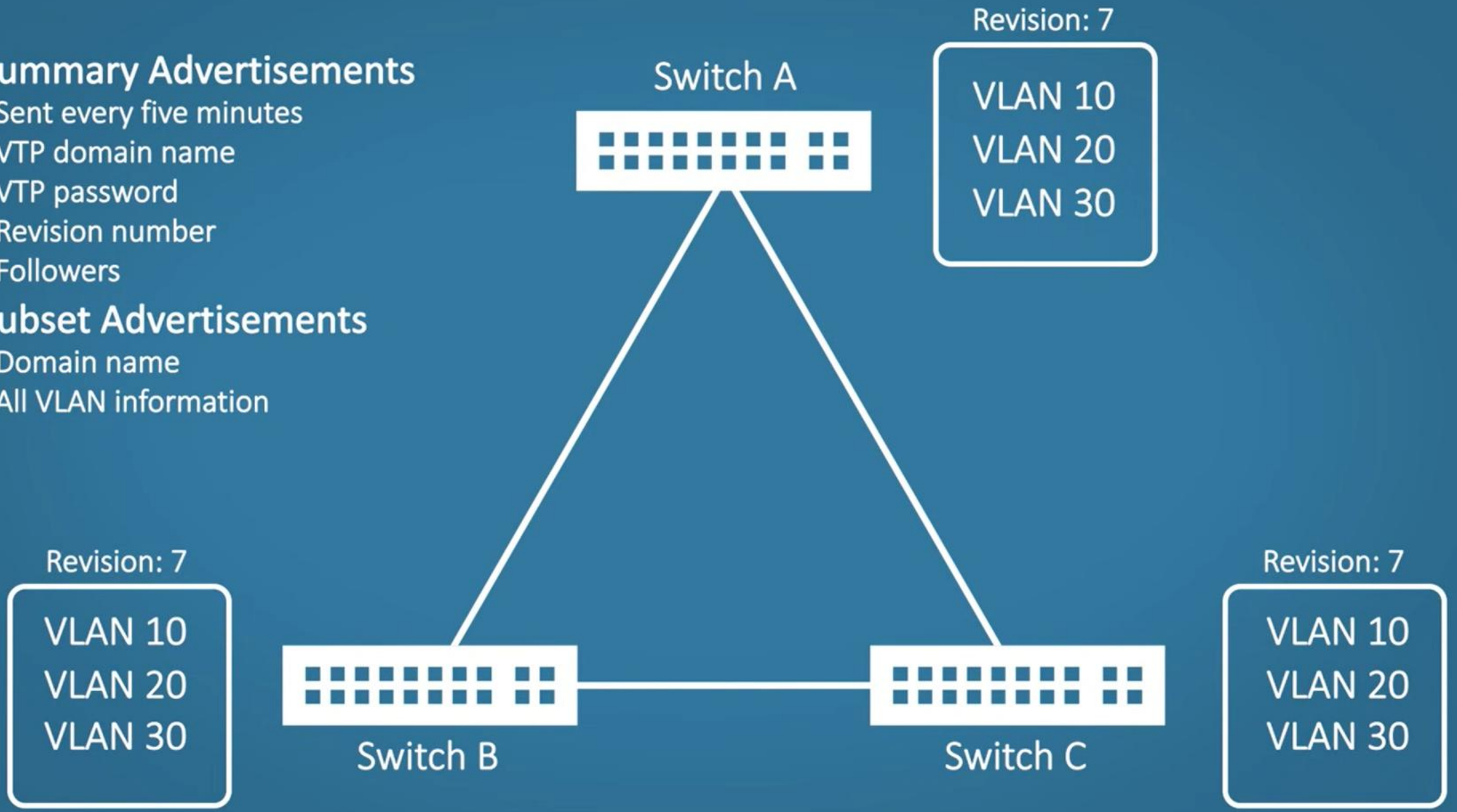
VLAN Trunking Protocol

Summary Advertisements

- Sent every five minutes
- VTP domain name
- VTP password
- Revision number
- Followers

