Osi model course work

Sociology, Communication

The open system interconnection model (OSI) is based on the open system interconnection. The communication system is sub divided into layers with each layer providing services to the other layers (Behrouz, 2006, p. 17). This model is composed of seven layers arranged logically in order from the physical layer to the application layer.

The physical layer performs majorly electrical and mechanical aspects of the network. These includes the establishment and termination of connection to a physical medium and conveying bit streams in form of electrical impulse, light or radio signal. The physical layer protocols are the ATM, RS232 and Fast Ethernet (Behrouz, 2006, p. 22). The data link layer encodes and decodes data packets into bits while the network layer provides the switching and routing protocols that enable addressing, error handling and congestion control. The data link layer enables the WAN protocols that ensure proper delivery of frames through technologies like SDLC and SDLC. Routers and switches are found in the network layer sending data throughout the extended network. The layer that ensures data flow and end-to-end error recovery is the transport layer. In order to ensure that there is communication in a network, the session layer establishes, manages and terminates connections between applications while the presentation layer translates data machine understandable to human understandable form and vice versa. At the end is the logical application layer seven that supports end user processes. It provides applications for file transfer and e-mail.

Routers do reside in three layers. These are the physical layer, the data link layer and the network layer. In the physical layer it general provides that mechanical and electrical aspect, while in the data link layer, it provides

address resolution (ARP) like Media access control to IP translation. The routers in the network layer provide the routing aspect. They identify the destination and sent the data to that destined location (Ciccarelli & Faulkner, 2004, p. 14).

Reference

Behrouz, A. F. (2006). TCP/IP protocol suite. New York, NY: McGraw-Hill

Ciccarelli, P. & Faulkner, C. (2004). Networking foundations. New York, NY: McGraw-Hill