

Layers of Communication

Communication layers are key components of all network architectures, but with so many functions and abilities within the network, how does each layer communicate with the others to ensure a fully harmonized infrastructure?

The architecture of a network defines the protocols and components necessary to satisfy application requirements. One popular standard for illustrating the architecture is the seven-layer Open System Interconnection (OSI) reference model. The OSI describes or relates to connecting systems that are open for communication with other systems. In the model, the functions of the communication system are standardized by being categorized into abstract layers.

The OSI model is made up of seven layers that are presented as a stack. Each of the layers of the OSI model has a numerical level or layer and a plain text descriptor. Data that is passed over the network moves through each layer.

The figure below illustrates the seven layers of the OSI model:

Application - Network Process Application

Presentation - Data Representation and Encryption

Session - Interhost Communication

Transport - End-to-End Connections and Reliability

Network - Path Determination and IP (Logical Addressing)

Data Link - MAC and LLC (Physical Addressing)

Physical - Media, Signal, and Binary Transmission

Similar functions are grouped into the same layer and provide services to the layers above their existing layer. This module will introduce OSI concepts and functionality; however, each layer will be fully detailed in the upcoming modules. The layers of communication will be an essential element in your final project.