Subset Advertisements

- Domain name
- All VLAN information

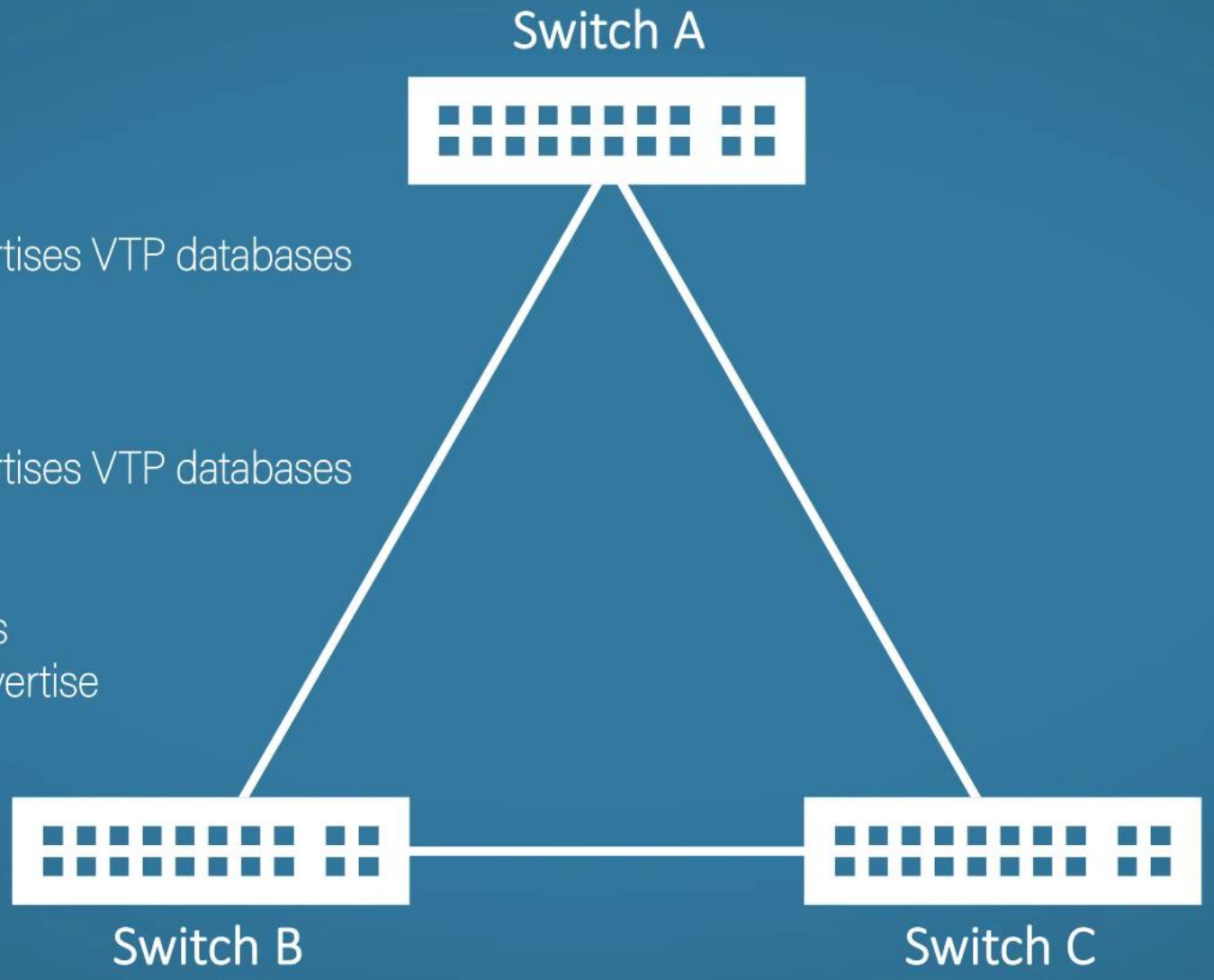


VTP Modes

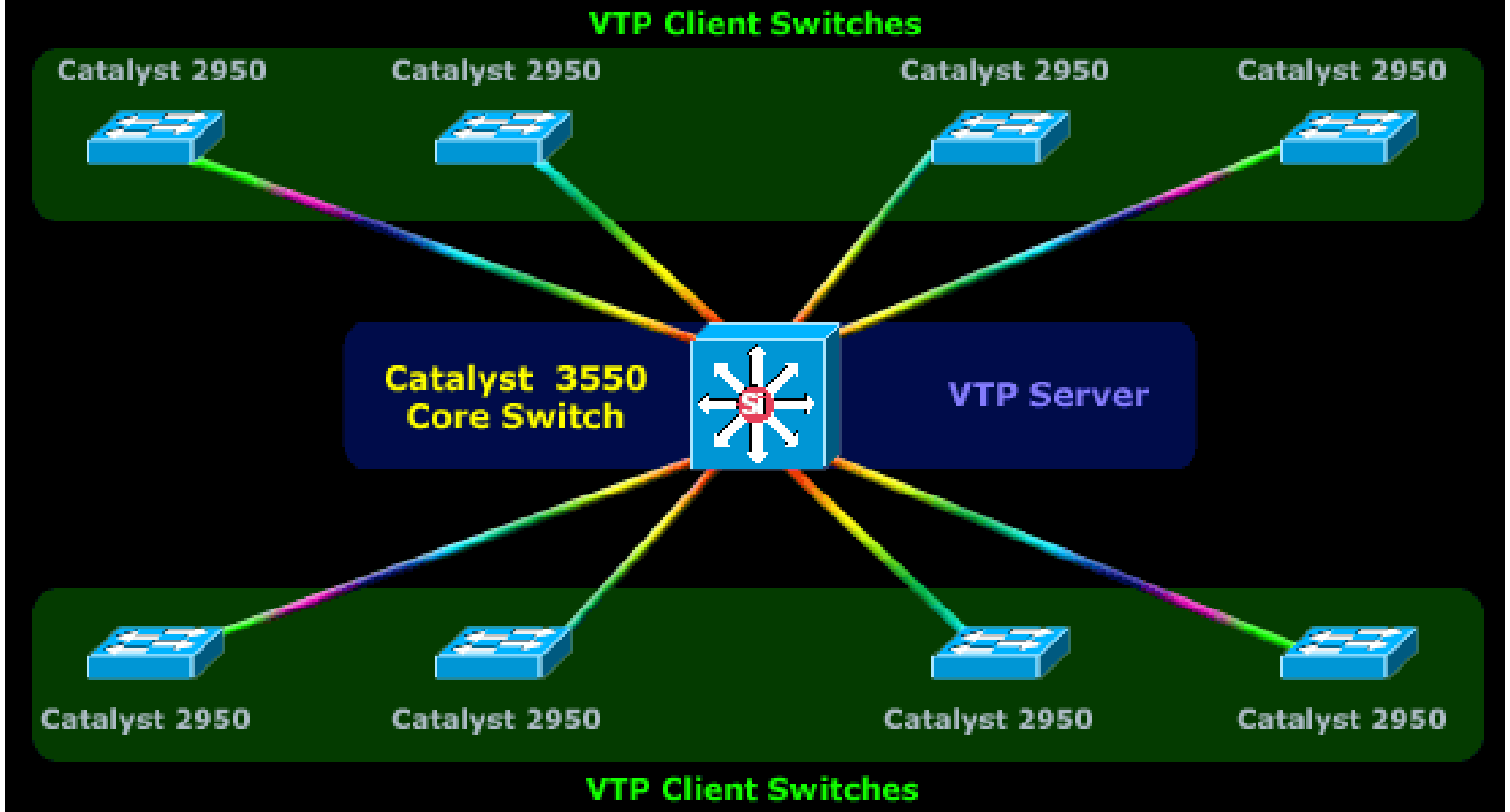
Server
Can create VLANs
Sends updates & advertises VTP databases

Client
Cannot create VLANs
Sends updates & advertises VTP databases

Transparent
Can create local VLANs
Does not update or advertise
Does forward updates

