



GLOSSARY

A

- Access privilege** In computer security, the process of ensuring that only authorized users can access the resources of a computer system in authorized ways.
- 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** An audible or visual signal at a device, such as a display station or printer, that is used to notify the user that a predefined condition exists.
- 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** 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 EventVision** ANA EventVision is a GUI application 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. Monitoring EventVision helps predict and identify the sources of system problems, which assists in preventing future problems.
- ANA Manage** ANA Manage is a GUI tool in Cisco ANA that performs various system administration activities for simple system control.
- Active Network Abstraction** See ANA.
- ANA NetworkVision** ANA NetworkVision is the primary GUI for Cisco ANA. It is a surveillance tool providing total visibility for multi-vendor, multi-tier, multi-technology networks. It also supports fault and configuration functionality.
- ANA NetworkVision supports the creation of multiple network maps to represent specific network views. Views can cover specific network segments, customer networks, or any other mix of network elements desired. Once the maps have been created, they are available for all connecting clients (with support for fine grained access privileges).
- ASI** Asynchronous serial interface.
- Authentication** In computer security, (1) verification of the identity of a user or the user's eligibility to access an object; (2) verification that a message has not been altered or corrupted; (3) a process that is used to verify the user of an information system or of protected resources.

Authorization	In computer security, (1) the right granted to a user to communicate with or make use of a computer system; (2) the process of granting a user either complete or restricted access to an object, resource, or function.
Automation	In IBM Tivoli/OMNIBus, the ObjectServer can respond automatically to specified alerts.
Autonomous Virtual Machine	See AVM.
AVM	Autonomous Virtual Machine. Java processes that provide the necessary distribution support platform for executing and monitoring multiple VNEs.

B

back-office	The internal operations of an organization that are not accessible or visible to the general public.
back up	To copy information to another location to ensure against loss of data. Contrast with restore.

C

Carrier Routing System-1	See CRS-1
Cisco Info Center	Cisco Info Center is a service level management (SLM) system that collects enterprise-wide event information from many different network data sources and presents a simplified view of the event information to operators and administrators. Cisco Info Center is provided with the Cisco VAMS Solution, and includes the Object Server, Tivoli/Netcool Webtop, and Tivoli/Netcool Impact.
Cisco Multicast Manager	A Web-based network management application that simplifies the holistic discovery, visualization, monitoring, and troubleshooting of multicast networks. CMM is applicable to multiple system operators that use multicast to transport video over IP.
Configuration	The machines, devices, and programs that make up a system, subsystem, or network.
CPU	Central Processing Unit.
CRC	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.
CRS-1	Carrier Routing System-1. A Cisco large-scale core router for carrier networks.
Cyclic Redundancy Check	See CRC.

D

DCM	See Digital Content Manager.
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Deduplication	Deduplication (also known as record linkage) is a task of finding the same (duplicate) entry in multiple files. You use deduplication when merging two or more data sets. Deduplication is a useful tool when performing data mining tasks, where the data originated from different sources or different organizations.
Delay Factor	See DF.
Deploy	To place files or install software into an operational environment.
Designated Router	See DR.
Device	Any non-client, non-server part of a network managed by Tivoli software, including, but not limited to, cable set-top boxes and other pervasive devices.
DF	Delay Factor. A time value indicating the amount of data that buffers must contain to eliminate jitter.
Digital Content Manager	Cisco Digital Content Manager (DCM). A Cisco multiplexing appliance that allows processing of a high number of MPEG video streams and supports advanced MPEG processing functions such as content re-compression to lower bit rates, open loop statistical multiplexing, digital program insertion and scrambling.
Digital Storage Media - Command and Control	See DSM-CC.
Digital Subscriber Line Access Multiplexer	See DSLAM.
Digital Video Broadcast	See DVB.
Discovery	The automatic detection of a topology change, such as finding new and deleted nodes or links within a network topology, or such as finding storage resources and devices within a network that are not yet being monitored.
Domain	A logical grouping of resources in a network for the purpose of common management and administration.
Domain name	In the Internet suite of protocols, a name of a host system. A domain name consists of a sequence of subnames that are separated by a delimiter character. For example, Cisco.com.
DR	Designated Router. A router in a multiaccess network that designates the originate network link advertisements and establishes adjacencies with all routers in the network.
Drools rules engine	<p>Drools rules engine is a general-purpose expert-system generator and combines rule-based techniques and object-oriented programming. It also provides a customizable mechanism to add decision support and data flow control functions to business applications.</p> <p>Drools rules engine is based on an object-oriented paradigm and uses user-defined rules to perform pattern matching on different conditions. The rules are written in a Java-like syntax, and are organized into source files (known as a rule files), which are plain ASCII files.</p>
DSLAM	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.

