

**V.24**

ITU-T standard for a physical layer interface between DTE and DCE. V.24 is essentially the same as the EIA/TIA-232 standard. See also *EIA/TIA-232*.

V.25bis

ITU-T specification describing procedures for call setup and tear down over the DTE-DCE interface in a PSDN.

V.32

ITU-T standard serial line protocol for bidirectional data transmissions at speeds of 4.8 or 9.6 kbps. See also *V.32bis*.

V.32bis

ITU-T standard that extends V.32 to speeds up to 14.4 kbps. See also *V.32*.

V.34

ITU-T standard that specifies a serial line protocol. V.34 offers improvements to the V.32 standard, including higher transmission rates (28.8 kbps) and enhanced data compression. Compare with *V.32*.

V.35

ITU-T standard describing a synchronous, physical layer protocol used for communications between a network access device and a packet network. V.35 is most commonly used in the United States and in Europe, and is recommended for speeds up to 48 kbps.

V.42

ITU-T standard protocol for error correction using LAPM. See also *LAPM*.

VAC

volts alternating current.

VAD

voice activity detection. When enabled on a voice port or a dial peer, silence is not transmitted over the network, only audible speech. When VAD is enabled, the sound quality is slightly degraded but the connection monopolizes much less bandwidth.

valid certificate

Digital certificate for which the binding of the data items can be trusted; one that can be validated successfully.

VAN

value-added network. Computer network or subnetwork (which is usually a commercial enterprise) that transmits, receives, and stores EDI transactions on behalf of its customers.

variable bit rate

See *VBR*.

VBR

variable bit rate. QoS class defined by the ATM Forum for ATM networks. VBR is subdivided into a real time (RT) class and non-real time (NRT) class. VBR (RT) is used for connections in which there is a fixed timing relationship between samples. VBR (NRT) is used for connections in which there is no fixed timing relationship between samples but that still need a guaranteed QoS. Compare with *ABR*, *CBR*, and *UBR*.

VCA

Virtual Communications Address. The standard and extended programming APIs for the Cisco VCO/4K product use a byte message scheme to facilitate communications between a controlling host application and the VCO/4K. Both source and destination VCA bytes are used to label and track communications between VCO/4K systems and host applications.

VCC

virtual channel connection. Logical circuit, made up of VCLs, that carries data between two end points in an ATM network. Sometimes called a *virtual circuit connection*. See also *VCD*, *VCL*, and *VPI*.

VCD

virtual circuit descriptor.

VCI

virtual channel identifier. 16-bit field in the header of an ATM cell. The VCI, together with the VPI, is used to identify the next destination of a cell as it passes through a series of ATM switches on its way to its destination. ATM switches use the VPI/VCI fields to identify the next network VCL that a cell needs to transit on its way to its final destination. The function of the VCI is similar to that of the DLCI in Frame Relay. Compare with *DLCI*. See also *VCL* and *VPI*.

VCL

virtual channel link. Connection between two ATM devices. A VCC is made up of one or more VCLs. See also *VCC*.

VCN

virtual circuit number. 12-bit field in an X.25 PLP header that identifies an X.25 virtual circuit. Allows DCE to determine how to route a packet through the X.25 network. See also *LCI* and *LCN*.

VCO

Virtual Central Office. VCO represents the Cisco VCO/4K product, an open, host-controlled, telephony switch capable of providing a wide range of enhanced services in the telecommunications market.

VDC

volts direct current.

VDSL

very-high-data-rate digital subscriber line. One of four DSL technologies. VDSL delivers 13 to 52 Mbps downstream and 1.5 to 2.3 Mbps upstream over a single twisted copper pair. The operating range of VDSL is limited to 1,000 to 4,500 feet (304.8 to 1,372 meters). Compare with *ADSL*, *HDSL*, and *SDSL*.

vector

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

Veronica

very easy rodent oriented netwide index to computer archives. Gopher utility that effectively searches Gopher servers based on a user's list of keywords.

Versatile Interface Processor

See *VIP* in the "Cisco Systems Terms and Acronyms" section.

VF

variance factor. One of three link attributes exchanged using PTSPs to determine the available resources of an ATM network. VF is a relative measure of CRM normalized by the variance of the aggregate cell rate on the link.

VIC

Voice interface card. Connects the system to either the PSTN or to a PBX. Compare with *WIC*. See also *PBX* and *PSTN*.

