Cisco-Proprietary Protocols and Open Standard Alternatives

Here is a comprehensive list of Cisco-proprietary protocols and their open-standard equivalents.

1. Routing Protocols

Cisco-Proprietary Protocol: EIGRP (Enhanced Interior Gateway Routing Protocol)

Open Standard Alternative: OSPF (Open Shortest Path First), IS-IS (Intermediate System to Intermediate System)

Description: EIGRP is a hybrid routing protocol optimized for Cisco devices, while OSPF and IS-IS are open standard link-state protocols.

Cisco-Proprietary Protocol: IGRP (Interior Gateway Routing Protocol) [Obsolete]

Open Standard Alternative: RIP (Routing Information Protocol)

Description: IGRP is an older Cisco protocol replaced by EIGRP, while RIP is a basic distance-vector protocol.

2. Switching Protocols

Cisco-Proprietary Protocol: PVST (Per VLAN Spanning Tree)

Open Standard Alternative: RSTP (Rapid Spanning Tree Protocol), MST (Multiple Spanning Tree)

Description: PVST runs a separate spanning tree instance per VLAN, whereas RSTP and MST are open standards.

Cisco-Proprietary Protocol: DTP (Dynamic Trunking Protocol)

Open Standard Alternative: No direct open standard (Manual configuration of trunks is used)

Description: DTP automates the creation of trunk links but is Cisco-specific. Open standards require manual trunk configuration.

3. VLAN Protocols

Cisco-Proprietary Protocol: VTP (VLAN Trunking Protocol)

Open Standard Alternative: Manual VLAN Configuration

Description: VTP is used to propagate VLAN information across Cisco switches, but it has no open standard equivalent.

4. High-Availability Protocols

Cisco-Proprietary Protocol: HSRP (Hot Standby Router Protocol)

Open Standard Alternative: VRRP (Virtual Router Redundancy Protocol)

Description: HSRP is used for redundancy between routers in Cisco networks, while VRRP is the open standard.

Cisco-Proprietary Protocol: GLBP (Gateway Load Balancing Protocol)

Open Standard Alternative: No direct open standard

Description: GLBP provides redundancy and load balancing; no exact open standard equivalent exists.

5. Security Protocols

Cisco-Proprietary Protocol: Cisco IPsec with DMVPN (Dynamic Multipoint VPN)

Open Standard Alternative: Generic IPsec

Description: Cisco's DMVPN is an enhancement to IPsec for dynamic tunnel creation; generic IPsec

is the open standard.

Cisco-Proprietary Protocol: Cisco TrustSec (CTS)

Open Standard Alternative: 802.1X with RADIUS

Description: TrustSec provides identity-based security, while 802.1X is a standard for port-based network access control.

6. Network Management Protocols

Cisco-Proprietary Protocol: NetFlow

Open Standard Alternative: sFlow, IPFIX (Internet Protocol Flow Information Export)

Description: NetFlow provides traffic flow monitoring, while sFlow and IPFIX are open alternatives.

Cisco-Proprietary Protocol: Cisco Discovery Protocol (CDP)

Open Standard Alternative: LLDP (Link Layer Discovery Protocol)

Description: CDP is a device discovery protocol for Cisco devices, while LLDP is the open standard.

7. QoS (Quality of Service)

Cisco-Proprietary Protocol: Cisco QoS with AutoQoS

Open Standard Alternative: DiffServ (Differentiated Services)

Description: Cisco's QoS tools provide enhanced traffic management features; DiffServ is the open standard.

8. Wireless Protocols

Cisco-Proprietary Protocol: LWAPP (Lightweight Access Point Protocol)

Open Standard Alternative: CAPWAP (Control and Provisioning of Wireless Access Points)

Description: LWAPP was Cisco-specific; CAPWAP is the open standard for managing APs.

Summary:

Cisco proprietary protocols often offer enhanced functionality or integration with Cisco devices, but open standards are typically used in multi-vendor environments. Network engineers are encouraged to use open standards to ensure interoperability and vendor neutrality.