GLOSSARY

A

Activation script — A command script that Cisco ANA applies to one or more VNEs to extend their configurations. You use Cisco ANA Command Builder to create activation scripts. The Cisco Video Assurance Management Solution runs an IPTV activation script on its VNEs.

Alarm Thresholding — A mechanism by which Cisco ANA constantly monitors selected soft properties and generates an alarm every time they cross a user-defined threshold or violate a condition. See also Soft Properties.

ANA — See Active Network Abstraction.

ANA EventVision — The GUI tool in Cisco ANA that serves as a browser for viewing and retrieving detailed information about the different types of system events and tickets that are generated within the Cisco ANA system.

ANA Manage — The GUI tool in Cisco ANA that is used for performing various system administration activities for simple system control.

Active Network Abstraction — A Cisco resource management solution designed with a fully distributed OSS mediation platform which abstracts the network, its topology and its capabilities from the physical elements.

ANA NetworkVision — The GUI tool in Cisco ANA that is used by network administrators for the management, fulfillment, planning and assurance of the integrity of network resources. It provides topology and event views.

AVM — See Autonomous Virtual Machine.

Autonomous Virtual Machine — Java processes that provide the necessary distribution support platform for executing and monitoring multiple VNEs.

C

Carrier Routing System-1 — A Cisco large-scale core router for carrier networks.

Cisco Multicast Manager — A Web-based network management application that simplifies the holistic discovery, visualization, monitoring, and troubleshooting of multicast networks. Cisco Multicast Manager is applicable to multiple system operators that utilize multicast to transport video over IP.

CPU — Central Processing Unit.

CRC — See Cyclic Redundancy Check.

CRS-1 See Carrier Routing System-1.

Cyclic Redundancy Check Error-checking technique in which the frame recipient calculates a remainder by dividing frame contents by a prime binary divisor and compares the calculated remainder to a value stored in the frame by the sending node.

D

Delay Factor A time value indicating the amount of data that buffers must contain to eliminate jitter.

Desginated Router A router in a multiaccess network that is designated to originate network link advertisements and establish adjacencies with all routers in the network.

DF See Delay Factor.

Digital Storage Media - Command and Control A toolkit for developing control channels associated with MPEG-1 and MPEG-2 streams.

Digital Subscriber Line Access Multiplexer A device that connects many digital subscriber lines to a network by multiplexing the DSL traffic onto one or more network trunk lines.

Digital Video Broadcast A European standard for digital television.

DR See Designated Router.

DSLAM See Digital Subscriber Line Access Multiplexer.

DSM-CC See Digital Storage Media - Command and Control.

DVB See Digital Video Broadcast.

E

EMS See Element Management System.

Element Management System A system that manages a network of elements.

H

HDD Hard disk drive.

HFC See Hybrid Fiber-Coax.

Hybrid Fiber-Coax Technology being developed by the cable TV industry to provide two-way, high-speed data access to the home using a combination of fiber optics and traditional coaxial cable.

I

ICMP See Internet Control Message Protocol.

IGMP See Internet Group Management Protocol.

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

Internet Group Management Protocol Used by IP hosts to report their multicast group memberships to an adjacent multicast router.

Internet Protocol Television Video transport over IP.

IPTV See Internet Protocol Television.

IPTV extensions Configurations that extend the capabilities of the VNEs to include functions that are unique to the Cisco Video Assurance Management Solution. These extensions are applied to supported VNEs with an activation script.

M

Management Information Base Database of network management information that is used and maintained by a network management protocol, such as SNMP. The value of a MIB object can be changed or retrieved using SNMP commands, usually through a GUI network management system.

MDT See Multicast Distribution Tree.

Media Loss Rate The number of lost or out-of-order media packets per second.

MIB See Management Information Base.

MLR See Media Loss Rate.

Motion Picture Experts Group Standard for compressing video. MPEG1 is a bit stream standard for compressed video and audio optimized to fit into a bandwidth of 1.5 Mbps. MPEG2 is intended for higher quality video-on-demand applications and runs at data rates between 4 and 9 Mbps. MPEG4 is a low-bit-rate compression algorithm intended for 64-kbps connections.

MPEG See Motion Picture Experts Group.

MPLS See Multiprotocol Label Switching.

MVPN Multicast VPN.

Multicast Distribution Tree A distribution tree that controls the path that IP multicast traffic takes through the network to deliver traffic to all receivers. The two basic types of multicast distribution trees are source trees and shared trees.

Multiprotocol Label Switching Switching method that forwards IP traffic using a label. This label instructs the routers and the switches in the network where to forward the packets based on preestablished IP routing information.

N

NE See Network Element.

