

Differences of osi and tcp ip



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Difference between OSI model and TCP/IP model The Internet Protocol Suite also known as TCP/IP is the set of communications protocols used for the Internet and other similar networks. It is named from two of the most important protocols in it: the Transmission Control Protocol (TCP) and the Internet Protocol (IP), which were the first two networking protocols defined in this standard. IP networking represents a synthesis of several developments that began to evolve in the 1960s and 1970s, namely the Internet and LANs (Local Area Networks), which emerged in the mid- to late-1980s, together with the advent of the World Wide Web in early 1990s.

The Internet Protocol Suite, like many protocol suites, may be viewed as a set of layers. Each layer solves a set of problems involving the transmission of data, and provides a well-defined service to the upper layer protocols based on using services from some lower layers. Upper layers are logically closer to the user and deal with more abstract data, relying on lower layer protocols to translate data into forms that can eventually be physically transmitted.

The main differences between the two models are as follows: 1. OSI is a reference model and TCP/IP is an implementation of OSI model. 2. TCP/IP Protocols are considered to be standards around which the Internet has developed. The OSI model however is a "generic, protocol-independent standard." 3. TCP/IP combines the presentation and session layer issues into its application layer. 4. TCP/IP combines the OSI data link and physical layers into the network access layer. 5.

TCP/IP appears to be a simpler model and this is mainly due to the fact that it has fewer layers. 6. TCP/IP is considered to be a more credible model- This is mainly due to the fact because TCP/IP protocols are the standards around which the internet was developed therefore it mainly gains creditability due to this reason. Where as in contrast networks are not usually built around the OSI model, as it is merely used as a dance tool. 7. The OSI model consists of 7 architectural layers whereas the TCP/IP only has 4 layers. . In the TCP/IP model of the Internet, protocols are deliberately not as rigidly designed into strict layers as the OSI model. [6] RFC 3439 contains a section entitled "Layering considered harmful. " However, TCP/IP does recognize four broad layers of functionality which are derived from the operating scope of their contained protocols, namely the scope of the software application, the end-to-end transport connection, the internetworking range, and lastly the scope of the direct links to other nodes on the local network. 9.

The presumably strict consumer/producer layering of OSI as it is usually described does not present contradictions in TCP/IP, as it is permissible that protocol usage does not follow the hierarchy implied in a layered model. Such examples exist in some routing protocols (e. g. , OSPF), or in the description of tunneling protocols, which provide a Link Layer for an application, although the tunnel host protocol may well be a Transport or even an Application Layer protocol in its own right. 10. The TCP/IP design generally favors decisions based on simplicity, efficiency and ease of implementation.