GLOSSARY

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4

4+1 Redundancy Mode

4+1 redundancy describes the protection scheme in which a total of five cable interface line cards are configured to have four as Working and one as Protect. This protection scheme is optional for the Cisco uBR10012 router. Typically, the Cisco RF switch in the 4+1 mode is functioning as two 4+1 switches independently.

7

7+1 Redundancy Mode

7+1 redundancy describes the protection scheme in which a total of eight cable interface line cards are configured to have seven as Working and one as Protect. This is the default N+1 protection scheme for the Cisco uBR10012 router.

A

AAA

Authentication, authorization, and accounting.

Active RP

Active Route Processor (RP), also known as primary RP. The RP that controls the system, runs the routing protocols, and presents the system management interface.

Active service flow

An admitted service flow that is available for packet transmissions between the cable modem and the CMTS in either the upstream or the downstream direction.

ACL

Access Control List. A list kept by routers to control access to or from the router for a number of services (for example, to prevent packets with a certain IP address from leaving a particular interface on the router).

Admitted service flow

A provisioned or dynamically signaled service flow that is authorized, and for which resources have been reserved, but that is not active.

AM

Application manager.

Amplifier

Used on coaxial segments of a CATV plant to restore signal levels lost due to attenuation through distance.

ATM	Asynchronous Transfer Mode.
Availability	The long term ratio of the actual radio frequency (RF) channel operation time to the scheduled RF channel operation time (expressed as a percentage) based on a bit error rate (BER) assumption.

B

Bandwidth allocation map	The MAC management message that the CMTS uses to allocate transmission opportunities to cable modems.
Bandwidth-based optimization technique	This optimization technique considers the CIR utilization of the current downstream channels of the CM and moves the CM only if the bandwidth has exceeded on the current downstream channels. This technique is used for unicast sessions.
BE	Best Effort (DOCSIS Scheduler Type)
BE traffic	BE traffic is non-sensitive traffic. BE traffic gets only that bandwidth that left over after sensitive traffic utilizes it.
Bonus bandwidth	Bonus bandwidth is made available to each bonding group for CIR reservation by the Fairness Across DOCSIS Interfaces module.
Branch line	A coaxial cable that runs from a trunk line to a subscriber drop point. A branch line is also known as a feeder cable.
BRI	Basic Rate Interface. ISDN interface composed of two B channels and one D channel for circuit-switched communication of voice, video, and data. Compare with PRI.
Bucket	A service flow classification scheme supporting the Service Flow Admission Control feature, in which DOCSIS service flows and traffic types are categorized, processed, and supported in prioritized fashion on the Cisco CMTS. Buckets are service flow application categories, and enable greater optimization of DOCSIS QoS on the Cisco CMTS. Cisco IOS Release 12.3(21)BC supports eight buckets on the Cisco CMTS, numbered 1 to 8, with 1 being first in related processing.

C

CA	Call Agent.
Cable Access Router	A modular chassis-based router that is optimized for the data over CATV HFC application.
Cable Interface Line Card	The modem front-end card of the cable router headend device, plugged into the midplane. Each cable line card provides a number of radio frequency (RF) channels as external interfaces.
CALEA	Communications Assistance for Law Enforcement Act. Support for this piece of U.S. legislature is required by PacketCable implementations and allows authorized law enforcement agencies to trace telephone calls through a cable network.
CATV	Cable Television. Refers to any cable-based system of television services (either coaxial or fiber cable).