VID

VLAN ID. The identification of the VLAN, which is used by the standard 802.1Q. Being on 12 bits, it allows the identification of 4096 VLANs.

VINES

Virtual Integrated Network Service. NOS developed and marketed by Banyan Systems.

VIP

See *VIP* in the "Cisco Systems Terms and Acronyms" section.

virtual access interface

Instance of a unique virtual interface that is created dynamically and exists temporarily. Virtual access interfaces can be created and configured differently by different applications, such as virtual profiles and virtual private dialup networks. Virtual access interfaces are cloned from virtual template interfaces.

virtual address

See *network address*.

virtual channel

See *virtual circuit*.

virtual circuit

Logical circuit created to ensure reliable communication between two network devices. A virtual circuit is defined by a VPI/VCI pair, and can be either permanent (PVC) or switched (SVC). Virtual circuits are used in Frame Relay and X.25. In ATM, a virtual circuit is called a *virtual channel*. Sometimes abbreviated *VC*. See also *PVC*, *SVC*, *VCD*, *virtual route*, and *VPI*.

virtual connection

In ATM, a connection between end users that has a defined route and endpoints. See also *PVC* and *SVC*.

virtual IP

See *VIP* in the "Cisco Systems Terms and Acronyms" section.

Virtual Networking Services

See *Virtual Networking Services* in the "Cisco Systems Terms and Acronyms" section.

virtual path

Logical grouping of virtual circuits that connect two sites. See also *virtual circuit*.

virtual ring

Entity in an SRB network that logically connects two or more physical rings together either locally or remotely. The concept of virtual rings can be expanded across router boundaries.

virtual route

In SNA, a logical connection between subarea nodes that is physically realized as a particular explicit route. SNA terminology for *virtual circuit*. See also *virtual circuit*.

virtual subnet

Logical grouping of devices that share a common Layer 3 subnet.

virtual template interface

A logical interface configured with generic configuration information for a specific purpose or configuration common to specific users, plus router-dependent information. The template takes the form of a list of Cisco IOS interface commands that are applied to virtual access interfaces, as needed.

virtual trunk

A portion of a physical interface that has the following characteristics: address space containing only one VPI and all VCIs underneath, bandwidth that is rate limited by hardware (VI), and ownership by a controller that uses it to interface to another peer controller.

virtualization

Process of implementing a network based on virtual network segments. Devices are connected to virtual segments independent of their physical location and their physical connection to the network.

virus

Hidden, self-replicating section of computer software, usually malicious logic, that propagates by infecting—that is, inserting a copy of itself into and becoming part of—another program. A virus cannot run by itself; it requires that its host program be run to make the virus active.

VLAN

virtual 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.

VLI

virtual LAN internetwork. Internetwork composed of VLANs. See also *VLAN*.

VLR

visitor location register. A database that contains temporary information about subscribers who roam into an area controlled by another MSC. The VLR communicates with the HLR of the subscriber to request data about that subscriber.

VLSM

variable-length subnet mask. Capability to specify a different subnet mask for the same network number on different subnets. VLSM can help optimize available address space.

VMAC

Virtual Media Access Control.

VNS

See *Virtual Networking Services* in the “Cisco Systems Terms and Acronyms” section.

VoATM

Voice over ATM. Voice over ATM enables a router to carry voice traffic (for example, telephone calls and faxes) over an ATM network. When sending voice traffic over ATM, the voice traffic is encapsulated using a special AAL5 encapsulation for multiplexed voice.

VoATM dial peer

Dial peer connected via an ATM network. VoATM peers point to specific VoATM devices.

VoD

video on demand. System using video compression to supply video programs to viewers when requested via ISDN or cable.

VoFR

Voice over Frame Relay. VoFR enables a router to carry voice traffic (for example, telephone calls and faxes) over a Frame Relay network. When sending voice traffic over Frame Relay, the voice traffic is segmented and encapsulated for transit across the Frame Relay network using FRF.12 encapsulation.

VoFR dial peer

Dial peer connected via a Frame Relay network. VoFR peers point to specific VoFR devices.

VoHDL

Voice over HDLC. Voice over HDLC enables a router to carry live voice traffic (for example, telephone calls and faxes) back-to-back to a second router over a serial line.

VoHDL dial peer

Dial peer connected via an HDLC network. VoHDL peers point to specific VoHDL devices.

