SAC
single-attached concentrator. FDDI or CDDI concentrator that connects to the network by being cascaded from the master port of another FDDI or CDDI concentrator.

sampling rate
Rate at which samples of a particular waveform amplitude are taken.

SAP
1. service access point. Field defined by the IEEE 802.2 specification that is part of an address specification. Thus, the destination plus the DSAP define the recipient of a packet. The same applies to the SSAP. See also *DSAP* and *SSAP*.
2. Service Advertisement Protocol. IPX protocol that provides a means of informing network clients, via routers and servers, of available network resources and services. See also *IPX*.

SAR
segmentation and reassembly. One of the two sublayers of the AAL CPCS, responsible for dividing (at the source) and reassembling (at the destination) the PDUs passed from the CS. The SAR sublayer takes the PDUs processed by the CS and, after dividing them into 48-byte pieces of payload data, passes them to the ATM layer for further processing. See also *AAL*, *ATM layer*, *CPCS*, *CS*, and *SSCS*.

SAS
single attachment station. Device attached only to the primary ring of an FDDI ring. Also known as a *Class B station.* Compare with *DAS*. See also *FDDI*.

satellite communication
Use of orbiting satellites to relay data between multiple earth-based stations. Satellite communications offer high bandwidth and a cost that is not related to distance between earth stations, long propagation delays, or broadcast capability.

SBus
Bus technology used in Sun SPARC-based workstations and servers. The SBus specification has been adopted by the IEEE as a new bus standard.

SCR
sustainable cell rate. Parameter defined by the ATM Forum for ATM traffic management. For VBR connections, SCR determines the long-term average cell rate that can be transmitted. See also *VBR*.

SCTE
serial clock transmit external. Timing signal that DTE echoes to DCE to maintain clocking. SCTE is designed to compensate for clock phase shift on long cables. When the DCE device uses SCTE instead of its internal clock to sample data from the DTE, it is better able to sample the data without error even if there is a phase shift in the cable. See also *phase shift*.

SDH
Synchronous Digital Hierarchy. European standard that defines a set of rate and format standards that are transmitted using optical signals over fiber. SDH is similar to SONET, with a basic SDH rate of 155.52 Mbps, designated at STM-1. See also *SONET* and *STM-1*.

SDLC
Synchronous Data Link Control. SNA data link layer communications protocol. SDLC is a bit-oriented, full-duplex serial protocol that has spawned numerous similar protocols, including HDLC and LAPB. See also *HDLC* and *LAPB*.

SDLC broadcast
Feature that allows a Cisco router that receives an all-stations broadcast on a virtual multidrop line to propagate the broadcast to each SDLC line that is a member of the virtual multidrop line.

SDLC Transport
Cisco router feature with which disparate environments can be integrated into a single, high-speed, enterprise-wide network. Native SDLC traffic can be passed through point-to-point serial links with other protocol traffic multiplexed over the same links. Cisco routers can also encapsulate SDLC frames inside IP datagrams for transport over arbitrary (non-SDLC) networks. Replaces proxy polling. See also *proxy polling*.

SDLLC
Feature that performs translation between SDLC and IEEE 802.2 type 2.

SDSU
SMDS DSU. DSU for access to SMDS via HSSIs and other serial interfaces.

SDU
service data unit. Unit of information from an upper-layer protocol that defines a service request to a lower-layer protocol.

SEAL
simple and efficient AAL. Scheme used by AAL5 in which the SAR sublayer segments CS PDUs without adding additional fields. See also *AAL*, *AAL5*, *CS*, and *SAR*.

secondary
See *secondary station*.

secondary ring
One of the two rings making up an FDDI or CDDI ring. The secondary ring is usually reserved for use in the event of a failure of the primary ring. Compare to *primary ring*.

secondary station
In bit-synchronous data link layer protocols such as HDLC, a station that responds to commands from a primary station. Sometimes referred to simply as a *secondary.* See also *primary station*.