CEF	Cisco Express Forwarding. An advanced Layer 3 IP switching technology. Cisco Express Forwarding optimizes network performance and scalability for networks with large and dynamic traffic patterns.
CIN	Converged Interconnect Network. Is the standard term used for the network between the M-CMTS and RFGW. This network can be a direct connection, a Layer 2 network or a Layer 3 network.
CIR	Committed information rate is the average bandwidth guaranteed by a provider to work under normal conditions.
CLI	Command Line Interface. An interface that allows the user to interact with the operating system by entering commands and optional arguments. The UNIX operating system and DOS provide CLIs.
CM	Cable Modem. A modulator/demodulator at subscriber locations that is used in conveying data communications on a cable television system.
CMS	Call Management Server.
CMTS	Cable Modem Termination System. A router or a bridge, typically located at the cable headend. Any DOCSIS-compliant headend cable router, such as the Cisco uBR7246VXR or Cisco uBR10012 universal broadband routers. A device that provides complementary functionality to cable modems to enable connectivity to a wide area network (WAN).
CNR	Carrier-to-Noise Ratio. CNR is a ratio of the measured modulated power, in dB, on the upstream (before ingress noise cancellation is done) that compares the channel power to the noise power.
CNiR	Carrier-to-noise plus Interference Ratio. CNiR is part of the CableLabs nomenclature for the CNR measurement. Both the terms, CNR and CNiR, can be used interchangeably.
Codec	Coder-decoder. A device that typically uses pulse code modulation to transform analog signals into a digital bit stream and digital signals back into analog.
COPS	Common Open Policy Service. Protocol used in gate control and coordination of CMS and CMTS.
CPE	Customer Premises Equipment. Terminating equipment, such as terminals, telephones, and modems, supplied by the telephone company, installed at customer sites, and connected to the telephone company network. Can also refer to any telephone equipment residing on the customer site.

D

DAVIC	Digital Audio Visual Council. DAVIC is an audiovisual industry association composed of over 157 companies, government agencies, and research organizations around the world. DAVIC created industry standards for end-to-end interoperability of broadcast and interactive digital audiovisual information, and of multimedia communication over satellite, fiber, radio, and cable distribution systems.
DBS	Dynamic Bandwidth Sharing. An dynamic allocation of bandwidth for wideband (WB) and modular cable (MC) interfaces sharing the same downstream channel. The bandwidth available to each WB, MC, or narrowband channel is not a fixed value since it depends on the configuration and the traffic load on the WB or MC. DBS enables high burst rates with DOCSIS 2.0 and 3.0 cable modems.
DCC	dynamic channel change. Dynamically changes cable modem upstream or downstream channels without forcing the modem to go offline or having to re-register with the CMTS.

DCS	Distributed Call Signaling (PacketCable). The multi-media signaling protocol used between an MTA, a CMS, and a destination MTA in the PacketCable architecture. DCS is based on the SIP protocol.
DEPI	Downstream External PHY Interface. Is the interface between the M-CMTS Core and the EQAM.
Distribution hub	A smaller or remote headend distribution point for a CATV system. Video signals are received here from another site (headend) and are redistributed. Sometimes a small number of locally originated signals are added. These signals might be city of information channels, HFC cable modem signals, and so on.
DLB	Dynamic Load Balancing. A form of traffic-based load balancing in which cable modems are balanced among upstream and downstream channels after they come online, while they are passing traffic. Dynamic load balancing must be enabled by using the enforce option of the cable load-balance group threshold command.
DLM	DEPI Latency Measurement. Is a special type of data packet used for measuring the network latency between the M-CMTS core and the EQAM.
D-MPT	DOCSIS MPT Mode.
DOCSIS	Data-over-Cable Service Interface Specifications. Defines technical specifications for equipment at both subscriber locations and cable operators' headends. Adoption of DOCSIS can accelerate deployment of data-over-cable services and ensure inter operability of equipment throughout system operators' infrastructures.
downstream	A set of frequencies used to send data from a headend to a subscriber.
DPR	DEPI Path Redundancy, DEPI redundancy scheme, which permits creation of redundant DEPI pseudowires for any QAM channel. DPR specifies the protocol between the M-CMTS Core and the EQAM and a set of basic requirements related to the operation of the M-CMTS Core and the EQAM.
DQoS	Dynamic quality of service.
Drop	A subscriber access point; the actual coaxial connection in a subscriber's home.
DS	Downstream. Frequency multiplexed band in a CATV channel that distributes signals from a headend facility (CMTS) to subscribers (cable modems).

E

EHSA	Enhanced High System Availability. Processor redundancy scheme that reduces switchover time by requiring that the redundant processor be running in hot standby mode.
EIR	Excess information rate is the excess bandwidth provided over and above the CIR, provided that there is adequate bandwidth available.
Element ID	Unique ID that is statically assigned to every PacketCable element within a PacketCable network or domain.
E-MTA	Embedded multimedia terminal adapter. An MTA device that is integrated with a cable modem.

