Cisco Network Switches Manual

Virtual private network

Virtual Private Network". Cisco. Archived from the original on 31 December 2021. Retrieved 5 September 2021. Mason, Andrew G. (2002). Cisco Secure Virtual

Virtual private network (VPN) is a network architecture for virtually extending a private network (i.e. any computer network which is not the public Internet) across one or multiple other networks which are either untrusted (as they are not controlled by the entity aiming to implement the VPN) or need to be isolated (thus making the lower network invisible or not directly usable).

Cisco Catalyst 6500

The Cisco Catalyst 6500 is a modular chassis network switch manufactured by Cisco Systems from 1999 to 2015, capable of delivering speeds of up to "400

The Cisco Catalyst 6500 is a modular chassis network switch manufactured by Cisco Systems from 1999 to 2015, capable of delivering speeds of up to "400 million packets per second".

Systems Network Architecture

alternatives to their 37XX-based networks, IBM partnered with Cisco in the mid-1990s and together they developed Data Link Switching, or DLSw. DLSw encapsulates

Systems Network Architecture (SNA) is IBM's proprietary networking architecture, created in 1974. It is a complete protocol stack for interconnecting computers and their resources. SNA describes formats and protocols but, in itself, is not a piece of software. The implementation of SNA takes the form of various communications packages, most notably Virtual Telecommunications Access Method (VTAM), the mainframe software package for SNA communications.

The most familiar type of IP routers are home and small office routers that forward IP packets between the home computers...

Static routing

Fundamentals | Cisco Press". www.ciscopress.com. Retrieved 2024-12-18. "IP Routing Configuration Guide, Cisco IOS XE 17.16.x (Catalyst 9500 Switches)

Configuring - Static routing describes a process by which routing is configured with fixed values that do not change at runtime unless manually edited. Static routes are used with and without dynamic routing protocols and usually share the same routing table as those protocols. Routes require at least two attributes; the destination and the gateway, but may contain additional attributes such as a metric (sometimes called the administrative distance). Some implementations treat the network address and subnet mask as separate values, however in practice both of the values have to be considered for any given routing decision to determine the longest prefix match. Static routes together with connected routes and routes from configuration protocols such as DHCP or Router Advertisements provide the routes which...

Flow exporter: aggregates packets into flows and exports flow records towards one or more flow collectors.

Flow collector: responsible for reception, storage and pre-processing of flow data received from a flow exporter.

Routers perform the "traffic directing" functions on the Internet. A router is connected to two or more data lines from different IP networks. When a data packet comes in on a line, the router reads the network address information in the packet header to determine the ultimate destination. Then, using information in its routing table or routing policy, it directs the packet to the next network on its journey. Data packets are forwarded from one router to another through an internetwork until it reaches its destination node.

XNS was developed by the Xerox Systems Development Department in the early 1980s, who were charged with bringing Xerox PARC's research to market. XNS was based on the earlier (and equally influential) PARC Universal Packet (PUP) suite from the late 1970s. Some of the protocols in the XNS suite were lightly modified...

Virtual Extensible LAN

originally created by VMware, Arista Networks and Cisco. VXLAN is widely, but not universally, implemented in commercial networking equipment. Several open-source

Virtual eXtensible LAN (VXLAN) is a network virtualization technology that uses a VLAN-like encapsulation technique to encapsulate OSI layer 2 Ethernet frames within layer 4 UDP datagrams, using 4789 as the default IANA-assigned destination UDP port number, although many implementations that predate the IANA assignment use port 8472. VXLAN attempts to address the scalability problems associated with large cloud computing deployments. VXLAN endpoints, which terminate VXLAN tunnels and may be either virtual or physical switch ports, are known as VXLAN tunnel endpoints (VTEPs).

EtherChannel

aggregation technology or port-channel architecture used primarily on Cisco switches. It allows grouping of several physical Ethernet links to create one

EtherChannel is a port link aggregation technology or port-channel architecture used primarily on Cisco switches. It allows grouping of several physical Ethernet links to create one logical Ethernet link for the purpose of providing fault-tolerance and high-speed links between switches, routers and servers. An EtherChannel can be created from between two and eight active Fast, Gigabit or 10-Gigabit Ethernet ports, with an additional one to eight inactive (failover) ports which become active as the other active ports fail. EtherChannel is primarily used in the backbone network, but can also be used to connect end user machines.

EtherChannel technology was invented by Kalpana in the early 1990s. Kalpana was acquired by Cisco Systems in 1994. In 2000, the IEEE passed 802.3ad, which is an open...

It is possible to make a VPN secure to use on top of insecure communication medium (such as the public internet) by...

VLAN

Inter-Switch Link (ISL) is a Cisco proprietary protocol used to interconnect switches and maintain VLAN information as traffic travels between switches on

A virtual local area network (VLAN) is any broadcast domain that is partitioned and isolated in a computer network at the data link layer (OSI layer 2). In this context, virtual refers to a physical object recreated and altered by additional logic, within the local area network. Basically, a VLAN behaves like a virtual switch or network link that can share the same physical structure with other VLANs while staying logically separate from them. VLANs work by applying tags to network frames and handling these tags in networking systems, in effect creating the appearance and functionality of network traffic that, while on a single physical network, behaves as if it were split between separate networks. In this way, VLANs can keep network applications separate despite being connected to the same...

A 6500 comprises a chassis, power supplies, one or two supervisors, line cards, and service modules. A chassis can have 3, 4, 6, 9, or 13 slots each (Catalyst model 6503, 6504, 6506, 6509, or 6513, respectively) with the option of one or two modular power supplies. The supervisor engine provides centralised forwarding information and processing; up to two of these cards can be installed in a chassis to provide active/standby or stateful failover. The line cards provide port connectivity and service modules to allow for devices such as firewalls to be integrated within the switch.

Router (computing)

"Hierarchical Network Design Overview (1.1) > Cisco Networking Academy Connecting Networks Companion Guide: Hierarchical Network Design | Cisco Press". www

A router is a computer and networking device that forwards data packets between computer networks, including internetworks such as the global Internet.

Analysis application: analyzes received flow data in the context of intrusion detection or traffic profiling, for example.

NetFlow

NetFlow is a feature that was introduced on Cisco routers around 1996 that provides the ability to collect IP network traffic as it enters or exits an interface

NetFlow is a feature that was introduced on Cisco routers around 1996 that provides the ability to collect IP network traffic as it enters or exits an interface. By analyzing the data provided by NetFlow, a network administrator can determine things such as the source and destination traffic, class of service, and the causes of congestion. A typical flow monitoring setup (using NetFlow) consists of three main components:

Xerox Network Systems

Layer 3 Differentiates System Software". InfoWorld: 15. cisco. "Xerox Network Systems". cisco.com. Archived from the original on 2014-10-17. Retrieved

Xerox Network Systems (XNS) is a computer networking protocol suite developed by Xerox within the Xerox Network Systems Architecture. It provided general purpose network communications, internetwork routing and packet delivery, and higher level functions such as a reliable stream, and remote procedure calls. XNS predated and influenced the development of the Open Systems Interconnection (OSI) networking model, and was very influential in local area networking designs during the 1980s.

A VPN can extend access to a private network to users who do not have direct access to it, such as an office network allowing secure access from off-site over the Internet. This is achieved by creating a link between computing devices and computer networks by the use of network tunneling protocols.

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