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

DVB Digital Video Broadcast. A European standard for digital television.

ETR-290 Fire

E

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

Element Management System See EMS.

ETR-290 European Telecommunications Standards Institute Technical Report 290 (ETR-290), *Digital Video Broadcasting (DVB): Measurement Guidelines for DVB Systems* is a report produced by the European Broadcasting Union (EBU) that provides guidelines for measurements of video transmission and quality in DVB satellite, cable and terrestrial and related digital television systems, including Moving Picture Experts Group (MPEG)-2 transmission.

ETR-290 First Priority Alarms Alarms that indicate that ETSI indicators listed in Table 5.2.1 in the ETR-290 specification—First priority: necessary for de-codability (basic monitoring)—are activated. These indicators indicate that a video transport stream (TS) is not decodable. The ETR-290 First Priority alarms include:

- **TS Loss**—The first byte of a Transport Stream packet header is the synchronization byte (0x47). A TS Loss error occurs when the synchronization byte in a sequence of at least two Transport Stream packets are not detected.
- **CC Error**—Indicates a discontinuity error in the MPEG TS structure for a particular video program.
- **Sync Byte Error**—The synchronization byte in a Transport Stream packet is not detected. A Transport Stream Loss alarm is also triggered.
- **PAT Error**—Occurs when the PMT reference in the Program Association Table (PAT) for the service is missing. A Service Loss alarm is also triggered.
- **PMT Error**—Occurs when the Program Map Table (PM) for the service is not available within a particular time interval or contains errors. A Service Loss alarm is also triggered.
- **PID Error**—A Packet ID (PID) error occurs when components with PMT reference are not found within a particular time interval. A Service Loss alarm is also triggered.

Event Any significant change in the state of a system resource, network resource, or network application. An event can be generated for a problem, for the resolution of a problem, or for the successful completion of a task.

F

Field The building block of which objects are composed. A field is characterized by a field name, a data type (integer, Boolean, character string, or enumerated value), and a set of flags that describe how the field is treated. A field can contain data only when it is associated with an object.

G

Gateway In the IP community, an older term referring to a routing device. Today, the term *router* is used to describe nodes that perform this function, and *gateway* refers to a special-purpose device that performs an application layer conversion of information from one protocol stack to another.

H

HDD Hard disk drive.

Health check A report that shows the values over time of one or more metrics, which can be selected from one or more schemas, for one or more components. Typically, a health check shows time-delineated, diagnostic data that shows the fluctuation of key indicators.

Heartbeat Monitoring See IP Multicast Heartbeat Monitoring.

Host A computer that is connected to a network (such as the Internet or an Systems Network Architecture [SNA] network) and provides an access point to the network. Also, depending on the environment, the host may provide centralized control of the network. The host can be a client, a server, or both a client and a server simultaneously.

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

Hybrid Fiber-Coaxial See HFC.

I

IBM Tivoli Network Services Manager See TBSM.

iVMS IP Video Management System (iVMS) from Ineoquest Technologies has been added to CMM 2.5 to provide real-time alerts to allow for rapid fault isolation of customer impacting video events.

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.

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

Impact A component of the Cisco Info Center application, IBM/Tivoli Netcool/Impact provides a common platform for data access that circumvents organizational boundaries. In the Cisco VAMS environment, Netcool/Impact collects data from devices and applications used in the video headend and video transport network and correlates the data into events that are tailored to the IP Multicast video processing environment.

Internet Control Message Protocol See ICMP.

Internet Group Management Protocol	See IGMP.
Internet Protocol Television	See IPT.
Internet Service Monitors	See ISM.
IP Multicast Heartbeat Monitoring	Cisco routers can monitor the data plane of a multicast group and detect when that group is no longer receiving multicast packets. When the configured threshold for a heartbeat has been exceeded, the router sends an SNMP trap, which Cisco Info Center receives. This is useful to confirm that the traffic stream is active. From Tivoli Business Service Manager, you can monitor heartbeat events to confirm that the routers and switches are receiving the monitored multicast video flows.
IPTV	Internet Protocol Television. Video transport over IP.
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.
IP Video Management System	See iVMS.
IRD	Integrated receiver/decoder.
ISM	Internet Service Monitors. A collection of software components that monitors the status and performance of Internet services such as e-mail, Dynamic Host Configuration Protocol (DHCP), Domain Name Service (DNS), and Remote Authentication Dial-In User Service (RADIUS). To assist CIC users in integrating CIC with ISM, CIC includes utilities you can run after installing CIC and ISM. These utilities customize the ISM installation to function more smoothly with CIC.