EoMPLS	Ethernet over MPLS. Ethernet service emulated over an MPLS network is referred to a s Ethernet over MPLS service.
EQAM	Edge Quadrature Amplitude Modulation. A head end or hub device that receives packets of digital video or data.
Etherchannel	Developed and copyrighted by Cisco Systems. Logical aggregation of multiple Ethernet interfaces used to form a single higher bandwidth routing or bridging endpoint.
EuroDoCSIS	European Data-over-Cable Service Interface Specifications.

F

Fairness Across DOCSIS Interfaces	The guaranteed bonding group (BG) bandwidth is adjusted adaptively to accommodate the CIR flow request by moving the guaranteed bandwidth between the adjacent BGs (those that share RF channels). This is referred to as Adaptive CIR. After satisfying the CIR requests, the BG bandwidth is further adjusted based on the estimated traffic-active best effort (BE) service flow count weighted by the DOCSIS priority, so that flows with the same traffic priority get the same amount of bandwidth across BGs. This is referred to as EIR Fairness. The solution as a whole is called Fairness Across DOCSIS Interfaces.
FEC	Forward Error Correction. Prevents transmission errors by sending redundant data. Use of redundant data provides the benefit of removing the need for retransmitting data in case of an error. Correctable FEC errors can be corrected using this redundant data, while uncorrectable errors require retransmission of the original data.
Fiber node (node)	An optical node (located in the outside plant distribution system) that terminates the fiber-based downstream signal as an electrical signal onto a coaxial RF cable. Each fiber node is defined to support a designated service area, defined either by the number of homes or by total amplifier cascade (the total number of active amplifiers in the longest line from the node to the end of the line).
FFT	Fast Fourier Transform. Performs a Fourier transform at discrete set of frequencies at discrete times over a defined period of time on a given input signal in the time domain to determine the amplitude of the spectral components of the input signal.
FPGA	Field-Programmable Gate Array.

G

Gate	Virtual policy control entity that controls a service flow's access to QoS services.
GC	Gate Controller (PacketCable). A network entity that implements QoS policy enforcement for a CMS. The GC is the interface between the CMS and CMTS.
GLBG	General Load Balancing Group. A LBG that the CMTS creates for every MD-CM-SG that is instantiated by the topology configuration.

H

HCCP

Hot-standby Connection-to-Connection Protocol. The Cisco Hot Standby Connection-to-Connection Protocol (HCCP) maintains all necessary DOCSIS or EuroDOCSIS state information-including service identifier (SID), service flow, and Media Access Control (MAC) and IP information-that enables a Protect line card to completely replace a Working line card when needed.

HCCP group

Hot-standby Connection-to-Connection Protocol group. An HCCP group is a logical bundling of Cisco RF Switch cable interfaces. After you complete the definition of all required HCCP groups, you then assign each HCCP group a status of Working or Protect, according to your network topology.

Headend

The endpoint of a broadcast network and central distribution point for a CATV system. All stations transmit toward the headend; the headend then transmits toward the destination stations. Video signals are received from a satellite (either collocated or remote), and the frequency is converted to the appropriate channels where it is combined with locally originated signals and is rebroadcast onto the HFC plant. For a CATV data system, the headend is the typical place to link between the HFC system and any external data networks.

HFC

Hybrid Fiber-Coaxial. Older CATV systems were provisioned using only coaxial cable. Modern systems use fiber transport from the headend to an optical node located in the neighborhood to reduce system noise. Coaxial runs from the node to the subscriber. The fiber plant is generally a star configuration with all optical node fibers terminating at a headend. The coaxial part of the system is generally a trunk and branch configuration.

I

ICMP

Internet Control Message Protocol. Network layer Internet protocol that reports errors and provides other information relevant to IP packet processing. Documented in RFC 792.

IF Muting

Cisco's proprietary feature that supports non-SNMP upconverters (internal, integrated or external) in N+1 protection schemes. When used with either of Cisco's RF Switches, IF Muting allows for full N+1 Redundancy on both the Cisco uBR10012 and the Cisco uBR7246VXR CMTS.

ISP

Internet Service Provider.

L

L2F

Layer 2 Forwarding. The L2F protocol is a Cisco-proprietary standard for a tunneling mechanism that transports link-layer frames, such as PPP, that are used by higher-layer protocols. These tunnels allow the provider to separate the initial dialup servers from the corporate gateways, without compromising network security.

