developed first, and then protocols were created to fit the network architecture’s needs. | The protocols were created first and then built the TCP/IP model. |
|  | The protocols of the OSI model are better unseen and can be returned with another appropriate protocol quickly. | The TCP/IP model protocols are not hidden, and we cannot fit a new protocol stack in it. |
|  | In 1984, the OSI model was introduced by the International Organisation of Standardization (ISO). | In 1982, the TCP/IP model became the standard language of ARPANET. |
| Approach | It follows a vertical approach. | It follows a horizontal approach. |
| Services | Provides quality services. | Does not provide quality services. |
| Usage | It is low in usage. | It is mostly used. |
|  | It provides both connection and connectionless oriented transmission in the network layer; however, only connection-oriented transmission in the transport layer. | It provides connectionless transmission in the network layer and supports connecting and connectionless-oriented transmission in the transport layer. |
| Replacement | Replacement of tools and changes can easily be done in this model. | Replacing the tools is not easy as it is in OSI Model. |
|  | The smallest size of the OSI header is 5 bytes. | The smallest size of the TCP/IP header is 20 bytes. |