HSRP Configuration Lab Report

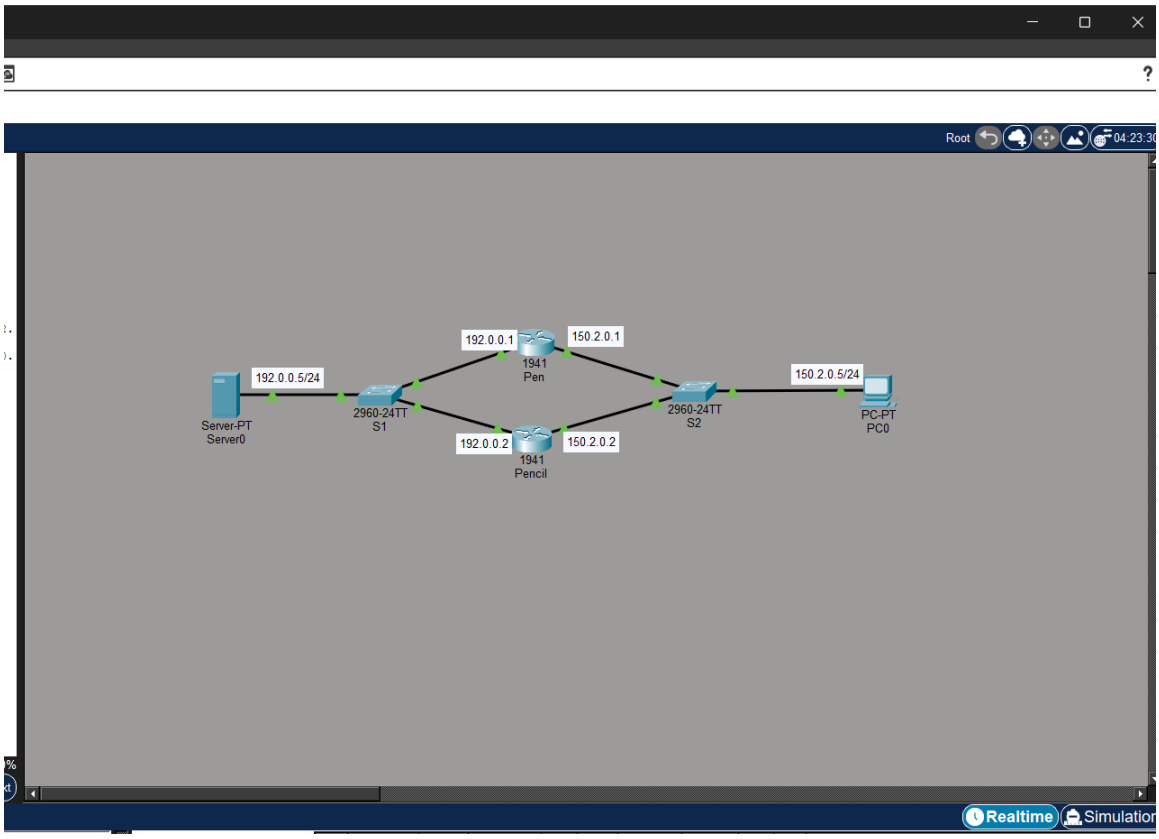
1. Introduction

This report documents the configuration and verification of Hot Standby Router Protocol (HSRP) between the Pen and Pencil routers. The objective is to implement gateway redundancy using HSRP version 2, configure virtual IP addresses on two interfaces, and ensure that the Pen router acts as the preferred active router using preemption.

2. Network Topology Overview

The topology includes two routers (Pen and Pencil), two switches, a server on the 192.0.0.0/24 network, and a PC on the 150.2.0.0/24 network. The routers participate in HSRP to provide default gateway redundancy.