L2TP

Layer 2 Tunneling Protocol. An extension to the Point-to-point (PPP) protocol and a fundamental building block for virtual private networks (VPN). L2TP combines the best features of Cisco's Layer 2 Forwarding (L2F) protocol and Microsoft's Point-to-Point Tunneling (PPTP). L2TP is an Internet Engineering Task Force (IETF) standard.

Label

A short, fixed-length data construct that tells switching nodes how to forward data (packets or cells).

LAC	L2TP access concentrator. The LAC is one endpoint of the L2TP tunnel and is a peer to the LNS. The LAC forwards packets between the LNS and the remote systems (such as cable modems), using the L2TP tunnel protocol. Typically, the Cisco CMTS acts as the LAC.
LBG	Load Balancing Group. A full or partial subset of a MAC Domain Cable Modem Service Group (MD-CM-SG) to which a CM is administratively assigned. LBGs contain at least one upstream channel and at least one downstream channel.
LDP	Label Distribution Protocol. A standard protocol that operates between Multiprotocol Label Switching (MPLS)-enabled routers to negotiate the labels (addresses) used to forward packets. The Cisco proprietary version of this protocol is the Tag Distribution Protocol (TDP).
LIS	Lawful Intercept Server.
LNS	L2TP network server. The LNS is the destination endpoint for the L2TP tunnel and is a peer to the LAC. The LNS terminates the PPP sessions from the remote systems (such as cable modems) that it receives through the L2TP tunnel initiated by the LAC.

M

MAC	Media Access Control. Typically refers to the lower of the two sublayers of the data link layer that is defined by the IEEE. The MAC sublayer handles access to shared physical transmission media. In DOCSIS networks, MAC also refers to the management messages that are sent between the CMTS and CM to maintain connectivity over the cable network.
MAC Domain	A subcomponent of the CMTS that provides data forwarding services to a set of downstream and upstream channels.
M-CMTS	Modular Cable Modem Termination System.
MD-CM-SG	MAC Domain Cable Modem Service Group. The subset of a CM-SG which is confined to the DCs and UCs of a single MAC domain. An MD-CM-SG differs from a CM-SG only if multiple MAC domains are assigned to the same CM-SGs.
MD-DS-SG	MAC Domain Downstream Service Group. The subset of a Downstream Service Group (DS-SG) which is confined to the Downstream Channels of a single MAC domain.
MER	Modulation Error Ratio. A measure used to quantify the performance of a digital radio transmitter or receiver in a communications system using digital modulation (such as QAM).
MGCP	Media Gateway Control Protocol. Controls PSTN gateway.
MPEG	Moving Picture Experts Group.
MPLS	Multiprotocol Label Switching. A switching method that forwards IP traffic through use of a label. This label instructs the routers and the switches in the network where to forward the packets. The forwarding of MPLS packets is based on preestablished IP routing information.
MPT	MPEG-TS mode of DEPI.

MRC	Multiple Receive Channel. A CM capability that enables CMs to receive upstream traffic on multiple upstream channels.
MTA	Multimedia Terminal Adaptor. Packetcable client that can either be attached to or embedded into cable modem to support POTS.
MTC	Multiple Transmit Channel. A CM capability that enables CMs to send upstream traffic on multiple upstream channels.
MTU	Maximum Transmission Unit. Maximum packet size, in bytes, that a particular interface can handle.

N

N+1 redundancy	Redundancy scheme in which one cable interface line card in Protect state provides support for N cable interface line cards in Working state. Common N+1 topologies are as follows:

- 8+1 Redundancy—Protection scheme in which eight cable interface line cards are configured as seven Working and one Protect line card). This protection scheme is also referred to as 7+1 Redundancy, which is more physically accurate than is 8+1.
- 4+1 Redundancy—Protection scheme in which four Working line cards are supported by one Protect line card.