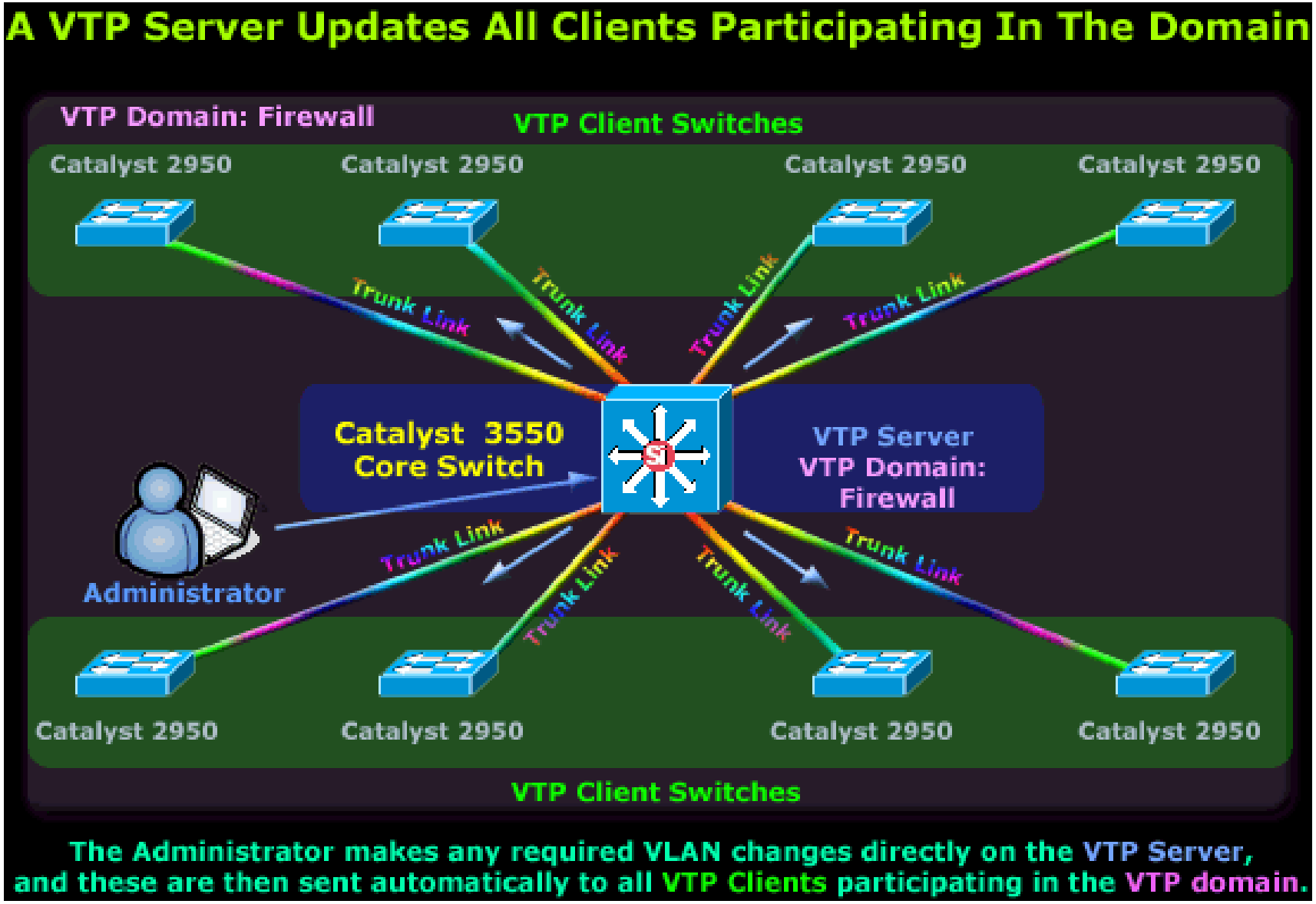


VTP In Our Network

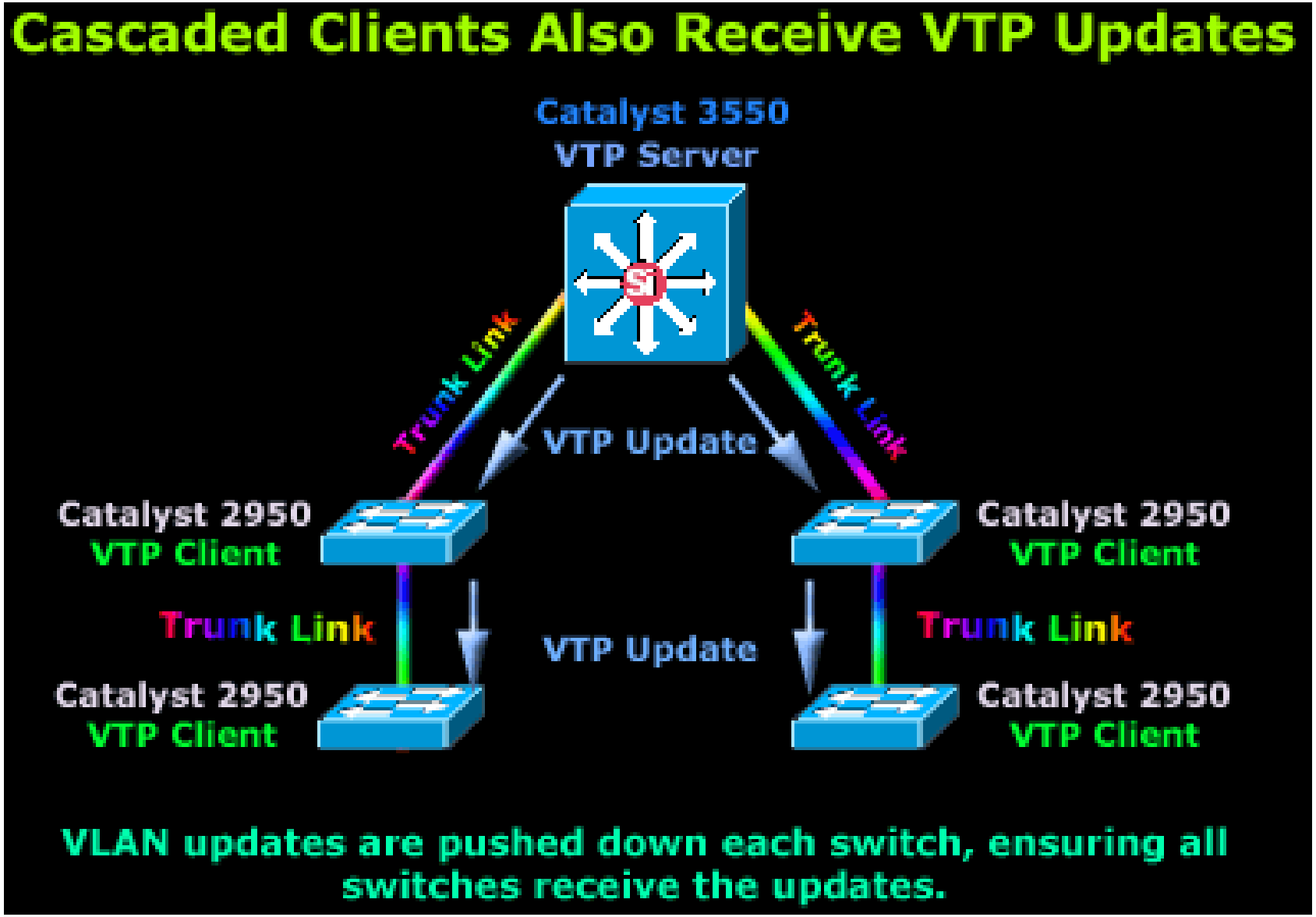


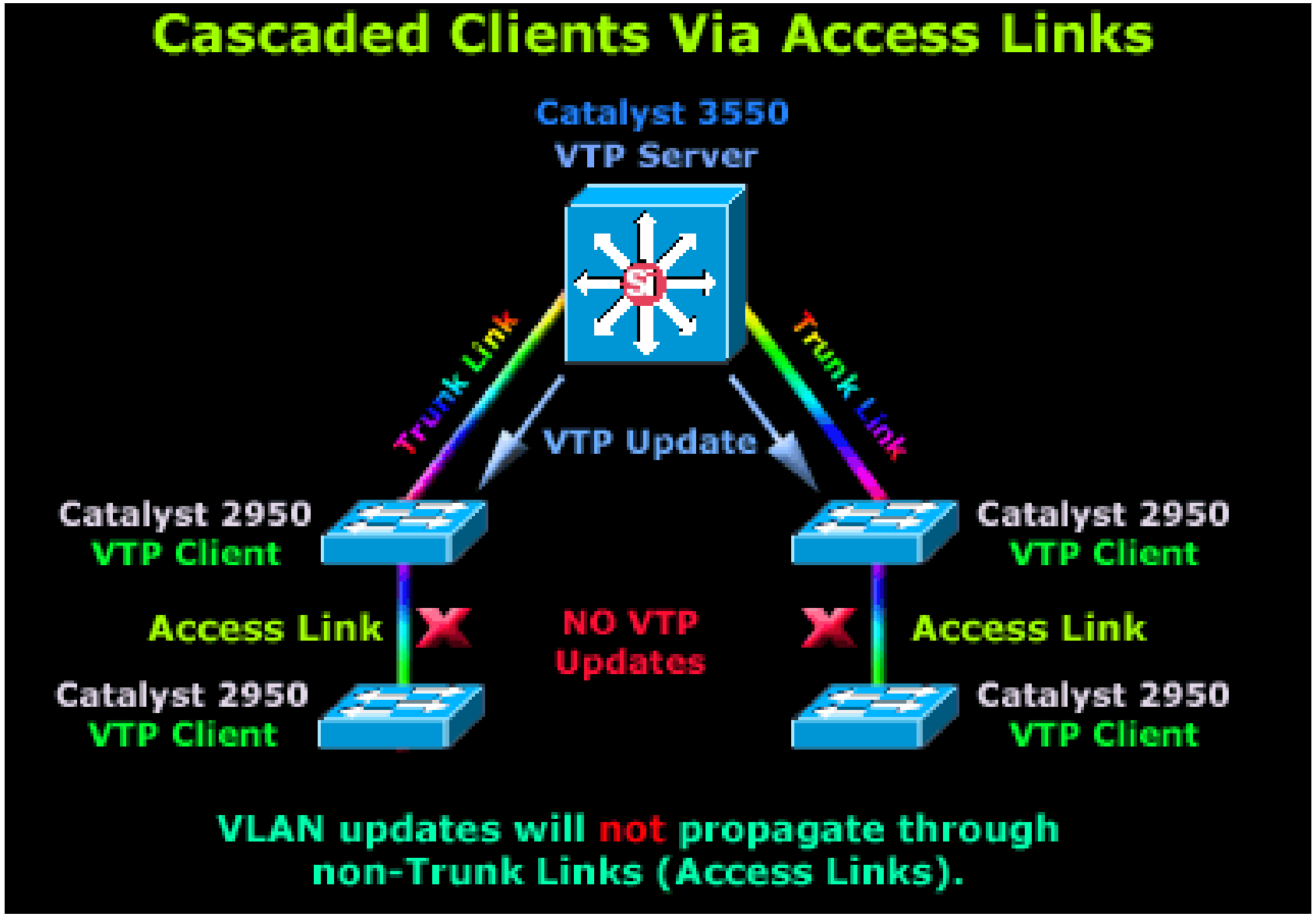
The above diagram shows a network with 9 Catalyst switches, one being the core switch interconnecting the network backbone. Our core switch is powered by a Catalyst 3550 and is configured as a VTP server. Any changes made to the network's VLANs is automatically sent to all client configured switches.