security management
One of five categories of network management defined by ISO for management of OSI networks. Security management subsystems are responsible for controlling access to network resources. See also *accounting management*, *configuration management*, *fault management*, and *performance management*.

seed router
Responds to configuration queries from nonseed routers on its connected AppleTalk network, allowing those routers to confirm or modify their configurations accordingly. See also *nonseed router*.

segment
1. Section of a network that is bounded by bridges, routers, or switches.
2. In a LAN using a bus topology, a segment is a continuous electrical circuit that is often connected to other such segments with repeaters.
3. Term used in the TCP specification to describe a single transport layer unit of information. The terms *datagram*, *frame*, *message*, and *packet* are also used to describe logical information groupings at various layers of the OSI reference model and in various technology circles.

segmentation and reassembly
See *SAR*.

Sequenced Packet Exchange
See *SPX*.

Sequenced Packet Protocol
See *SPP*.

Sequenced Routing Update Protocol
See *SRTP*.

serial clock transmit external
See *SCTE*.

Serial Interface Processor
See *SIP*.

Serial Line Internet Protocol
See *SLIP*.

serial transmission
Method of data transmission in which the bits of a data character are transmitted sequentially over a single channel. Compare with *parallel transmission*.

serial tunnel
See *STUN*.

server
Node or software program that provides services to clients. See also *back end*, *client*, and *front end*.

Server Message Block
See *SMB*.

service access point
See *SAP*.

Service Advertisement Protocol
See *SAP*.

service data unit
See *SDU*.

service point
Interface between non-SNA devices and NetView that sends alerts from equipment unknown to the SNA environment.

Service Profile Identifier
See *SPID*.

service specific convergence sublayer
See *SSCS*.

session
1. Related set of communications transactions between two or more network devices.
2. In SNA, a logical connection enabling two NAUs to communicate.

session layer
Layer 5 of the OSI reference model. This layer establishes, manages, and terminates sessions between applications and manages data exchange between presentation layer entities. Corresponds to the *data flow control layer* of the SNA model. See also *application layer*, *data link layer*, *network layer*, *physical layer*, *presentation layer*, and *transport layer*.

SF
Super Frame. Common framing type used on T1 circuits. SF consists of 12 frames of 192 bits each, with the 193rd bit providing error checking and other functions. SF has been superseded by ESF, but is still widely used. Also called *D4 framing*. See also *ESF*.

SGMP
Simple Gateway Monitoring Protocol. Network management protocol that was considered for Internet standardization and later evolved into SNMP. Documented in RFC 1028. See also *SNMP*.

shaping
See *traffic shaping*.

shielded cable
Cable that has a layer of shielded insulation to reduce EMI.

shielded twisted-pair
See *STP*.

shortest path first algorithm
See *SPF*.

shortest-path routing
Routing that minimizes distance or path cost through application of an algorithm.

signaling
Process of sending a transmission signal over a physical medium for purposes of communication.

signaling packet
Generated by an ATM-connected device that wants to establish a connection with another such device. The signaling packet contains the ATM NSAP address of the desired ATM endpoint, as well as any QOS parameters required for the connection. If the endpoint can support the desired QOS, it responds with an accept message, and the connection is opened. See also *QOS*.

Signaling System number 7
See *SS7*.

signal quality error
See *SQE*.

silicon switching
Switching based on the SSE, which allows the processing of packets independent of the SSP (Silicon Switch Processor) system processor. Silicon switching provides high-speed, dedicated packet switching. See also *SSE* and *SSP (Silicon Switch Processor)*.

silicon switching engine
See *SSE*.

Silicon Switch Processor
See *SSP*.

simple and efficient AAL
See *SEAL*.

Simple Gateway Monitoring Protocol
See *SGMP*.

Simple Mail Transfer Protocol
See *SMTP*.

Simple Multicast Routing Protocol
See *SMRP*.