Narrowband	A communications channel, such as copper wire or part of a coaxial cable channel, that transmits voice, facsimile or data at a speed less than broadband systems.
NAS	Network Access Server. This device provides temporary, on-demand network access to users. In Cisco's PPPoE implementation, the NAS functions are provided by the LAC.
NCS	Network Call Signalling. Packetcable extension to MGCP used in controlling calls.
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.
NPE	Network Processing Engine.
nrtPS	Non real time Polling Service (DOCSIS Scheduler Type). The nrtPS is one of the five QOS service types defined in the IEEE 802.16 WiMAX. This service is designed to support non real-time service flows that require variable size Data Grant Burst Types on a regular basis, such as high bandwidth FTP. The service offers unicast polls on a regular basis, which assures that the flow receives request opportunities even during network congestion.
NRU	N+1 Redundancy Unit. The NRU provides an Ethernet interface that allows the Cisco CMTS to be controlled remotely via SNMP. NRU also provides a management console port that allows configuration, software downloading, and additional functions.

O

OBI
Optical Beat Interference. OBI is caused by two or more lasers transmitting simultaneously on the same optical bandwidth.

OIR
Online Insertion and Removal. Feature that permits the addition, the replacement, or the removal of cards without interrupting the system power, entering console commands, or causing other software or interfaces to shutdown.

ONT
Optical Network Terminal. An ONT is a media converter that converts fiber-optic light signals to copper or electric signals.

Optical node
A device used to convert broadband RF to and from a fiber-optic signal. An optical node is usually located in the outside field.

P

Packetcable
PacketCable is a CableLabs-led initiative aimed at developing interoperable interface specifications for delivering advanced, real-time multimedia services over two-way cable plant. Built on top of the industry's highly successful cable modem infrastructure, PacketCable networks will use Internet protocol (IP) technology to enable a wide range of multimedia services, such as IP telephony, multimedia conferencing, interactive gaming, and general multimedia applications.

PCMM
PacketCable Multimedia service.

Peer
Router or device that participates as an endpoint in IPSec and IKE.

PE router
Provider Edge router. A router on the border between a VPN provider and a VPN customer that belongs to the provider.

PHY
Physical Layer.

PON
Passive Optical Network. A PON is a single-point to multipoint, fiber-to-home network architecture that uses optical splitters to enable a single optical fiber to serve multiple premises, typically 32 to 128 homes.

POTS
Plain Old Telephone Service.

PPP
Point-to-Point Protocol. A protocol developed for dial-up users to extend the IP network over serial interfaces and dial-up lines, allowing for automatic configuration of the user's IP address and other network information.

PPPoE
Point-to-Point Protocol over Ethernet. This protocol encapsulates PPP packets within Ethernet MAC frames, so that network users can be authenticated and configured using the same PPP systems that are used for point-to-point users (such as dial-up or DSL users).

Provisioning
The programming of allocatable resources, such as operating parameters, upstream and downstream frequencies, slot assignments, and logical identifiers, in headend and subscriber modems.

PS
Policy Server.

PSTN   Public Switched Telephone Network.

PW   Pseudowire. A mechanism that carries the essential elements of an emulated circuit from one provider edge (PE) router to another PE router over a packet-switched network.

Q

QAM   Quadrature Amplitude Modulation. Method of combining two amplitude-modulated (AM) signals into a single channel, thereby doubling the effective bandwidth.

QoS   Quality of Service for network data delivery. A measure of performance for a transmission system that reflects its transmission quality and service availability.

QPSK   Quadrature Phase Shift Keying. A technique to shift the period of a wave.

R

Race condition   A race condition is a flaw in a system or process in which the output, or result, or both are dependent on the sequence or timing of other events.

RADIUS   Remote Authentication Dial-In User Service.

Ranging   The adjustment of the subscriber modem upstream timing offset to ensure that an upstream packet inserted into a TDMA slot aligns correctly with the headend modem upstream frame.

RD   Route Distinguisher.

Redundancy   In internetworking, redundancy refers to the hardware and software duplication of Working devices, services or connections so that the redundant (Protect) devices, services, or connections can immediately take over in the event of a Working failure (switchover). Redundancy applies whether that switchover from Working to Protect is unexpected or manually initiated. See also N+1 redundancy.

Registration The process of a subscriber modem signing on to the cable network by identifying itself to the headend.

Replication-based optimization technique   This optimization technique is valid only for multicast sessions. This technique minimizes the number of replications per bundle so that the sessions are fairly balanced.

Resequencing channel list   This is a list of channels on which the CM receives packets labeled with the channel downstream ID (DSID).

