Nagle's algorithm
Actually two separate congestion control algorithms that can be used in TCP-based networks. One algorithm reduces the sending window; the other limits small datagrams.

NAK
negative acknowledgment. Response sent from a receiving device to a sending device indicating that the information received contained errors. Compare to *acknowledgment*.

Name Binding Protocol
See *NBP*.

name caching
Method by which remotely discovered host names are stored by a router for use in future packet-forwarding decisions to allow quick access.

name resolution
Generally, the process of associating a name with a network location.

name server
Server connected to a network that resolves network names into network addresses.

NAP
network access point. Location for interconnection of Internet service providers in the United States for the exchange of packets.

narrowband
See *baseband*.

Narrowband ISDN
See *N-ISDN*.

National Bureau of Standards
See *NBS*.

National Institute of Standards and Technology
See *NIST*.

National Research and Education Network
See *NREN*.

National Science Foundation
See *NSF*.

National Science Foundation Network
See *NSFNET*.

native client interface architecture
See *NCIA*.

NAU
network addressable unit. SNA term for an addressable entity. Examples include LUs, PUs, and SSCPs. NAUs generally provide upper-level network services. Compare with *path control network*.

NAUN
nearest active upstream neighbor. In Token Ring or IEEE 802.5 networks, the closest upstream network device from any given device that is still active.

NBMA
nonbroadcast multiaccess. Term describing a multiaccess network that either does not support broadcasting (such as X.25) or in which broadcasting is not feasible (for example, an SMDS broadcast group or an extended Ethernet that is too large). See also *multiaccess network*.

NBP
Name Binding Protocol. AppleTalk transport-level protocol that translates a character string name into an internetwork address.

NBS

National Bureau of Standards. Organization that was part of the U.S. Department of Commerce. Now known as NIST. See also *NIST*.

NCIA

native client interface architecture. SNA applications-access architecture, developed by Cisco, that combines the full functionality of native SNA interfaces at both the host and client with the flexibility of leveraging TCP/IP backbones. NCIA encapsulates SNA traffic on a client PC or workstation, thereby providing direct TCP/IP access while preserving the native SNA interface at the end-user level. In many networks, this capability obviates the need for a standalone gateway and can provide flexible TCP/IP access while preserving the native SNA interface to the host.

NCP

Network Control Program. In SNA, a program that routes and controls the flow of data between a communications controller (in which it resides) and other network resources.

NCP/Token Ring Interconnection

See *NTRI*.

ND

neighborhood discovery. Process that runs on the NP of each LightStream 2020 ATM switch in the ATM network. For call routing purposes, every node in the network needs to know about changes in network topology, such as trunks and ports going up or down. ND learns about such changes at the chassis level and forwards this information to the GID process, which sends the information throughout the network. Sometimes referred to as *neighborhood discovery daemon*, or *NDD*. See also *GID*.

NDD

neighborhood discovery daemon. See *ND*.

NDIS

network driver interface specification. Specification for a generic, hardware- and protocol-independent device driver for NICs. Produced by Microsoft.

nearest active upstream neighbor
See *NAUN*.

NEARNET
Regional network in New England (United States) that links Boston University, Harvard University, and MIT. Now part of BBN Planet. See also *BBN Planet*.

negative acknowledgment
See *NAK*.

neighborhood discovery
See *ND*.

neighborhood discovery daemon
See *ND*.

neighboring routers
In OSPF, two routers that have interfaces to a common network. On multiaccess networks, neighbors are dynamically discovered by the OSPF Hello protocol.

NET
network entity title. Network addresses, defined by the ISO network architecture, and used in CLNS-based networks.

net
Short for *network*.

NetBIOS
Network Basic Input/Output System. API used by applications on an IBM LAN to request services from lower-level network processes. These services might include session establishment and termination, and information transfer.

NETscout
Cisco network management application that provides an easy-to-use GUI for monitoring RMON statistics and protocol analysis information. NETscout also provides extensive tools that simplify

data collection, analysis, and reporting. These tools allow system administrators to monitor traffic, set thresholds, and capture data on any set of network traffic for any segment.

NetView
IBM network management architecture and related applications. NetView is a VTAM application used for managing mainframes in SNA networks. See also *VTAM*.

NetWare
Popular distributed NOS developed by Novell. Provides transparent remote file access and numerous other distributed network services.

NetWare Link Services Protocol
See *NLSP*.