Network Element A user-named physical component or device existing in the network.

Network Time Protocol Protocol built on top of TCP that ensures accurate local time-keeping with reference to radio and atomic clocks located on the Internet. This protocol is capable of synchronizing distributed clocks within milliseconds over long time periods.

NTP See Network Time Protocol.

O

Object Identifier Values are defined in specific MIB modules. The Event MIB allows a user or an NMS to watch over specified objects and to set event triggers based on existence, threshold, and boolean tests. An event occurs when a trigger is fired; this means that a specified test on an object returns a value of true. To create a trigger, a user or an NMS configures a trigger entry in the mteTriggerTable of the Event MIB. This trigger entry specifies the OID of the object to be watched. For each trigger entry type, corresponding tables (existence, threshold, and boolean tables) are populated with the information required for carrying out the test. The MIB can be configured so that when triggers are activated (fired) either an SNMP Set is performed, a notification is sent out to the interested host, or both.

OID See Object Identifier.

P

Packet ID The ID of a packet in a transport stream.

PAT See Program Association Table.

PCR See Program Clock Reference.

PE See Provider Edge.

PID See Packet ID.

PIM See Protocol Independent Protocol.

PMT See Program Map Table.

PPS Packets per second.

Presentation Time Stamp The time stamp when a video or audio frame must be presented to the user.

Program Association Table A table that lists the PIDs that are associated with the PMTs in the transport stream.

Program Clock Reference A clock reference on a program PID that helps to present programs on time and at the right speed.

Program Map Table A table that provides information about a program on a video transport stream. The PMT lists the PIDs of the streams associated with the program.

Protocol Independent Protocol Multicast routing architecture that allows the addition of IP multicast routing on existing IP networks. PIM is unicast routing protocol independent and can be operated in two modes: dense and sparse.

Provider Edge A router at the edge of a network service provider area.

PTS See Presentation Time Stamp.

Q

QAM See Quadratrue Amplitude Modulation.

Quadrature Amplitude Modulation Method for encoding digital data in a n analog signal in which each combination of phase and amplitude represents one of sixteen four-bit patterns. Also refers to devices that encode digital cable channels for transmission over cable.

QoS See Quality of Service.

Quality of Service Measure of performance for a transmission system that reflects its transmission quality and service availability.

R

Realtime Transport Protocol IP transport protocol that provides media-specific time stamp data for real-time flows.

Rendezvous Point Router specified in PIM sparse mode implementations to track membership in multicast groups and to forward messages to known multicast group addresses.

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. Non-RPF packets, also called RPF failure packets, are RPF packets that have been transmitted backwards, against the flow from the source.

RP See Rendezvous Point.

RPF See Reverse Path Forwarding.

RTP See Realtime Transport Protocol.

S

SHE See Super Head End.

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.

SNMP See Simple Network Management Protocol.

Soft Properties Cisco ANA offers the soft properties mechanism to enable user-configurable extension of device modeling, which can cover any unsupported MIB variable. This enables adding new monitored NE properties in runtime to the default set of supported properties.

Every soft property is implemented through a set of definitions that determine how to retrieve, parse and display a certain MIB variable from the NE. The definition process is done through a simple GUI utility, and does not require system restart. Soft properties are retrieved from the NE using SNMP, or Telnet/SSH.

See also Alarm Thresholding.

Super Head End Network location for live feeds for the broadcast video service. This site contains the real-time encoders used for the broadcast video service, along with the asset distribution systems for on-demand services. This site may also contain back-office systems such as the subscriber database. The SHE typically resides in the core of the transport network.

T

TCA See Threshold Crossing Alert.

Threshold Crossing Alert A system message that alerts the operator that a provisionable threshold has been crossed.

V

VHO See Video Hub Office.

Video Hub Office Network location of the video server complex, which includes the video sources for on-demand services and real-time encoders for local television stations. A VHO typically serves a metropolitan area of between 100,000 and 1,000,000 homes.

Virtual Network Element A virtual representation of a single network element as a modeled component. VNEs all communicate with each other to present ANA-based applications with a single, common device abstraction for network element discovery, configuration, status collection, fault analysis and other basic network functions. VNEs can be extended to support new application functionality.

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.

VNE See Virtual Network Element.

VPN See Virtual Private Network

VPN routing/forwarding A VRF consists of an IP routing table, a derived forwarding table, a set of interfaces that use the forwarding table, and a set of rules and routing protocols that determine what goes into the forwarding table.

VRF See VPN routing/forwarding.

Z

ZAP See Zone Announcement Protocol.

Zone Announcement Protocol A multicast protocol for discovering the multicast administrative scope zones that are relevant at a particular location. See RFC 2776.