J

Java EventLists	See JEL.
JEL	Java EventLists. Java EventLists use passive software probes to collect network events from a wide variety of management environments. Then, JEL distributes color-coded views (output from the Netcool/OMNIbus ObjectServer memory-resident SQL data repository) of networked services to operators who monitor service levels. When combined, the topology displays and Java EventLists are updated in real time, giving managers a collaborative network management environment.

M

Management Information Base	See MIB.
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Map	A named collection of objects, symbols, submaps, and their relationships, all of which represent the network topology. See topology.
MDT	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.
Media Loss Rate	See MLR.
MIB	Management Information Base. Network management protocol, such as SNMP, uses and maintains a database of network management information. The value of a MIB object can be changed or retrieved by using SNMP commands, usually through a GUI network management system.
MLR	Media Loss Rate. The number of lost or out-of-order media packets per second.
Motion Picture Experts Group	See MPEG.
MPEG	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 Mb/s. Intended for higher quality video-on-demand applications, MPEG2 runs at data rates between 4 and 9 Mb/s. Intended for 64-kb/s connections, MPEG4 is a low-bit-rate compression algorithm.
MPLS	Multiprotocol Label Switching. Switching method that forwards IP traffic by 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.
MTTrapd probe	The Cisco MTTrapd (Multi-Threaded) probe is the main probe used with Cisco Info Center in the Cisco VAMS environment. The MTTrapd probe monitors SNMP traps and events on both UDP and TCP sockets.
MVPN	Multicast VPN.
Multicast Distribution Tree	See MDT.
Multicast VPN	See MVPN.
Multiprotocol Label Switching	See MPLS.
<hr/>	
N	
NE	Network Element. A user-named physical component or device existing in the network.
Network Element	See NE.
Network Time Protocol	See NTP.
NTP	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 in milliseconds over long time periods.

O

Object Identifier See OID.

Object Server The Object Server is the database server at the core of Cisco Info Center, where all events are stored and managed. The Object Server consolidates events such as faults, alarms, and warning messages collected by probes from various management environments. The in-memory database is optimized to handle large volumes of events, which is essential for networks where thousands of events may arrive each second.

OID 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.

Operations Support Systems/Business Support Systems See OSS/BSS.

OSS/BSS Operations Support Systems/Business Support Systems. Operations support systems (OSS) and business support systems are a set of programs that help a communications service provider monitor, control, analyze, and manage a telephone or computer network.

P

Packet ID See PID.

Packets per second See PPS.

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

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

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

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

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

PMT 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.

Polling	(1) The process whereby stations are invited, one at a time, to transmit. The polling process usually involves the sequential interrogation of several data stations. (2) In network management, the process by which a manager interrogates one or more managed nodes at regular intervals. (3) The process by which databases are interrogated at regular intervals to determine if data needs to be transmitted.
PPS	Packets per second.
Presentation Time Stamp	See PTS.
Probe	In the Cisco Info Center architecture, a probe is an application that acquires data from network devices and forwards it to the Object Server. A probe is a non-intrusive software listener that identifies and collects SNMP MIB and non-SNMP events and data. See Mtrapped probe.
Program Association Table	See PAT.
Program Clock Reference	See PCR.
Program Map Table	See PMT.
Protocol Independent Multicast	See PIM.
Provider Edge	See PE.
Provision	To provide, deploy, and track a service or component.
Provisioning	The process of setting up and maintaining a user's access to a system.
PTS	Presentation Time Stamp. The time stamp when a video or audio frame must be presented to the user.

Q

QAM	Quadrature Amplitude Modulation. Method for encoding digital data in an 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.
Quadrature Amplitude Modulation	See QAM.
QoS	Quality of Service. Measure of performance for a transmission system that reflects its transmission quality and service availability.
Quality of Service	See QoS.

R

RDBMS Relational Database Management System. A collection of hardware and software that organizes and provides access to a relational database.

Realtime Transport Protocol See RTP.

Registry The data store that contains access and configuration information for users, systems, and software.

Relational database A database that can be perceived as a set of tables and manipulated in accordance with the relational model of data.

Relational database management system See RDBMS.

Rendezvous Point See RP.

Reverse Path Forwarding See RPF.

Root-cause analysis The process of determining the actual cause of a network problem. For example, when a device on a network cannot be reached, it might be because of a problem with the device or a problem with a network component that is used to reach that device.