NetWare Loadable Module
See *NLM*.

network
Collection of computers, printers, routers, switches, and other devices that are able to communicate with each other over some transmission medium.

network access point
See *NAP*.

network access server
See *access server*.

network address
Network layer address referring to a logical, rather than a physical, network device. Also called a *protocol address*. Compare with *MAC address*.

network addressable unit
See *NAU*.

network administrator
Person responsible for the operation, maintenance, and management of a network. See also *network operator*.

network analyzer
Hardware or software device offering various network troubleshooting features, including protocol-specific packet decodes, specific preprogrammed troubleshooting tests, packet filtering, and packet transmission.

Network Basic Input/Output System
See *NetBIOS*.

Network Control Program
See *NCP*.

network driver interface specification
See *NDIS*.

network entity title
See *NET*.

Network File System
See *NFS*.

Network Information Center
See *NIC*.

Network Information Service
See *NIS*.

network interface
Boundary between a carrier network and a privately-owned installation.

network interface card
See *NIC*.

network layer
Layer 3 of the OSI reference model. This layer provides connectivity and path selection between two end systems. The network layer is the layer at which routing occurs. Corresponds roughly with the *path control layer* of the SNA model. See also *application layer, data link layer*, *physical layer, presentation layer, session layer*, and *transport layer*.

network management
Generic term used to describe systems or actions that help maintain, characterize, or troubleshoot a network.

Network Management Processor
See *NMP*.

network management system
See *NMS*.

network management vector transport
See *NMVT*.

Network-to-Network Interface
See *NNI*.

network node
See *NN*.

Network Node Interface
See *NNI*.

Network Node Server
SNA NN that provides resource location and route selection services for ENs, LEN nodes, and LUs that are in its domain.

network number
Part of an IP address that specifies the network to which the host belongs.

network operating system
See *NOS*.

Network Operations Center
See *NOC*.

network operator
Person who routinely monitors and controls a network, performing such tasks as reviewing and responding to traps, monitoring throughput, configuring new circuits, and resolving problems. See also *network administrator*.

network processor card
See *NP card*.

network service access point
See *NSAP*.

Next Hop Resolution Protocol
See *NHRP*.

NFS
Network File System. As commonly used, a distributed file system protocol suite developed by Sun Microsystems that allows remote file access across a network. In actuality, NFS is simply one protocol in the suite. NFS protocols include NFS, RPC, XDR (External Data Representation), and others. These protocols are part of a larger architecture that Sun refers to as ONC. See also *ONC*.

NHRP
Next Hop Resolution Protocol. Protocol used by routers to dynamically discover the MAC address of other routers and hosts connected to a NBMA network. These systems can then directly communicate without requiring traffic to use an intermediate hop, increasing performance in ATM, Frame Relay, SMDS, and X.25 environments.

NIC
1. network interface card. Board that provides network communication capabilities to and from a computer system. Also called an *adapter.* See also *AUI*.
2. Network Information Center. Organization that serves the Internet community by supplying user assistance, documentation, training, and other services.

NIS
Network Information Service. Protocol developed by Sun Microsystems for the administration of network-wide databases. The service essentially uses two programs: one for finding a NIS server and one for accessing the NIS databases.

N-ISDN
Narrowband ISDN. Communication standards developed by the ITU-T for baseband networks. Based on 64-kbps B channels and 16- or 64-kbps D channels. Contrast with *BISDN*. See also *BRI*, *ISDN*, and *PRI*.

NIST
National Institute of Standards and Technology. Formerly the NBS, this U.S. government organization supports and catalogs a variety of standards. See also *NBS*.

NLM
NetWare Loadable Module. Individual program that can be loaded into memory and function as part of the NetWare NOS.

NLSP
NetWare Link Services Protocol. Link-state routing protocol based on IS-IS. The Cisco implementation of NLSP also includes MIB variables and tools to redistribute routing and SAP information between NLSP and other IPX routing protocols. See also *IS-IS*.

NMP
Network Management Processor. Processor module on the Catalyst 5000 switch used to control and monitor the switch.

NMS
network management system. System responsible for managing at least part of a network. An NMS is generally a reasonably powerful and well-equipped computer such as an engineering workstation. NMSs communicate with agents to help keep track of network statistics and resources.

NMVT
network management vector transport. SNA message consisting of a series of vectors conveying network management specific information.

NN
network node. SNA intermediate node that provides connectivity, directory services, route selection, intermediate session routing, data transport, and network management services to LEN nodes and ENs.

The NN contains a CP that manages the resources of both the NN itself and those of the ENs and LEN nodes in its domain. NNs provide intermediate routing services by implementing the APPN PU 2.1 extensions. Compare with *EN*. See also *CP*.