RF   Radio Frequency. Generic term referring to frequencies that correspond to radio transmissions, that is wireless communications with frequencies below 300 GHz. Cable TV and broadband networks use RF technology. In cable television systems, this refers to electromagnetic signals in the range 5 to 1000 MHz.

RFoG	RF over glass. RFoG is a network design that replaces the coaxial cable portion of the HFC network with a single-fiber. This architecture uses different wavelengths in the same fiber for both upstream and downstream.
RF Switch Module	The Cisco RF switch module is a switching matrix that allows flexibility in the routing of RF signals between "N" Working RF cable interface line cards and one Protect RF cable interface line card. The RF Switch header has 14 ports labeled with letters. Each header screws into a slot in the Cisco RF Switch. A Cisco RF Switch module contains all the active relays for a particular port for all slots. Each RF switch module supports the full frequency range specified by DOCSIS and EuroDOCSIS standards.
RF upconverter	An upconverter device is used to convert the 44 MHz intermediate frequency (IF) output to the assigned slot. In North America, carrier frequencies in the forward plant are assigned between 54-860 MHz. After upconversion, the signal is combined with other analog TV or digital TV signals and sent to the transmit input of a fiber transceiver.
	Data passing through the cable interface line card is converted to an IF signal and then run through an upconverter to transform the signal to RF. This RF signal is then sent down the line to the user's cable modem. Downstream cable interface commands configure the frequency, symbol rate, compression, and modulation of the downstream signal.
	An RF upconverter is also used for downstream RF frequency shifting. The upconverter in the Cisco CMTS has an Ethernet interface that allows the CMTS to be controlled remotely via SNMP. Two types of upconverters are commonly used with the Cisco CMTS:
	• Vecima HD4040 chassis (one) with 16 modules
	• GI C6U upconverter units (two) with two modules each
RKS	Record Keeping Server.
RLBG	Restricted Load Balancing Group. A LBG that can be configured to contain a subset of the channels in a CM-SG to which a CM can be assigned.
ROMMON	ROM Monitor. ROMMON is a bootstrap program that initializes the hardware and boots up the Cisco IOS software when the Cisco CMTS (or Cisco cable interface line card) is powered on or rebooted. It is an integral part of the line card firmware, which provides basic services such as CPU initialization, memory mapping, and image relocation.
RP	Route Processor.
RPF	Reverse Path Forwarding. Multicasting technique in which a multicast datagram is forwarded out of all but the receiving interface if the receiving interface is the one used to forward unicast datagrams to the source of the multicast datagram.
RPR+	Route Processor Redundancy Plus. When two route processors (RPs) are installed in a Cisco uBR10012 router chassis, one RP acts as the active (primary) RP, and the other acts as a standby (backup) RP. If the active RP fails, or is removed from the system, the standby RP detects the failure and initiates a switchover. During a switchover, the standby RP assumes control of the router, connects with the network interfaces, and activates the local network management interface and system console.
RtPS	Real time Polling Service (DOCSIS Scheduler Type). The rtPS is one of the five QOS service types defined in the IEEE 802.16 WiMAX. It is designed to support real-time service flows that generate variable size data packets on a periodic basis, such as MPEG video. The service offers real-time, periodic, unicast request opportunities, which meet the flow's real-time needs and allow the SS to specify the size of the desired grant.

S

SAID
Security Association Identifier. A Baseline Privacy security identifier between a CMTS and a cable modem.

Service Class
A group of queuing attributes configured on the Cisco CMTS router.

Service flow
A MAC-layer transport service that provides unidirectional transport of packets from the upper service layer entity to the RF device.

Session replication
Session replication is a mechanism used to replicate the data stored in a session across different instances.

SFID
Service Flow Identifier.

SGCP
Simple Gateway Control Protocol. Controls Voice-over-IP (VoIP) gateways by an external call control element (called a call agent).

SID
Service Identifier. A service flow identifier (14 bits) assigned by the CMTS to an active or admitted upstream service flow.

SID cluster
Service Identifier cluster. A group of SIDs containing only one SID for each upstream channel within an upstream bonding group.

SIP
Session Initiation Protocol. A standardized protocol for establishing IP telephony sessions between two network entities.

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.

SNR
Signal-to-noise Ratio.

SPA
Shared Port Adapter.