Voice interface card

See *VIC*.

Voice over Frame Relay

Voice over Frame Relay enables a router to carry voice traffic (for example, telephone calls and faxes) over a Frame Relay network. When sending voice traffic over Frame Relay, the voice traffic is segmented and encapsulated for transit across the Frame Relay network using FRF.12 encapsulation.

Voice over IP

See *VoIP*.

VoIP

Voice over IP. The capability to carry normal telephony-style voice over an IP-based internet with POTS-like functionality, reliability, and voice quality. VoIP enables a router to carry voice traffic (for example, telephone calls and faxes) over an IP network. In VoIP, the DSP segments the voice signal into frames, which then are coupled in groups of two and stored in voice packets. These voice packets are transported using IP in compliance with ITU-T specification H.323.

VoIP dial peer

Dial peer connected via a packet network; in the case of Voice over IP, this is an IP network. VoIP peers point to specific VoIP devices.

VP

virtual path. One of two types of ATM circuits identified by a VPI. A virtual path is a bundle of virtual channels, all of which are switched transparently across an ATM network based on a common VPI. See also *VPI*.

VPC

virtual path connection. Grouping of VCCs that share one or more contiguous VPL. See also *VCC* and *VPL*.

VPDN

virtual private dial-up network. Also known as virtual private dial network. A VPDN is a network that extends remote access to a private network using a shared infrastructure. VPDNs use Layer 2 tunnel technologies (L2F, L2TP, and PPTP) to extend the Layer 2 and higher parts of the network connection from a remote user across an ISP network to a private network. VPDNs are a cost effective method of establishing a long distance, point-to-point connection between remote dial users and a private network. See also *VPN*.

VPI

virtual path identifier. 8-bit field in the header of an ATM cell. The VPI, together with the VCI, identifies the next destination of a cell as it passes through a series of ATM switches on its way to its destination. ATM switches use the VPI/VCI fields to identify the next VCL that a cell needs to transit on its way to its final destination. The function of the VPI is similar to that of the DLCI in Frame Relay. Compare with *DLCI*. See also *VCD* and *VCL*.

VPI/VCI

See *VCI* and *VPI*.

VPL

virtual path link. Within a virtual path, a group of unidirectional VCLs with the same end points. Grouping VCLs into VPLs reduces the number of connections to be managed, thereby decreasing network control overhead and cost. A VPC is made up of one or more VPLs.

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.

VRF

A VPN routing/forwarding instance. 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. In general, a VRF includes the routing information that defines a customer VPN site that is attached to a PE router.

VRML

Virtual Reality Modeling Language. Specification for displaying three-dimensional objects on the World Wide Web. Think of it as the 3-D equivalent of HTML.

VS/VD

virtual source/virtual destination.

VSA

vendor-specific attribute. An attribute that has been implemented by a particular vendor. It uses the attribute Vendor-Specific to encapsulate the resulting AV pair: essentially, Vendor-Specific = protocol:attribute = value.

VSC

See *VSC* in the “Cisco Systems Terms and Acronyms” section.

VSI

Virtual Switch Interface.

VSI master

A VSI master process implementing the master side of the VSI protocol in a VSI controller. Sometimes the whole VSI controller might be referred to as a VSI Master but this is not strictly correct.

1. A device that controls a VSI switch, for example, a VSI label switch controller.
2. A process implementing the master side of the VSI protocol.

VSPT

Voice Services Provisioning Tool. Provides end-to-end configuration for IP, trunk groups, trunks, routes, and dial plans for VSC3000 and VISM. Also known as Dart.

VTAM

virtual telecommunications access method. Set of programs that control communication between LUs. VTAM controls data transmission between channel-attached devices and performs routing functions. See also *LU*.

VT-n

Virtual Tributary level *n*. SONET format for mapping a lower-rate signal into a SONET payload. For example, VT-1.5 is used to transport a DS-1 signal. See also *DS-1* and *SONET*.

VTP

Virtual Terminal Protocol. ISO application for establishing a virtual terminal connection across a network.

vtty

virtual type terminal. Commonly used as virtual terminal lines.

VWP

virtual wavelength path. A VWP is a group of one or more channels between source and destination nodes. The term *virtual* indicates that the signal path can actually travel on different physical wavelengths throughout the network. All channels of the VWP transit the same path through the network.

