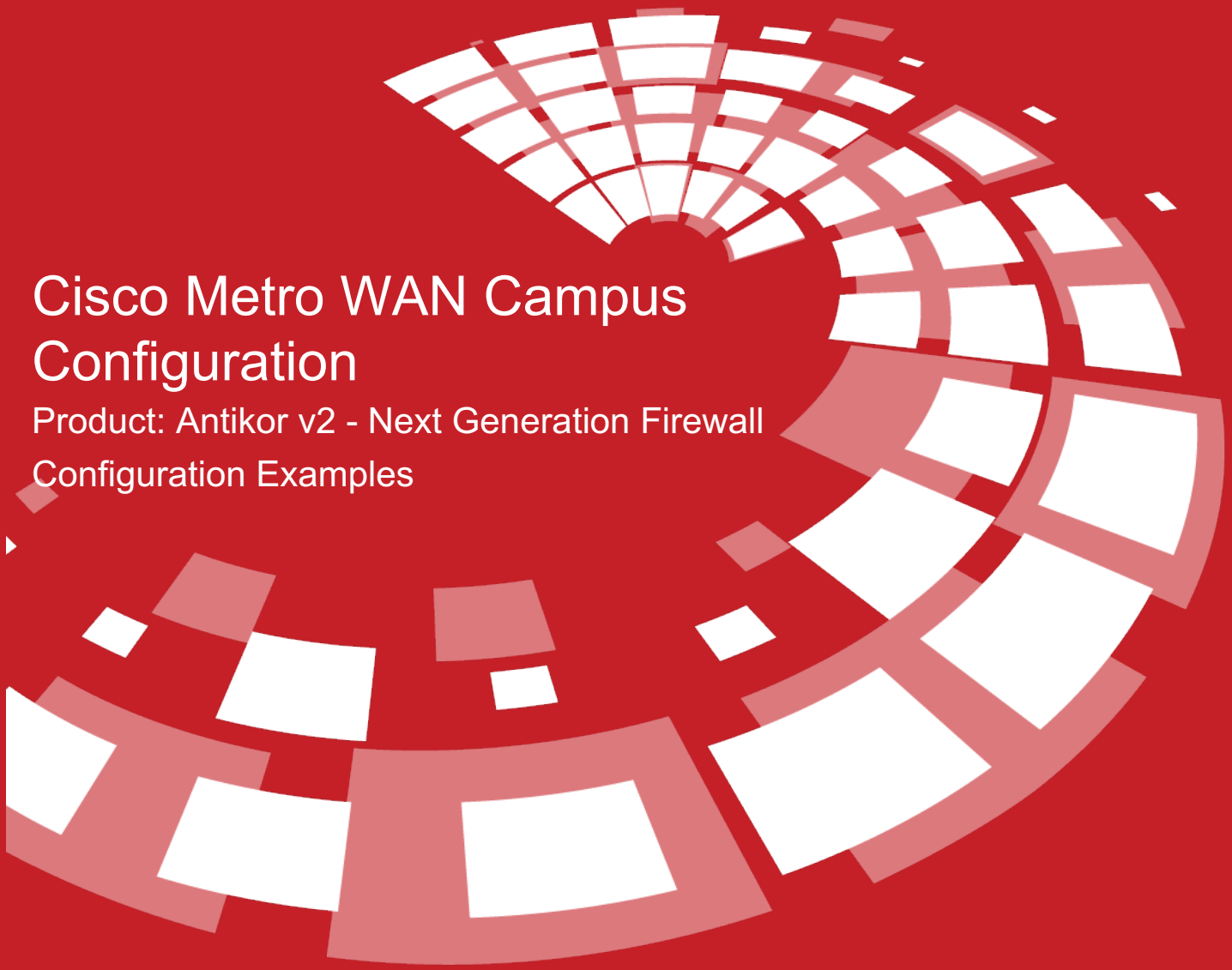
epati

Cisco Metro WAN Campus Configuration

Product: Antikor v2 - Next Generation Firewall

Configuration Examples



www.epati.com.tr

Cisco Metro WAN Campus Configuration

Summary

In the configuration example, there is a remote site connected to the center via the point-to-point MPLS VPN structure provided by the service provider (Ulaknet).
The configuration of the backbone switch and remote campus switch will be described in order for this campus network to be able to receive service from the central Antikor Firewall when it is online.

Prior Knowledge

MPLS (Multi Protocol Label Switching):
It can be described as switching in OSI 2nd layer and integrating routing in OSI 3rd layer. MPLS technology performs routing operations faster.

Metro Ethernet MPLS can be configured in two ways:

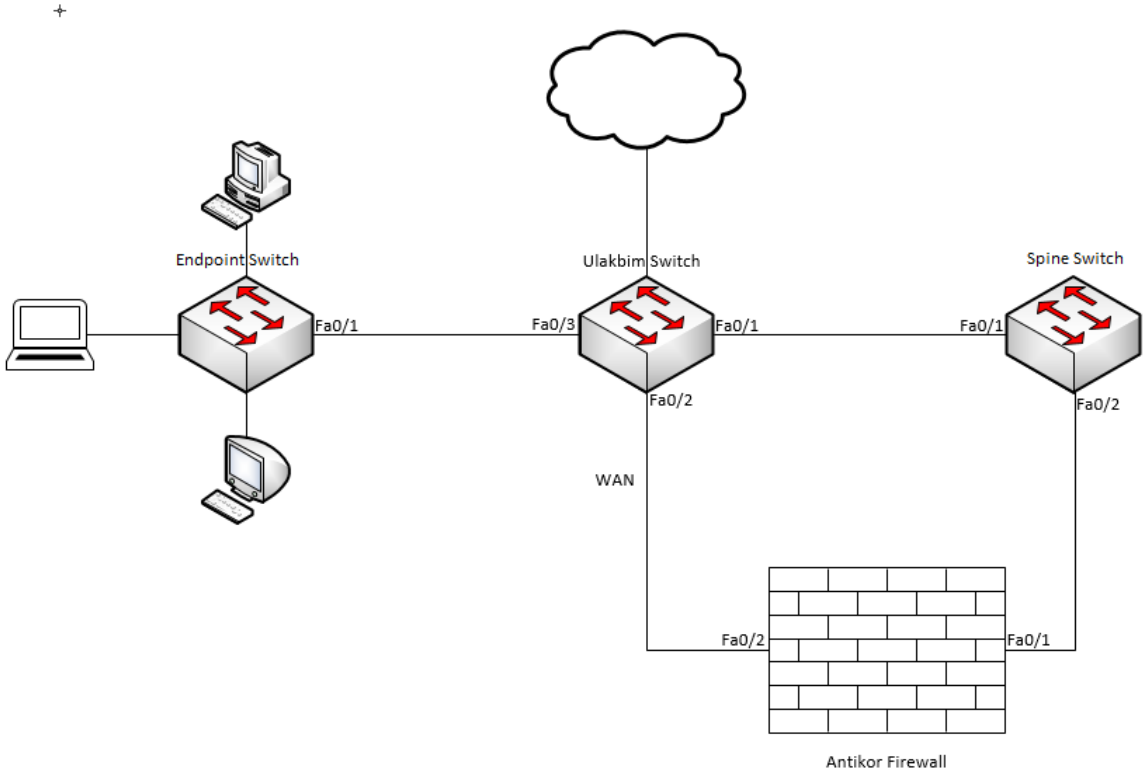
Virtual Lease Line(VLL):
Metro ethernet is the structure that provides point-to-point connection to each ID via the MPLS network.

Virtual Private LAN Service(VPLS):
Metro Ethernet is a structure that provides multi-point to multi-point communication over the MPLS network.

VPLS allows remote locations to share the same broadcast domains.

Thanks to the Metro Ethernet structure, the service provider can differentiate its customers' networks with VPN(Virtual Private Network).
In such a structure, the Ethernet switches on the receiving side must have 802.1q VLAN support and must have a fiberoptic port suitable for receiving the service of the service provider.

Network Topology



Configuration

Ulakbim configurations on the Metro Ethernet Switch comes ready to service. It is shown as an example.

Ulakbim Switch

```
!
hostname Ulakbim
!
interface FastEthernet0/1
 desciption campuses_uplink
 switchport trunk allowed vlan 100,200(We are entering the extreme points we want to move. Th
e is no limit.)
!
interface FastEthernet0/2
 description university_wan_port
 switchport mode acces
 switchport access vlan 10
!
interface FastEthernet0/3
 description endpoint
 switchport access vlan 200
!
interface Vlan1
 no ip address
 shutdown
!
interface Vlan10
 mac-address 00d0.bcaa.9e01
 ip address 172.168.2.1 255.255.255.0
!
end
```

Spine Switch

```
!
hostname Spine
!
ip routing
!
spanning-tree mode pvst
!
interface FastEthernet0/1
 description ulakbim_port
 switchport trunk allowed vlan 100,200
 switchport trunk encapsulation dot1q
 switchport mode trunk
!
interface FastEthernet0/2
 description antikor_port
 switchport trunk allowed vlan 100,200-201
 switchport trunk encapsulation dot1q
 switchport mode trunk
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
interface Vlan100
 mac-address 0001.43ee.0b01
 ip address 192.168.2.1 255.255.255.0
!
interface Vlan200
 mac-address 0001.43ee.0b02
 ip address 10.2.1.1 255.255.255.0
!
interface Vlan201
 description omurga_antikor
 mac-address 0001.43ee.0b03
 ip address 192.168.201.1 255.255.255.0
!
ip classless
ip route 0.0.0.0 0.0.0.0 192.168.2.2 (From Spine Switch to Antikor it is made forwarded.)
!
end
```

End-Point Switch

Note:Depending on demand, more endpoints can be carried as many times as desired.

```
!
hostname Switch
!
ip routing
!
interface FastEthernet0/1
 switchport access vlan 200
!
interface FastEthernet0/2
 switchport access vlan 200
!
interface Vlan1
 no ip address
 shutdown
!
interface Vlan200
 mac-address 0060.3e63.b301
 ip address 10.2.1.2 255.255.255.0
!
ip classless
ip route 0.0.0.0 0.0.0.0 10.2.1.1
!
end
```

Antikor

```
The necessary VLANs and Routing it is made on the Antikor side.
```

Testing

The ping test between Antikor and End Point was successful for two ways.

Troubleshooting

Executing Command	Error Message	Solution Proposal
`ping 10.2.1.2`	— Ping statistics for 10.0.0.1 — 5 packets transmitted, 0 packets received, 100.0% packet loss	Check the status of the ports.
		Review VLAN settings.