Simple Network Management Protocol
See *SNMP*.

simplex
Capability for data transmission in only one direction between a sending station and a receiving station. Compare with *full duplex* and *half duplex*.

single-attached concentrator
See *SAC*.

single attachment station
See *SAS*.

single-mode fiber
Fiber-optic cabling with a narrow core that allows light to enter only at a single angle. Such cabling has higher bandwidth than multimode fiber, but requires a light source with a narrow spectral width (for example, a laser). Also called *monomode fiber*. See also *multimode fiber*.

single-route explorer packet
See *spanning explorer packet*.

single-vendor network
Network using equipment from only one vendor. Single-vendor networks rarely suffer compatibility problems. See also *multivendor network*.

SIP
1. SMDS Interface Protocol. Used in communications between CPE and SMDS network equipment. Allows the CPE to use SMDS service for high-speed WAN internetworking. Based on the IEEE 802.6 DQDB standard. See also *DQDB*.
2. Serial Interface Processor. Obsolete interface processor for Cisco 7000 series routers that provided either two or four channel-independent ports for synchronous serial connections at speeds from 2.4 Kbps to 4 Mbps. The SIP has been replaced by the FSIP. Sometimes called *SX-SIP* or *Pre-FSIP*. See also *FSIP*.

sliding window flow control
Method of flow control in which a receiver gives transmitter permission to transmit data until a window is full. When the window is full, the transmitter must stop transmitting until the receiver advertises a larger window. TCP, other transport protocols, and several data link layer protocols use this method of flow control.

SLIP
Serial Line Internet Protocol. Standard protocol for point-to-point serial connections using a variation of TCP/IP. Predecessor of PPP. See also *CSLIP* and *PPP*.

slotted ring
LAN architecture based on a ring topology in which the ring is divided into slots that circulate continuously. Slots can be either empty or full, and transmissions must start at the beginning of a slot.

slow switching
Packet processing performed at process level speeds, without the use of a route cache. Contrast with *fast switching*.

SMAC
source MAC. MAC address specified in the Source Address field of a packet. Compare with *DMAC*. See also *MAC address*.

SMB
Server Message Block. File-system protocol used in LAN Manager and similar NOSs to package data and exchange information with other systems.

SMDS
Switched Multimegabit Data Service. High-speed, packet-switched, datagram-based WAN networking technology offered by the telephone companies. See also *CBDS*.

SMDS Interface Protocol
See *SIP*.

SMI
Structure of Management Information. Document (RFC 1155) specifying rules used to define managed objects in the MIB. See also *MIB*.

smoothing
See *traffic shaping*.

SMRP
Simple Multicast Routing Protocol. Specialized multicast network protocol for routing multimedia data streams on enterprise networks. SMRP works in conjunction with multicast extensions to the AppleTalk protocol.

SMT
Station Management. ANSI FDDI specification that defines how ring stations are managed.

SMTP
Simple Mail Transfer Protocol. Internet protocol providing electronic mail services.

SNA
Systems Network Architecture. Large, complex, feature-rich network architecture developed in the 1970s by IBM. Similar in some respects to the OSI reference model, but with a number of differences. SNA is essentially composed of seven layers. See *data flow control layer*, *data link control layer*, *path control layer*, *physical control layer*, *presentation services layer*, *transaction services layer*, and *transmission control layer*.

SNA Distribution Services
See *SNADS*.

SNA Network Interconnection
See *SNI*.

SNADS
SNA Distribution Services. Consists of a set of SNA transaction programs that interconnect and cooperate to provide asynchronous distribution of information between end users. One of three SNA transaction services. See also *DDM* and *DIA*.

SNAP
Subnetwork Access Protocol. Internet protocol that operates between a network entity in the subnetwork and a network entity in the end system. SNAP specifies a standard method of encapsulating IP datagrams and ARP messages on IEEE networks. The SNAP entity in the end system makes use of the services of the subnetwork and performs three key functions: data transfer, connection management, and QOS selection.

