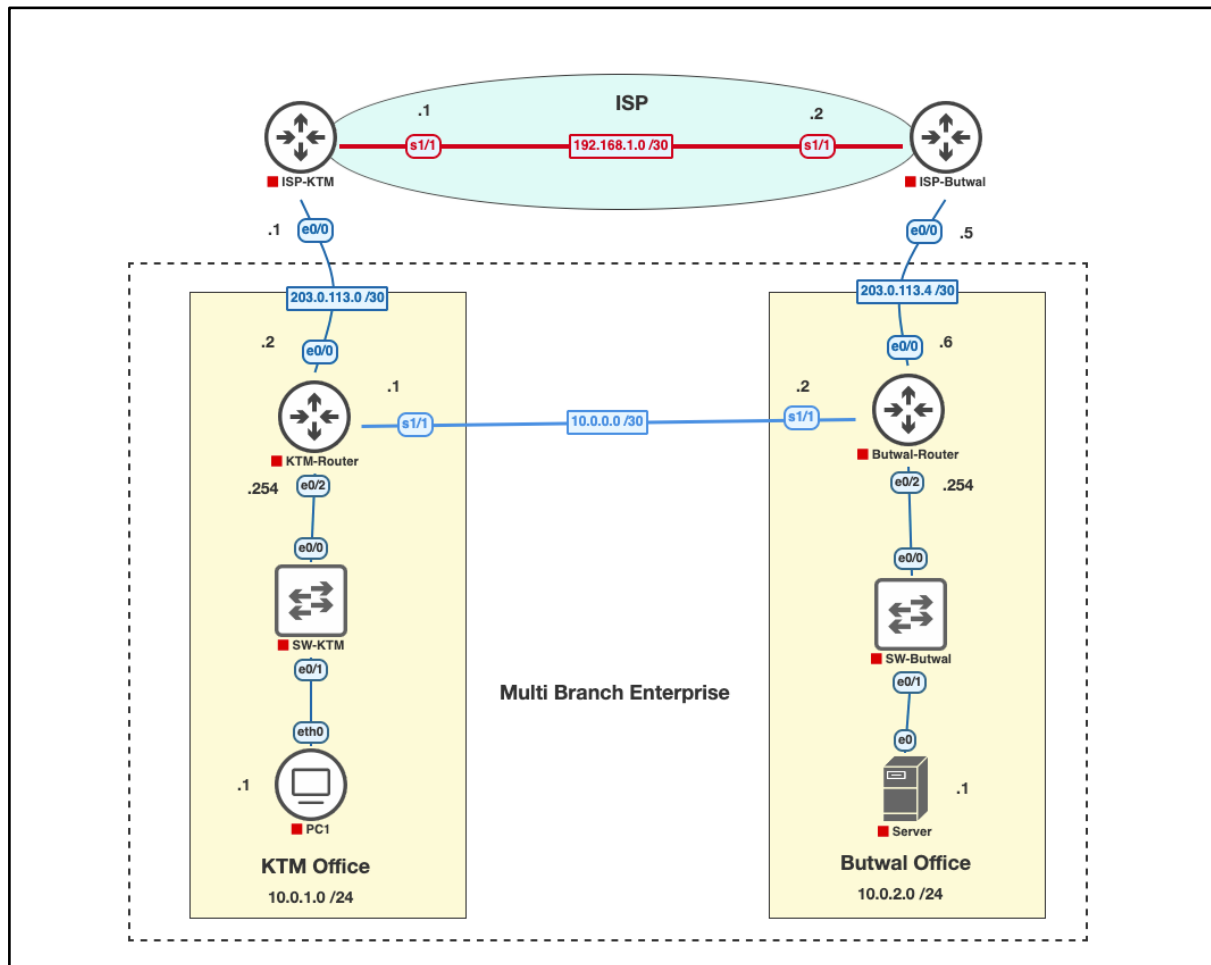# Floating Static Routes:

In this lab, a floating static route is used as a backup routing path between the KTM Office and Butwal Office networks. The primary path is learned through OSPF, which has a lower administrative distance and is preferred during normal operation.

The floating static route is configured with a higher administrative distance, so it does not appear in the routing table while the OSPF link is up. When the primary OSPF link fails, the dynamic route is removed and the floating static route becomes active, allowing traffic to reroute through the ISP path and maintain connectivity between the enterprise networks.

Pnet-Lab Github Link :

https://github.com/aayush-chapagain/cisco-pnetlab/tree/main/Floating%20Static%20Routes

Step 1: Configure IP addresses on all router interfaces, the PC, and the server. Verify the IP configuration and check the existing routes in the routing tables.

Device Name	Interface	IP address	Subnet Mast
ISP-KTM	s1/1	192.168.1.1	255.255.255.252
	e0/0	203.0.113.1	255.255.255.252
ISP-Butwal	s1/1	192.168.1.2	255.255.255.252
	e0/0	203.0.113.5	255.255.255.252
KTM-Router	e0/0	203.0.113.2	255.255.255.252
	e0/2	10.0.1.254	255.255.255.0
	s1/1	10.0.0.1	255.255.255.252
Butwal-Router	e0/0	203.0.113.6	255.255.255.252
	e0/2	10.0.2.254	255.255.255.0
	s1/1	10.0.0.2	255.255.255.252

PC1	Server
IP Address: 10.0.1.1	IP Address: 10.0.2.1
Subnet Mast: 255.255.255.0	Subnet Mast: 255.255.255.0
Default Gateway: 10.0.1.254	Default Gateway: 10.0.2.254

Step 2: Configure static default routes between the ISP-KTM and ISP-Butwal routers.

ISP-KTM	ISP-Butwal
enable	enable
configure terminal	configure terminal
ip route 0.0.0.0 0.0.0.0 192.168.1.2	ip route 0.0.0.0 0.0.0.0 192.168.1.2
exit	exit
show ip route	show ip route

Step 3: Configure OSPF on the office routers to establish connectivity between the two branches, KTM Office and Butwal Office.

KTM-Router	Butwal-Router
enable	enable
configure terminal	configure terminal
router ospf 1	router ospf 1
router-id 1.1.1.1	router-id 2.2.2.2
network 10.0.1.0 0.0.0.255 area 0	network 10.0.2.0 0.0.0.255 area 0
network 10.0.0.0 0.0.0.3 area 0	network 10.0.0.0 0.0.0.3 area 0
exit	exit
show ip route	show ip route

Step 4: Configure floating static routes on the KTM and Butwal routers via the ISP network, and configure static routes on the ISP routers to reach the branch networks.

KTM-Router	Butwal-Router
enable	enable
configure terminal	configure terminal
ip route static 10.0.2.0 255.255.255.0	ip route static 10.0.1.0 255.255.255.0
203.0.113.1 **150**	203.0.113.5 **150**
show ip route	show ip route

ISP-KTM	ISP-Butwal
enable	enable
configure terminal	configure terminal
ip route 10.0.1.0 255.255.255.0	ip route 10.0.2.0 255.255.255.0
203.0.113.2	203.0.113.6
show ip route	show ip route

Step 5: Ping from the PC to the server and analyze the path taken by the packets along with the routing table. Then shut down the primary link between the two branches and verify that traffic is rerouted through the ISP and the floating static route appears in the routing table. After restoring the link, confirm that traffic again follows the primary path.