GLOSSARY

APPENDIX
B

In This Appendix...

Glossary of Terms

802.1p: The IEEE standard that specifies QoS

802.1q: The IEEE standard that specifies VLANs

BPDU: Bridge Protocol Data unit

Broadcast: Communicating one-to-all

CA: Certificate Authority

CIDR: Classless inter-domain routing

CLI: command line interface

CoS: IEEE 802.1p Class of Service

CRC: Cyclic redundancy check

Default gateway: The node on the computer network that the network software uses when an IP address does not match any other routes in the routing table.

DHCP: Dynamic Host Control Protocol

DiffServ: Differentiated Services – class based network traffic management

DNS: Domain Name System

DNS server: Resolves domain names and host names into IP addresses

FCS: Frame check sequence

Frame: A single unit of data received and transmitted by a switch

FTP: File Transfer Protocol

IGMP: Internet Group Management Protocol

IKE: Internet Key Exchange, a protocol in IPSec, results in a Security Association between two devices that will communicate over IP

IKE policy: The parameters that will be allow communication between two devices

IP: Internet Protocol

IP address (IPv4): A 32 bit number assigned to each device on a network communicating via IP version 4. Typically written in dotted-decimal notation, e.g. 192.168.0.1

IP address (IPv6): A 128 bit number assigned to each device on a network communicating via IP version 6. Typically written in hexadecimal notation, e.g. fe80:0000:0000:0000:2a0:1dff:fe51:f5da

IPSec: A group of protocols to provide security for IP communications, including authentication and encryption at the packet level

IPv4: Internet Protocol version 4

IPv6: Internet Protocol version 6

Jabber: A frame greater than the Ethernet maximum 1518 bytes with a bad CRC. Jabber is often cause by a failing NIC.

LAN: Local area network

MAC address: Media Access Control address - hardware identifier

Modbus/TCP: A Modbus protocol over Ethernet

MSTI: Multiple Spanning Tree Instance, sometimes written "MST instance"

MSTP: Multiple Spanning Tree Protocol

Multicast: communicating one-to-many

NIC: Network Interface Card

NTP: Network Time Protocol

Octet: Eight bits

Packet: A single unit of data received and transmitted by a router

PVID: Per-VLAN identifier

QoS: Quality of Service

Real-time ring: Proprietary redundancy protocol

RMON: Remote network monitoring

Root bridge: In STP and RSTP, bridge with the smallest Bridge ID

Root port: The port on a switch facing the root bridge.

RSA: The RSA fingerprint for the managed Switch's encryption key is: 1e:0f:31:39:26:3f:23: 8c:ba:7e:e9:d1:56:ff:98:f6

RSTP: Rapid Spanning Tree Protocol

> **RSTP terms:**

  • **Discarding** = In this state, station location information is not added to the Filtering Database (MAC table) because any changes in port role will make the Filtering Database information inaccurate.

  • **Learnin**g = In this state, information is being added to the Filtering Database under the assumption that the port role is not changing. Gathering information before frame relay (forwarding state) will reduce the number of frames sent out when entering the forwarding state.

  • **Forwarding** = Frames will be forwarded to and from the particular port that is in the forwarding state. In addition, during the forwarding state, the learning process is still incorporating station information

RSTP recovery time: Time to start forwarding messages on the backup port.

SAD: Security association database

SFP: Small form-factor pluggable

SNMP: Simple Network Management Protocol

SPD: Security policy database

SQE: Signal Quality Error

SSH: Secure Shell protocol

STP: Spanning Tree Protocol

STP terms:

• **Blocking** = A port in this state does not participate in frame relay (pass frames received to other locations). Once a port is in this state, it is prevented from the possibility of frame duplication causes by multiple paths in an active topology.

• **Listening** = A port in this state is about to participate in frame relay, but is not involved in any relay of frames (no frames will be forwarded). The reason for not entering frame relay immediately is to ensure that there are no temporary loops introduced when the network topology is changing. During this state, the bridge will disable all learning states on its ports to prevent the race conditions when ports are changing roles and the forwarding process will discard all frames and not submit any frames for transmission. Meanwhile BPDUs can still be received and forwarded to keep the algorithm running.

• **Learning** = A port in this state is about to participate in frame relay, but it is not involved in any relay of frames. Frame relays are not performed to prevent the creation of temporary loops during the active topology of a changing bridged LAN. In addition, the forwarding process will discard all frames and not submit any frames for transmission. The reason for enabling learning is to acquire information prior to any frame relay activities. Information gathered will be used and placed in the filtering database (MAC table) to reduce the number of frames being unnecessarily relayed.

• **Forwarding** = A port in the forwarding state is currently participating in frame relay. BPDUs will include the forwarding port in the computation of the active topology. BPDUs received are processed according to the Spanning Tree algorithm and transmitted based on the hello time or BPDU information received.

Subnet mask: A number representing the digits that identify the network portion of an IP address that includes network and host identification.

TCP: Transmission Control Protocol

Telnet: Means of accessing the CLI

TFTP: Trivial File Transfer Protocol

TOS: Type of Service

UDP: User Datagram Protocol

VLAN: Virtual Local Area Network