SNI
1. Subscriber Network Interface. Interface for SMDS-based networks that connects CPE and an SMDS switch. See also *UNI*.
2. SNA Network Interconnection. IBM gateway connecting multiple SNA networks.

SNMP
Simple Network Management Protocol. Network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security. See also *SGMP* and *SNMP2*.

SNMP communities
Authentication scheme that enables an intelligent network device to validate SNMP requests from sources such as the NMS. A LightStream 2020 ATM switch, for example, responds only to SNMP requests that come from members of known communities and that have the access privileges required for that request. See also *SNMP*.

SNMP2
SNMP Version 2. Version 2 of the popular network management protocol. SNMP2 supports centralized as well as distributed network management strategies, and includes improvements in the SMI, protocol operations, management architecture, and security. See also *SNMP*.

SNPA
subnetwork point of attachment. A data link layer address (such as an Ethernet address, X.25 address, or Frame Relay DLCI address). SNPA addresses are used to configure a CLNS route for an interface.

socket
Software structure operating as a communications end point within a network device.

SONET
Synchronous Optical Network. High-speed (up to 2.5 Gbps) synchronous network specification developed by Bellcore and designed to run on optical fiber. STS-1 is the basic building block of SONET. Approved as an international standard in 1988. See also *SDH*, *STS-1*, and *STS-3c*.

source address
Address of a network device that is sending data. See also *destination address*.

source MAC
See *SMAC*.

source-route bridging
See *SRB*.

source-route translational bridging
See *SR/TLB*.

source-route transparent bridging
See *SRT*.

source service access point
See *SSAP*.

Southeastern Universities Research Association Network
See *SURAnet*.

SP

Switch Processor. Cisco 7000-series processor module that acts as the administrator for all CxBus activities. Sometimes called *ciscoBus controller*. See also *CxBus*.

SPAN

Switched Port Analyzer. Feature of the Catalyst 5000 switch that extends the monitoring abilities of existing network analyzers into a switched Ethernet environment. SPAN mirrors the traffic at one switched segment onto a predefined SPAN port. A network analyzer attached to the SPAN port can monitor traffic from any of the other Catalyst switched ports.

span

Full-duplex digital transmission line between two digital facilities.

spanning explorer packet

Follows a statically configured spanning tree when looking for paths in an SRB network. Also known as a *limited-route explorer packet* or a *single-route explorer packet*. See also *all-routes explorer packet*, *explorer packet*, and *local explorer packet*.

spanning tree

Loop-free subset of a network topology. See also *spanning-tree algorithm* and *Spanning-Tree Protocol*.

spanning-tree algorithm

Algorithm used by the Spanning-Tree Protocol to create a spanning tree. Sometimes abbreviated *STA*. See also *spanning tree* and *Spanning-Tree Protocol*.

Spanning-Tree Protocol

Bridge protocol that utilizes the spanning-tree algorithm, enabling a learning bridge to dynamically work around loops in a network topology by creating a spanning tree. Bridges exchange BPDU messages with other bridges to detect loops, and then remove the loops by shutting down selected bridge interfaces. Refers to both the IEEE 802.1 Spanning-Tree Protocol standard and the earlier Digital Equipment Corporation Spanning-Tree Protocol upon which it is based. The IEEE version supports bridge domains and allows the bridge to construct a loop-free topology across an extended LAN. The

IEEE version is generally preferred over the Digital version. Sometimes abbreviated *STP.* See also *BPDU, learning bridge, MAC address learning, spanning tree,* and *spanning-tree algorithm.*

sparse mode PIM
See *PIM sparse mode.*

speed matching
Feature that provides sufficient buffering capability in a destination device to allow a high-speed source to transmit data at its maximum rate, even if the destination device is a lower-speed device.