A VTP Server Updates All Clients Participating In The Domain

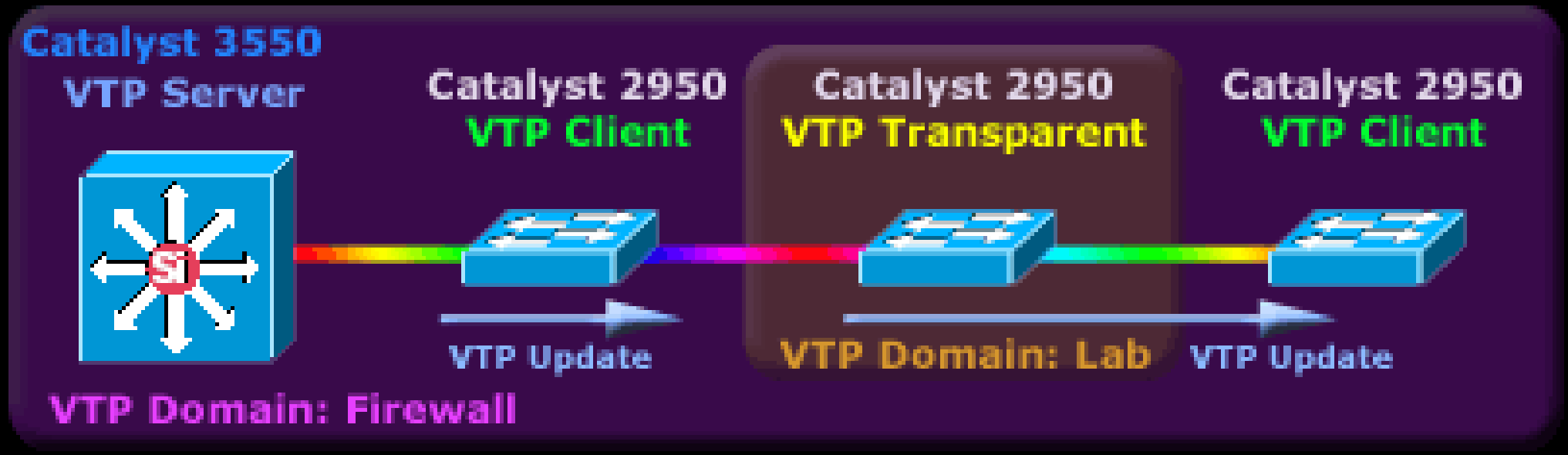


The Administrator makes any required VLAN changes directly on the VTP Server, and these are then sent automatically to all VTP Clients participating in the VTP domain.


Cascaded Clients Also Receive VTP Updates
Catalyst 3550
VTP Server
Trunk Link
Trunk Link
VTP Update
Catalyst 2950
VTP Client
Catalyst 2950
VTP Client
Trunk Link
Trunk Link
VTP Update
Catalyst 2950
VTP Client
Catalyst 2950
VTP Client
VLAN updates are pushed down each switch, ensuring all switches receive the updates.


Cascaded Clients Via Access Links
Catalyst 3550
VTP Server
Trunk Link
Trunk Link
VTP Update
Catalyst 2950
VTP Client
Catalyst 2950
VTP Client
Access Link
NO VTP
Updates
Access Link
Catalyst 2950
VTP Client
Catalyst 2950
VTP Client
VLAN updates will not propagate through
non-Trunk Links (Access Links).

