



Technology Area

DEFINITION

<i>Name</i>	Protocols (OSI Model by ISO)
<i>Description</i>	<p>A protocol is a standardized means of communication among machines across a network. Protocols allow data to be taken apart for faster transmission, transmitted, and then reassembled at the destination in the correct order. The protocol used determines the way errors are checked, the type of compression, the way the sender indicates the end of the transmission, and the way the receiver indicates that the message has been received. Protocols can describe low-level details of machine-to-machine interfaces (e.g., the order in which bits and bytes are sent across a wire) or high-level exchanges between allocation programs (e.g., the way in which two programs transfer a file across the Internet).</p> <p>The Open System Interconnection (OSI) model defines a networking framework for implementing protocols in seven layers. Control is passed from one layer to the next, starting at the application layer in one station, proceeding to the bottom layer, over the channel to the next station and back up the hierarchy. The first four of the OSI layers are specifically network-related: Physical, Data Link, Network, and Transport. The remaining three layers are application-related, and are not included in the Infrastructure Domain.</p> <p>Routing protocols are another type of protocol. They are used by routers to compare possible routes across a large network. Using routing metrics, timers, and stability features, routing protocols determine the fastest way to transmit data from one machine to another.</p>
<i>Rationale</i>	All devices that are connected to a network must use standard protocols in order to access shared network resources.
<i>Benefits</i>	Protocols make it possible for devices in a network to reliably communicate with each other in a seamless fashion, facilitating the movement of data and information within an organization.

ASSOCIATED ARCHITECTURE LEVELS

<i>Specify the Domain Name</i>	Infrastructure
<i>Specify the Discipline Name</i>	Network

KEYWORDS

<i>List Keywords</i>	Protocol, Ethernet, Token Ring, OSI, FDDI, ATM
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ASSOCIATED COMPLIANCE COMPONENTS

<i>List the Compliance Component Names</i>	<p>L1: Ethernet, Token Ring, Wireless, ATM</p> <p>L2: MPLS, WAN, VLANs, Bridges, Frame Relay, HDLS, LANE, NetBios, SNA</p> <p>L3: IP, IPX, X.25, IPSEC, DLSW</p>
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	L4: TCP, UDP, ICMP, SPX, L2TP Routing Protocols: OSPF, RIP, BGP, EIGRP, IGRP, EGP		
ASSOCIATED PRODUCT COMPONENTS			
<i>List the Product Component Names</i>	N/a		
CURRENT STATUS			
<i>Provide the Current Status</i>	<input type="checkbox"/> <i>In Development</i> <input type="checkbox"/> <i>Under Review</i> <input checked="" type="checkbox"/> <i>Approved</i> <input type="checkbox"/> <i>Rejected</i>		
AUDIT TRAIL			
<i>Creation Date</i>	3/25/04	<i>Date Approved / Rejected</i>	9/14/04
<i>Reason for Rejection</i>			
<i>Last Date Reviewed</i>		<i>Last Date Updated</i>	
<i>Reason for Update</i>			