SPF
shortest path first algorithm. Routing algorithm that iterates on length of path to determine a shortest-path spanning tree. Commonly used in link-state routing algorithms. Sometimes called *Dijkstra's algorithm.* See also *link state routing algorithm.*

SPID
Service Profile Identifier. Number that some service providers use to define the services to which an ISDN device subscribes. The ISDN device uses the SPID when accessing the switch that initializes the connection to a service provider.

split-horizon updates
Routing technique in which information about routes is prevented from exiting the router interface through which that information was received. Split-horizon updates are useful in preventing routing loops.

spoofing
1. Scheme used by Cisco routers to cause a host to treat an interface as if it were up and supporting a session. The router spoofs replies to keepalive messages from the host in order to convince that host that the session still exists. Spoofing is useful in routing environments such as DDR, in which a circuit-switched link is taken down when there is no traffic to be sent across it in order to save toll charges. See also *DDR.*
2. The act of a packet illegally claiming to be from an address from which it was not actually sent. Spoofing is designed to foil network security mechanisms such as filters and access lists.

spooler
Application that manages requests or jobs submitted to it for execution. Spoolers process the submitted requests in an orderly fashion from a queue. A print spooler is a common example of a spooler.

SPP
Sequenced Packet Protocol. Provides reliable, connection-based, flow-controlled packet transmission on behalf of client processes. Part of the XNS protocol suite.

SPX
Sequenced Packet Exchange. Reliable, connection-oriented protocol that supplements the datagram service provided by network layer (Layer 3) protocols. Novell derived this commonly used NetWare transport protocol from the SPP of the XNS protocol suite.

SQE
signal quality error. Transmission sent by a transceiver back to the controller to let the controller know whether the collision circuitry is functional. Also called *heartbeat*.

SRAM
Type of RAM that retains its contents for as long as power is supplied. SRAM does not require constant refreshing, like DRAM. Compare with *DRAM*.

SRB
source-route bridging. Method of bridging originated by IBM and popular in Token Ring networks. In a SRB network, the entire route to a destination is predetermined, in real time, prior to the sending of data to the destination. Contrast with *transparent bridging*.

SRT
source-route transparent bridging. IBM bridging scheme that merges the two most prevalent bridging strategies, SRB and transparent bridging. SRT employs both technologies in one device to satisfy the needs of all ENs. No translation between bridging protocols is necessary. Compare with *SR/TLB*.

SR/TLB
source-route translational bridging. Method of bridging where source-route stations can communicate with transparent bridge stations with the help of an intermediate bridge that translates between the two bridge protocols. Compare with *SRT*.

SRTP
Sequenced Routing Update Protocol. Protocol that assists VINES servers in finding neighboring clients, servers, and routers. See also *RTP (Routing Table Protocol)*.

SS7
Signaling System number 7. Standard CCS system used with BISDN and ISDN. Developed by Bellcore. See also *CCS*.

SSAP
source service access point. The SAP of the network node designated in the Source field of a packet. Compare to *DSAP*. See also *SAP (service access point)*.

SSCP
system services control points. Focal points within an SNA network for managing network configuration, coordinating network operator and problem determination requests, and providing directory services and other session services for network end users.

SSCP-PU session
Session used by SNA to allow an SSCP to manage the resources of a node through the PU. SSCPs can send requests to, and receive replies from, individual nodes in order to control the network configuration.

SSCS
service specific convergence sublayer. One of the two sublayers of any AAL. SSCS, which is service dependent, offers assured data transmission. The SSCS can be null as well, in classical IP over ATM or LAN emulation implementations. See also *AAL*, *ATM layer*, *CPCS*, *CS*, and *SAR*.

SSE

silicon switching engine. Routing and switching mechanism that compares the data link or network layer header of an incoming packet to a silicon-switching cache, determines the appropriate action (routing or bridging), and forwards the packet to the proper interface. The SSE is directly encoded in the hardware of the SSP (Silicon Switch Processor) of a Cisco 7000 series router. It can therefore perform switching independently of the system processor, making the execution of routing decisions much quicker than if they were encoded in software. See also *silicon switching* and *SSP (Silicon Switch Processor)*.

