



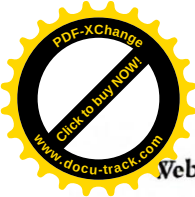
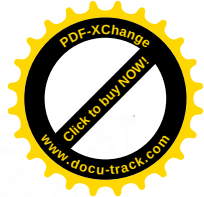
WEBSTER'S NEW WORLD™

Telecom Dictionary

Ray Horak



Wiley Publishing, Inc.



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protocol analyzer A tool for identifying, analyzing, and diagnosing communications network problems. Analyzers enable technicians, engineers, and managers to test the performance of the network to ensure that the systems and the network function according to specifications. LAN managers, for example, use protocol analyzers to identify protocols in use, to identify protocol mismatches and other performance faults, to perform network maintenance and troubleshooting, and to plan network upgrades and expansions. See also *LAN*, *network*, and *protocol*.

protocol converter Synonymous with *protocol translator*. A collection of software and firmware that converts the protocols used in one network, sub-network, or network element (NE) into those used by another. Protocol conversion is the responsibility of a gateway. See also *gateway* and *protocol*.

protocol data unit (PDU) See *PDU*.

protocol stack A conceptual organization of protocol groupings into a vertical stack. In such a stack, the lowest level protocols are placed at the bottom, forming the foundation upon which higher levels, or layers, are placed. The OSI Reference Model, for example, comprises seven layers, each of which is inter-related, providing services to those above and below. The lowest is Layer 1, the Physical Layer, which contains specifications for the electrical, optical, and mechanical aspects of the interface of the device to a physical transmission medium, such as twisted pair, coax, or fiber. The highest is Layer 7, the Application Layer, which contains specifications for services that support user and application tasks such as file transfer, interpretation of graphic formats and documents, and document processing. See also *OSI Reference Model* and *protocol suite*.

protocol suite A set of related protocols that work together in the context of a larger protocol stack. For example, the TCP/IP protocol suite, which is the basis of the Internet, is a collection of related protocols that are used in various combinations to serve specific applications. See also *protocol*, *protocol stack*, and *TCP/IP*.

protocol translator See *protocol converter*.

provider of last resort In telecommunications, the local carrier designated by the regulatory authority to serve the least desirable residential end user in the most remote location and requiring only the most basic service, but without the ability to pay for service at market rates. In developed countries with a competitive telecommunications environment, some entity must be so designated in order to preserve the concept of universal service, and that designee is generally the incumbent local exchange carrier (ILEC). The provider of last resort generally is reimbursed for allowable associated costs from a universal service fund (USF). See also *carrier*, *ILEC*, *universal service*, and *USF*.

proxy In telecommunications, a device or program empowered to act for another. See also *proxy firewall* and *proxy server*.

proxy firewall A firewall in the form of security software installed on a proxy server to act as a barrier between internal and external networks and, thereby, to both prevent unauthorized entities from gaining access to internal company resources and block internal users from gaining access to unauthorized external resources. A proxy firewall presents a single network address to the Internet, rather than exposing the true addresses of internal users. Network address translation (NAT) software is required to make the address translations in order that authorized communications can take place in a conversational manner. See also *firewall*, *NAT*, *proxy server*, and *security*.

proxy server A hardware device that acts on behalf of other devices for purposes such as data storage and security. A proxy server can locally cache frequently accessed documents in order to reduce the level of Internet traffic to a remote server. A proxy server also may support a proxy firewall, thereby serving as both a logical and physical barrier. See also *proxy*, *proxy firewall*, and *security*.