ROSA EMS The ROSA EMS is a hardware and software platform that allows network operators to monitor the video headend using a Web browser client. The ROSA EMS:

- Polls the devices that it manages and reports any problems that occur as SNMP alarms.
- If configured to perform backup protection, automatically indicates predefined backup schemes that reroute signals and activate and configure standby devices within seconds of a device failure.
- Can pass alarms to the ROSA NMS.

ROSA NMS A Cisco network management system for video that runs on dedicated hardware platform with preloaded ROSA NMS software or as a client application that runs on Microsoft Windows 2000, Microsoft Windows XP, Microsoft Windows Vista, or Microsoft Windows Server 2003 and communicates with the ROSA NMS Server.

The ROSA NMS manages Telco, CATV, HFC networks, Multichannel Multipoint Distribution System (MMDS) sites, satellite uplinks, and broadcast stations in accordance with basic telecom network management principle. In the Cisco VAMS Solution, the ROSA NMS sends SNMP traps to Cisco Info Center, which are viewable using TBSM.

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

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

RTP	Realtime Transport Protocol. IP transport protocol that provides media-specific time stamp data for real-time flows.
Rule	A set of logical statements that enable the event server to recognize relationships among events and to execute automated responses accordingly. See also event.
Run time	The time period during which a computer program is executing. A run-time environment is an execution environment.

S

Schema	The set of statements, expressed in a data definition language, that completely describe the structure of a database. In a relational database, the schema defines the tables, the fields in each table, and the relationships between fields and tables.
SDI	Serial digital interface.
Secure sockets layer	See SSL.
Service provider	Any company that provides services for a fee to its customers, such as telecommunication companies, application service providers, enterprise IT, and Internet service providers (ISPs). These fee services include application provisioning, application hosting, service level agreement management, and others.
Set-top box	See STB.
SHE	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.
Simple Network Management Protocol	See SNMP.
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.
Soft Properties	<p>Cisco ANA offers the soft properties mechanism to enable user-configurable extensions of device modeling, which can cover any unsupported MIB variable. This mechanism enables adding new monitored NE properties in runtime to the default set of supported properties.</p> <p>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 by using SNMP, or Telnet/SSH.</p> <p>See also Alarm Thresholding.</p>
SSL	Secure sockets layer. A security protocol that provides communication privacy. SSL enables client/server applications to communicate in a way that is designed to prevent eavesdropping, tampering, and message forgery.

STB	Set-top box. A set-top box (STB) or set-top unit (STU) is a device that connects to a television and an external source of signal, turning the signal into content which is then displayed on the television screen.
Structured Query Language	See SQL.
SQL	<p>Structured Query Language. A database computer language designed for the retrieval and management of data in relational database management systems (RDBMS), database schema creation and modification, and database object access control management.</p> <p>SQL is a standard interactive and programming language for querying and modifying data and managing databases. Although SQL is both an ANSI and an ISO standard, many database products support SQL with proprietary extensions to the standard language. The core of SQL is formed by a command language that allows the retrieval, insertion, updating, and deletion of data, and performing management and administrative functions.</p>
Super Head End	See SHE.

T

TBSM	IBM Tivoli Business and Services Manager (TBSM) is an application that integrates the Cisco Info Center product with the IBM Tivoli/Netcool network management application and allows Tivoli to manage a Cisco Info Center installation. TBSM provides a service dashboard and visualization tool that you can use to view service trees for multicast video networks and view events sent to by TBSM the components of the Cisco VAMS Solution.
TCA	Threshold Crossing Alert. A system message that alerts the operator when a provisionable threshold has been crossed.
Threshold	A customizable value for defining the acceptable tolerance limits (maximum, minimum, or reference limit) for an application resource or system resource. When the measured value of the resource is greater than the maximum value, less than the minimum value, or equal to the reference value, an exception is raised.
Threshold Crossing Alert	See TCA.
Topology	Physical arrangement of network nodes and media within an enterprise networking structure.
Transrating	See Video Rate Shaping.

V

VHO	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.
Video Hub Office	See VHO.

Video Rate Shaping	Video rate shaping, also known as transrating, is a process that converts video to a constant bit rate while also reducing the video bit rate.
Video Switching Office	See VSO.
Virtual Network Element	See VNE.
Virtual Private Network	See VPN.
VNE	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.
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.
VPN routing/forwarding	See VRF.
VRF	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.
VSO	Video Switching Office. VSOs house aggregation routers that aggregate traffic from subscriber homes.

W

Webtop	Netcool/Webtop is a Web-based application that processes network events from one or more data sources and presents the event data to users in various graphical formats. Netcool/Webtop allows Network Operations Centre (NOC) operators to monitor their business environment in real-time. Netcool Webtop is included with the Cisco Info Center component of Cisco VAMS 2.0.
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Z

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