SSP

1. Silicon Switch Processor. High-performance silicon switch for Cisco 7000 series routers that provides distributed processing and control for interface processors. The SSP leverages the high-speed switching and routing capabilities of the SSE to dramatically increase aggregate router performance, minimizing performance bottlenecks at the interface points between the router and a high-speed backbone. See also *silicon switching* and *SSE*.
2. Switch-to-Switch Protocol. Protocol specified in the DLSw standard that routers use to establish DLSw connections, locate resources, forward data, and handle flow control and error recovery. See also *DLSw*.

STA

See *spanning-tree algorithm*.

stack

See *protocol stack*.

standard

Set of rules or procedures that are either widely used of officially specified. See also *de facto standard* and *de jure standard*.

standby monitor

Device placed in standby mode on a Token Ring network in case an active monitor fails. See also *active monitor* and *ring monitor*.

StarLAN

CSMA/CD LAN, based on IEEE 802.3, developed by AT&T.

star topology
LAN topology in which end points on a network are connected to a common central switch by point-to-point links. A ring topology that is organized as a star implements a unidirectional closed-loop star, instead of point-to-point links. Compare with *bus topology*, *ring topology*, and *tree topology*.

start-stop transmission
See *asynchronous transmission*.

static route
Route that is explicitly configured and entered into the routing table. Static routes take precedence over routes chosen by dynamic routing protocols.

Station Management
See *SMT*.

statistical multiplexing
Technique whereby information from multiple logical channels can be transmitted across a single physical channel. Statistical multiplexing dynamically allocates bandwidth only to active input channels, making better use of available bandwidth and allowing more devices to be connected than with other multiplexing techniques. Also referred to as *statistical time-division multiplexing* or *stat mux*. Compare with *ATDM*, *FDM*, and *TDM*.

statistical time-division multiplexing
See *statistical multiplexing*.

stat mux
See *statistical multiplexing*.

STM-1
Synchronous Transport Module level 1. One of a number of SDH formats that specifies the frame structure for the 155.52-Mbps lines used to carry ATM cells. See also *SDH*.

store and forward packet switching
Packet-switching technique in which frames are completely processed before being forwarded out the appropriate port. This processing includes calculating the CRC and checking the destination address. In addition, frames must be temporarily stored until network resources (such as an unused link) are available to forward the message. Contrast with *cut-through packet switching*.

STP
1. shielded twisted-pair. Two-pair wiring medium used in a variety of network implementations. STP cabling has a layer of shielded insulation to reduce EMI. Compare with *UTP*. See also *twisted pair*.
2. See *Spanning-Tree Protocol*.

StreamView network management
Cisco suite of SNMP-based network management tools used in conjunction with the LightStream 2020 ATM switch. The StreamView suite includes three GUI-driven applications: a configuration program (the configurator), a network topology map (the topology map), and a node monitoring program (the monitor); and a command-line interface: the CLI. See also *CLI*, *configurator*, *monitor*, and *topology map*.

Structure of Management Information
See *SMI*.

STS-1
Synchronous Transport Signal level 1. Basic building block signal of SONET, operating at 51.84 Mbps. Faster SONET rates are defined as STS-*n*, where *n* is a multiple of 51.84 Mbps. See also *SONET*.

STS-3c
Synchronous Transport Signal level 3, concatenated. SONET format that specifies the frame structure for the 155.52-Mbps lines used to carry ATM cells. See also *SONET*.

stub area
OSPF area that carries a default route, intra-area routes, and interarea routes, but does not carry external routes. Virtual links cannot be configured across a stub area, and they cannot contain an ASBR. Compare to *non-stub area*. See also *ASBR* and *OSPF*.

stub network
Network that has only a single connection to a router.