A Switch Configured in VTP Transparent Mode

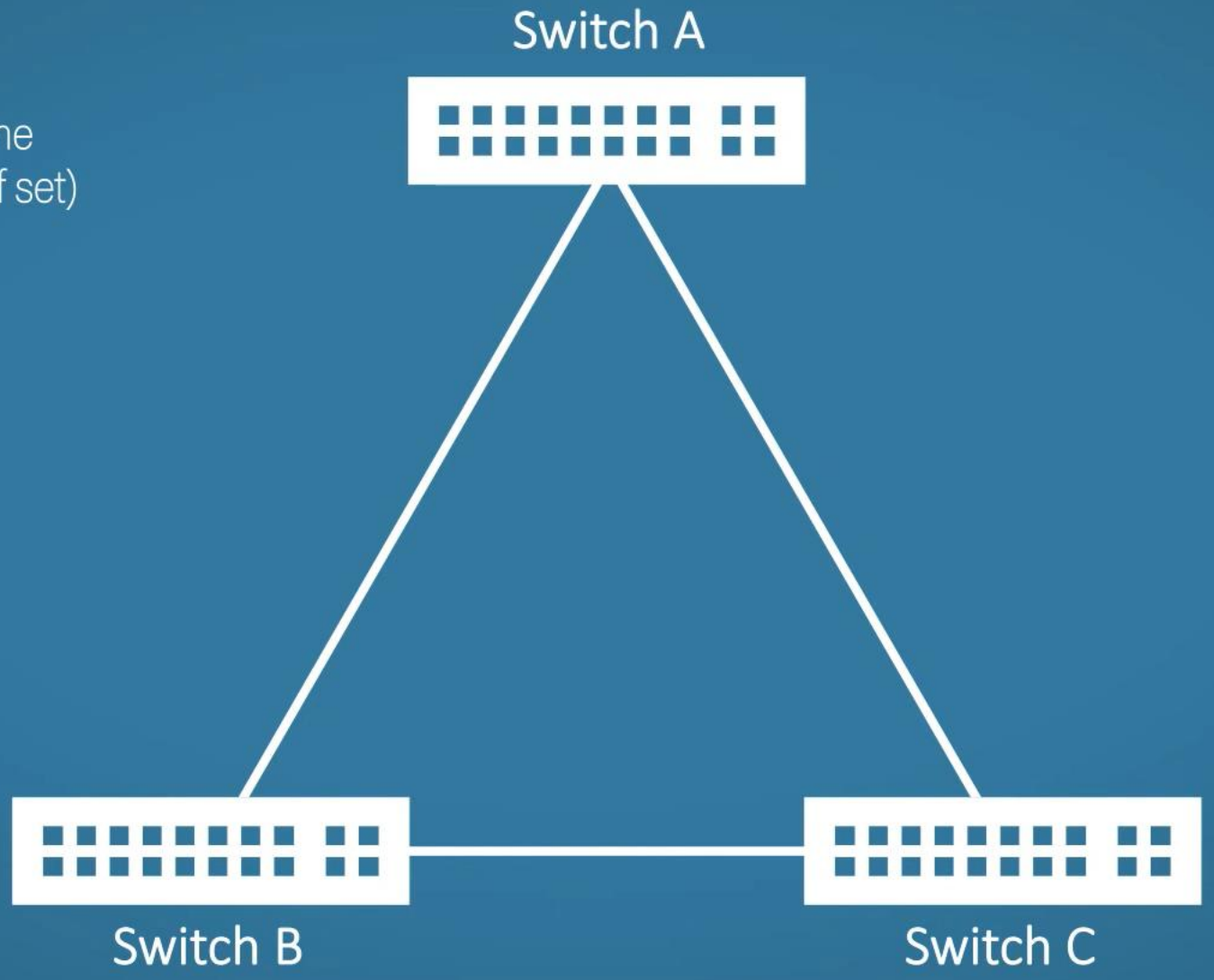


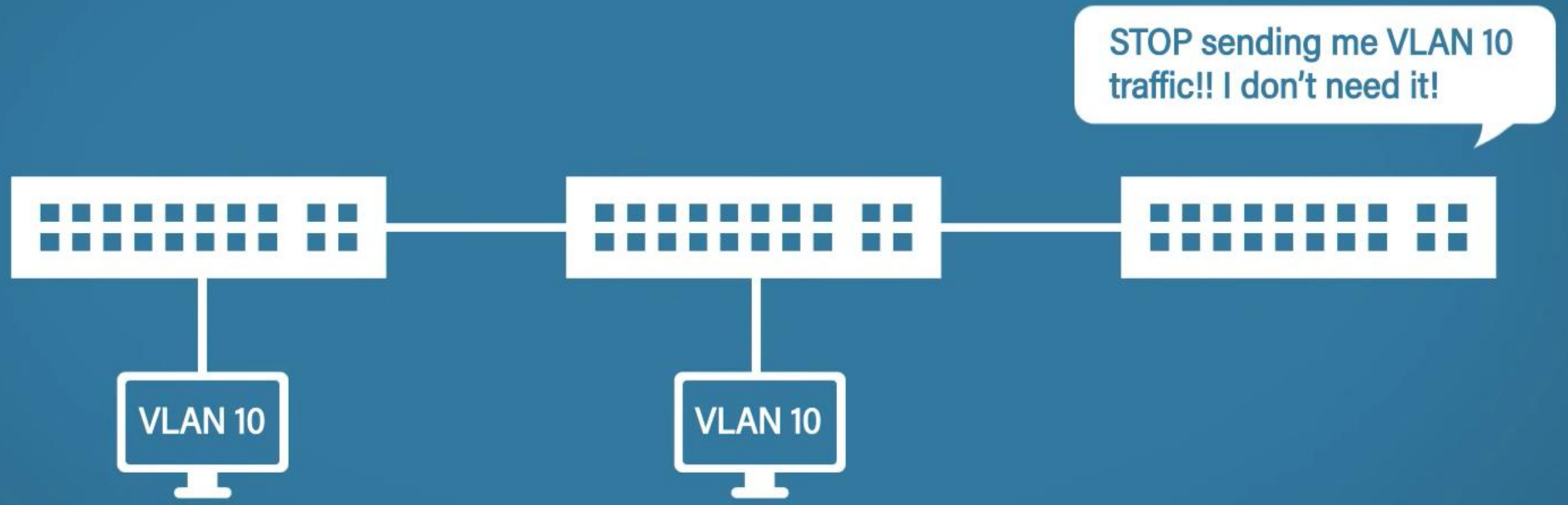
The VTP Server sends its VTP Update for the Firewall domain.
The Transparently configured switch receives it on one
trunk port and forwards it out the other.

Mode	Description
VTP Server	1. The default mode for all switches supporting VTP. 2. You can create, modify, & delete VLANs, specify other configuration parameters (such as VTP version) for the entire VTP domain. 3. VTP servers advertise their VLAN configurations to other switches in the same VTP domain and synchronize their VLAN configurations with other switches based on advertisements received over trunk links.
VTP Client	1. Behaves like a VTP server, but you cannot create, change, or delete VLANs on a VTP client.
VTP Transparent	1. Does not advertise its VLAN configuration and does not synchronize its VLAN configuration based on received advertisements. 2. However, they will forward VTP advertisements as they are received from other switches. 3. You can create, modify, and delete VLANs on a switch in VTP transparent mode.

Requirements

Links must be trunks
Same VTP domain name
Same VTP password (if set)





Create the following VLANs:

- VLAN 10: name India
- VLAN 20: name USA
- VLAN 30: name NewYork

- conf t
- vlan 10
- name India
- vlan 20
- name USA
- vlan 30
- name NewYork

What all to do

1. Configure the interfaces between the switches as trunks.
2. Configure switch Switch--1 to be the VTP server
3. Configure switch Switch--3 to be the VTP client
4. Configure switch Switch--2 so it does not synchronize itself to the latest VTP information, it should forward advertisements to switch Switch--3 though.
