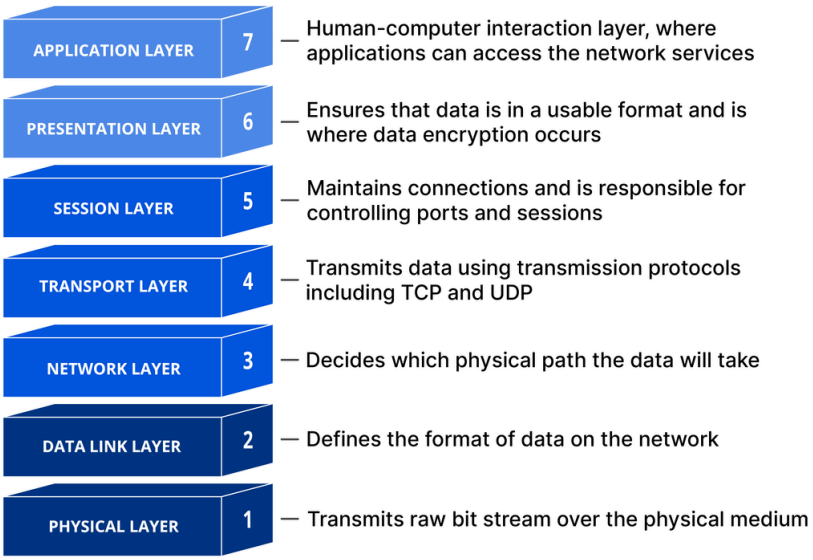
THE OSI MODEL

What is the OSI?

The open systems interconnection (OSI) model is a conceptual model created by the International Organization for Standardization which enables diverse communication systems to communicate using standard protocols over a network.

The OSI Model can be seen as a universal language for computer networking. It is based on the concept of splitting up a communication system into seven abstract layers, each one stacked upon the last.



Each layer of the OSI Model handles a specific job and communicates with the layers above and below itself encapsulating and transmitting data in a structured manner. DDoS attacks target specific layers of a network connection; application layer attacks target layer 7 and protocol layer attacks target layers 3 and 4.

The modern Internet is not based on OSI but on the simpler TCP/IP model. However, the OSI 7-layer model is still widely used, as it helps visualize and communicate how networks operate.

The Internet protocol suite as defined in RFC 1122 and RFC 1123 is a model of networking developed contemporarily to the OSI model, and was funded primarily by the U.S. Department of Defense. It was the foundation for the development of the Internet. It assumed the presence of generic physical links and focused primarily on the software layers of communication, with a similar but much less rigorous structure than the OSI model.

Why is the OSI model important?

Although the modern Internet does not strictly follow the OSI Model (it more closely follows the simpler Internet protocol suite), the OSI Model is still very useful for troubleshooting network problems. Whether it's one person who can't get their laptop on the Internet, or a website being down for thousands of users, the OSI Model can help to break down the problem and isolate the source of the trouble.

Flexible standardization: The model's layered approach allows for the integration of new technologies at any layer without disrupting the overall network structure. This ensures compatibility across different devices and protocols, ensuring long-term viability and scalability of network infrastructure.