| OSI Model | TCP/IP Model |
|---|---|
| Consists of seven layers: Physical, Data Link, Network, Transport, Session, Presentation, and Application. | Consists of four layers: Network Interface, Internet, Transport, and Application. |
| Provides a more detailed and comprehensive framework for network communication. | Offers a simpler and more practical approach, closely reflecting real-world protocols. |
| Layers are well-defined and distinct, with specific functionalities. | Layers are not as rigidly defined, and protocols can span multiple layers. |
| Encapsulation occurs at each layer, with data being encapsulated into protocol data units (PDUs) specific to each layer. | Encapsulation is less emphasized, and data is encapsulated primarily into packets. |
| The model is more theoretical and serves as a reference model for understanding networking concepts. | The model is widely implemented and forms the basis of the Internet and modern networking. |
| Was developed before the TCP/IP suite and does not directly correspond to the protocols used in practical networking. | Reflects the actual protocols and technologies used on the Internet and interconnected networks. |
| Not all network protocols and technologies strictly adhere to the OSI model. | The TCP/IP model is widely implemented and followed by most networking technologies. |
| Provides a more detailed and layered approach to network communication, making it easier to understand and troubleshoot. | Offers a more streamlined and practical approach, making it simpler to implement and manage networks. |

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