5. Change the VTP domain name to "<name>"
6. Use the password "<your UID>".
7. Remove the password from Client & make sure Server and Client do not synchronise by creating vlan200 : Test200
8. Configure vlan300 : Test in Transparent mode Switch & confirm that the newly created VLAN is locally known.
9. Make sure VLAN created in Transparent mode are shown in running-config.

Configuration Commands

- Switch# enable
- Switch# show vtp status
- Switch# configure terminal
- Switch(config)# vtp ?
- Switch(config)# vtp mode ?
- Switch(config)# vtp mode <server/client/transparent>
- Switch(config)# vtp domain <name>
- Switch(config)# vtp password <UID>
- Switch(config)# interface fastethernet0/1
- Switch(config-if)# switchport mode trunk

- Switch#show vlan brief // to see the vlan database
- Switch#show vtp status

//[shows revision = 6; BUT not in the other two switches]

- Switch#show cdp neighbors
- //[to see the interfaces linked with its switch neighbors]
- Switch(config)#interface range fastethernet 0/1 – 2
- Switch(config-if-range)#switchport mode trunk
- [If domain name changed >> ALL THE PREVIOUS REVISIONS ERASED, revision number reset to 0]
- Switch(config)#no vtp password //to clear it of its password
- Switch#show vtp password //to check the set password

- Switch#debug sw-vlan vtp events //[debug before re-configuring the switch password]
- Switch#conf t
- Switch(config)#vtp password <UID>
- Switch#show vtp status
- Switch#show vlan
- Switch#show vlan id 300 //[to check about the connected VLAN]
- Switch#show running-config //[VLAN configurations in transparent node stored in running configurations & NOT IN THE FLASH MEMORY <as in other two switches>]