STUN
serial tunnel. Router feature allowing two SDLC- or HDLC-compliant devices to connect to one another through an arbitrary multiprotocol topology (using Cisco routers) rather than through a direct serial link.

subarea
Portion of an SNA network that consists of a subarea node and any attached links and peripheral nodes.

subarea node
SNA communication controller or host that handles complete network addresses.

subchannel
In broadband terminology, a frequency-based subdivision creating a separate communications channel.

subinterface
One of a number of virtual interfaces on a single physical interface.

subnet
See *subnetwork*.

subnet address
Portion of an IP address that is specified as the subnetwork by the subnet mask. See also *IP address*, *subnet mask*, and *subnetwork*.

subnet mask
32-bit address mask used in IP to indicate the bits of an IP address that are being used for the subnet address. Sometimes referred to simply as *mask*. See also *address mask* and *IP address*.

subnetwork
1. In IP networks, a network sharing a particular subnet address. Subnetworks are networks arbitrarily segmented by a network administrator in order to provide a multilevel, hierarchical routing structure while shielding the subnetwork from the addressing

complexity of attached networks. Sometimes called a *subnet*. See also *IP address*, *subnet address*, and *subnet mask*.
2. In OSI networks, a collection of ESs and ISs under the control of a single administrative domain and using a single network access protocol.

Subnetwork Access Protocol
See *SNAP*.

subnetwork point of attachment
See *SNPA*.

Subscriber Network Interface
See *SNI*.

subvector
A data segment of a vector in an SNA message. A subvector consists of a length field, a key that describes the subvector type, and subvector specific data.

Super Frame
See *SF*.

supervisory processor
See *RP (Route Processor)*.

SURAnet
Southeastern Universities Research Association Network. Network connecting universities and other organizations in the Southeastern United States. SURAnet, originally funded by the NSF and a part of the NSFNET, is now part of BBN Planet. See also *BBN Planet*, *NSF*, and *NSFNET*.

sustainable cell rate
See *SCR*.

SVC
switched virtual circuit. Virtual circuit that is dynamically established on demand and is torn down when transmission is complete. SVCs are used in situations where data transmission is sporadic. Called a *switched virtual connection* in ATM terminology. Compare with *PVC*.

switch
1. Network device that filters, forwards, and floods frames based on the destination address of each frame. The switch operates at the data link layer of the OSI model.
2. General term applied to an electronic or mechanical device that allows a connection to be established as necessary and terminated when there is no longer a session to support.

switch card
Card on the LightStream 2020 ATM switch that handles communication between the other cards on the switch. Each LightStream 2020 switch has one or two switch cards. The second card, if present, serves as a backup for the first.

switched LAN
LAN implemented with LAN switches. See *LAN switch*.

Switched Multimegabit Data Service
See *SMDS*.

Switched Port Analyzer
See *SPAN*.

switched virtual circuit
See *SVC*.

switched virtual connection
See *SVC*.

Switch Processor
See *SP*.

Switch-to-Switch Protocol
See *SSP*.

SwitchVision
Cisco SNMP-based network management software, running on Microsoft Windows, that offers a powerful set of tools to manage an entire network, including switches, hubs, routers, and bridges. SwitchVision can automatically discover and map any SNMP device on the network and show the status of network devices. SwitchVision allows network administrators to set event thresholds, activate actions when error conditions occur, and set up custom tables and graphs to view critical network variables.

synchronization
Establishment of common timing between sender and receiver.

Synchronous Data Link Control
See *SDLC*.

Synchronous Digital Hierarchy
See *SDH*.

Synchronous Optical Network
See *SONET*.

synchronous transmission
Term describing digital signals that are transmitted with precise clocking. Such signals have the same frequency, with individual characters encapsulated in control bits (called *start bits* and *stop bits*) that designate the beginning and end of each character. Compare with *asynchronous transmission*, *isochronous transmission*, and *plesiochronous transmission*.

Synchronous Transport Module level 1
See *STM-1*.

Synchronous Transport Signal level 1
See *STS-1*.

Synchronous Transport Signal level 3, concatenated
See *STS-3c*.

sysgen
system generation. Process of defining network resources in a network.

system generation
See *sysgen*.

system services control points
See *SSCP*.

Systems Network Architecture
See *SNA*.