NNI

Network-to-Network Interface. ATM Forum standard that defines the interface between two ATM switches that are both located in a private network or are both located in a public network. The interface between a public switch and private one is defined by the UNI standard. Also, the standard interface between two Frame Relay switches meeting the same criteria. Compare with *UNI*.

NOC

Network Operations Center. Organization responsible for maintaining a network.

node

1. Endpoint of a network connection or a junction common to two or more lines in a network. Nodes can be processors, controllers, or workstations. Nodes, which vary in routing and other functional capabilities, can be interconnected by links, and serve as control points in the network. Node is sometimes used generically to refer to any entity that can access a network, and is frequently used interchangeably with *device*. See also *host*.
2. In SNA, the basic component of a network, and the point at which one or more functional units connect channels or data circuits.

noise

Undesirable communications channel signals.

nonbroadcast multiaccess

See *NBMA*.

nonreturn to zero

See *NRZ*.

nonreturn to zero inverted

See *NRZI*.

nonseed router
In AppleTalk, a router that must first obtain, and then verify, its configuration with a seed router before it can begin operation. See also *seed router*.

non-stub area
Resource-intensive OSPF area that carries a default route, static routes, intra-area routes, interarea routes, and external routes. Nonstub areas are the only OSPF areas that can have virtual links configured across them, and are the only areas that can contain an ASBR. Compare with *stub area*. See also *ASBR* and *OSPF*.

nonvolatile random-access memory
See *NVRAM*.

normal response mode
See *NRM*.

Northwest Net
NSF-funded regional network serving the Northwestern United States, Alaska, Montana, and North Dakota. Northwest Net connects all major universities in the region as well as many leading industrial concerns.

NOS
network operating system. Generic term used to refer to what are really distributed file systems. Examples of NOSs include LAN Manager, NetWare, NFS, and VINES.

Novell IPX
See *IPX*.

npadmin account
One of the four default user accounts that are created in the factory on each LightStream 2020 ATM switch. The npadmin account is for privileged users. Its default interface is the CLI.

NP card
network processor card. Main computational and storage resource for the LightStream 2020 ATM switch. Each LightStream 2020 switch has one or two NPs. The second card, if present, serves as a backup

for the first. Each NP is associated with a floppy disk drive for loading software and a hard disk drive for storing software and configuration data. Each NP also has an access card that provides an Ethernet port.

NP TCS monitoring module
See *NPTMM*.

NP module
On a LightStream 2020 ATM switch, the combination of the NP card, the NP access card, and the disk assembly. See also *access card*, *disk assembly*, and *NP card*.

NPTMM
NP TCS monitoring module. Process that runs on the NP of every LightStream 2020 ATM switch in an ATM network. NPTMM monitors the health of the system through the TCS and coordinates switch cutover when redundant switch cards are present. See also *TCS*.

NREN
National Research and Education Network. Component of the HPCC program designed to ensure U.S. technical leadership in computer communications through research and development efforts in state-of-the-art telecommunications and networking technologies. See also *HPCC*.

NRM
normal response mode. HDLC mode for use on links with one primary station and one or more secondary stations. In this mode, secondary stations can transmit only if they first receive a poll from the primary station.

NRZ
nonreturn to zero. NRZ signals maintain constant voltage levels with no signal transitions (no return to a zero-voltage level) during a bit interval. Compare with *NRZI*.

NRZI
nonreturn to zero inverted. NRZI signals maintain constant voltage levels with no signal transitions (no return to a zero-voltage level), but interpret the presence of data at the beginning of a bit interval as a signal transition and the absence of data as no transition. Compare with *NRZ*.

NSAP
network service access point. Network addresses, as specified by ISO. An NSAP is the point at which OSI Network Service is made available to a transport layer (Layer 4) entity.

NSF
National Science Foundation. U.S. government agency that funds scientific research in the United States. The now-defunct NSFNET was funded by the NSF. See also *NSFNET*.

NSFNET
National Science Foundation Network. Large network that was controlled by the NSF and provided networking services in support of education and research in the United States, from 1986 to 1995. NSFNET is no longer in service.

NTRI
NCP/Token Ring Interconnection. Function used by ACF/NCP to support Token Ring-attached SNA devices. NTRI also provides translation from Token Ring-attached SNA devices (PUs) to switched (dial-up) devices.

null modem
Small box or cable used to join computing devices directly, rather than over a network.

NVRAM
nonvolatile RAM. RAM that retains its contents when a unit is powered off. In Cisco products, NVRAM is used to store configuration information.

NYSERNet
Network in New York (United States) with a T1 backbone connecting NSF, many universities, and several commercial concerns.