SPM
Subscriber Policy Manager. This is a component co-resident with the GC that allows the GC to look up QoS-related parameters about a telephony subscriber.

Standby RP
Standby route processor (RP), also known as the secondary RP. The route processor (RP) that waits in protective support of the active or primary RP in the case of failure.

Status request
The periodic querying of subscriber cable modems by the headend for alarm and service requests.

STID
Service Type Identifier.

STT
Set top terminal. An STT box is a device that is designed to receive and automatically tune to a television broadcast program, which is analog, digital or satellite transmitted. The STT has a tuner which demodulates the television signals and converts and decodes them for direct viewing on a television receiver or video monitor. It also has a modem which when in the satellite mode enables the viewer to select TV programming.

T

Tap　A passive device that divides a signal between the trunk or feeder lines and splits the signal into ports for subscriber drop access.

TCC　Channel Configuration. TLV settings in registration and DBC MAC management messages that define addition, deletion, change, replacement, or reranging of one or more upstream channels in the Transmit Channel Set of a cable modem.

TCS　Transmit Channel Set. A set of upstream channels that a cable modem uses for upstream transmission.

TDM　Time-Division Multiplexing. A technique in which information from multiple channels can be allocated bandwidth on a single wire, based on preassigned time slots. Bandwidth is allocated to each channel regardless of whether the station has data to transmit.

TDMA　Time-Division Multiple Access.

TLV　Type, Length, Value.

Trunk line　A CATV backbone coaxial cable. This cable runs from an optical node through a specific neighborhood or service area.

TS　Transport Stream.

U

UBR　Universal Broadband Router. Refers to the family line of DOCSIS Cisco CMTS routers.

UCC　Upstream Channel Change. Moves the cable modem to the new upstream channel without forcing the modem to go offline or having to reregister with the CMTS.

UDP　upstream drop classifier. A set of matching criteria that the CM uses to filter upstream traffic.

UGS　Unsolicited Grant Service (DOCSIS Scheduler Type). An Upstream Flow Scheduling Service Type that provides constant bit rate (CBR) traffic onto service flows. UGS service flows support applications that require real-time traffic, such as Voice over IP and Video-on-Demand (VoD).

UGS/AD　Unsolicited Grant Service with Activity Detection (DOCSIS Scheduler Type).

Upconverter　See RF Upconverter.

Upstream　The set of frequencies used to send data from a subscriber to the headend.

Upstream Interface　Refers to an upstream

channel or an upstream bonding group.

US　Upstream. Set of frequencies used to send data from a subscriber (CM) to the headend (CMTS).

USSG	Upstream Service Group. A set of upstream channels that are reachable by the transmission of a single CM.
Utility-based threshold	This threshold is defined as a percentage of the total utilization as compared to the total capacity of the downstream channels or the RCC. This threshold is configured and is used to avoid saturating a single downstream channel or RCC with cable modems, such that non-video traffic is also significantly affected.

V

VLAN	virtual local area network (LAN). Group of devices on one or more LANs that are configured (using management software) so that they can communicate as if they were attached to the same wire, when in fact they are located on a number of different LAN segments. Because VLANs are based on logical instead of physical connections, they are extremely flexible.
VoIP	Voice over IP. The ability to carry normal telephone-style voice over an IP-based Internet with POTS-like functionality, reliability, and voice quality. VoIP is a blanket term that generally refers to the Cisco standards-based (for example, H.323 or SGCP) approach to IP voice traffic.
VPN	Virtual Private Network. Enables IP traffic to travel securely over a public TCP/IP network by encrypting all traffic from one network to another. A VPN uses "tunneling" to encrypt all information at the IP level.
	A group of sites that, as the result of a set of administrative policies, are able to communicate with each other over a shared backbone network. A VPN is a secure IP-based network that shares resources on one or more physical networks. A VPN contains geographically dispersed sites that can communicate securely over a shared backbone. See also MPLS VPN.
VPN ID	A mechanism that identifies a VPN based on RFC 2685. A VPN ID consists of an Organizational Unique Identifier (OUI), a three-octet hex number assigned by the IEEE Registration Authority, and a VPN index, a four-octet hex number, which identifies the VPN within the company.
VRF	Virtual Routing and Forwarding. Ensures that only valid traffic is routed to it by removing the IP Address of the interface from the global routing table (and from the interface).