Figure 1: Network Topology



3. IP Addressing Summary

Pen Router:
- g0/0: 192.0.0.1/24
- g0/1: 150.2.0.1/24

Pencil Router:
- g0/0: 192.0.0.2/24
- g0/1: 150.2.0.2/24

HSRP Virtual IPs:
- g0/0: 192.0.0.10 (Group 192)
- g0/1: 150.2.0.10 (Group 150)

4. Configuration Summary

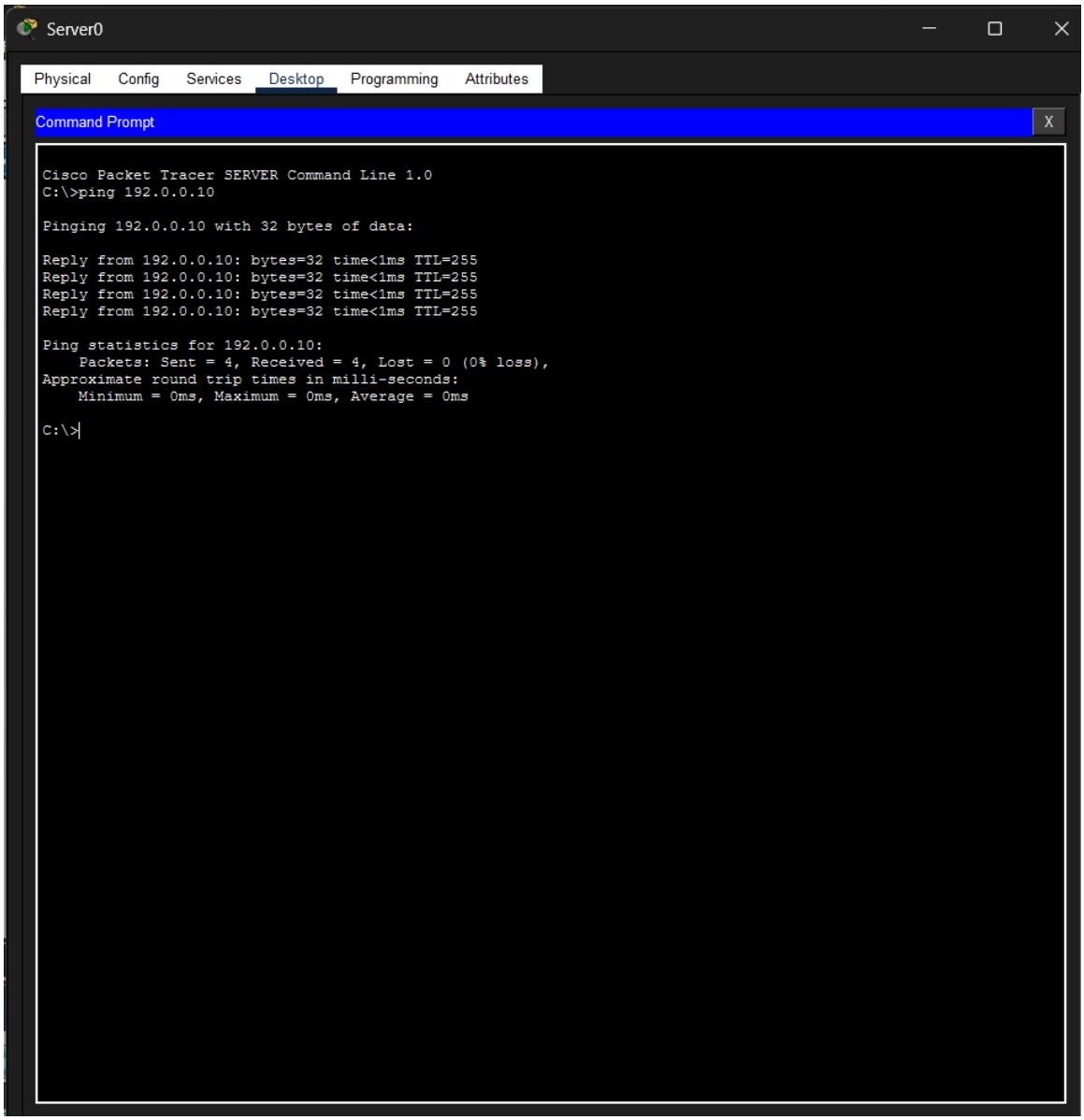
Pen Router is configured with a higher priority (120) and preempt enabled, ensuring that it becomes the Active router whenever available. Pencil Router uses default priority (100) and acts as Standby.

5. Verification Screenshots

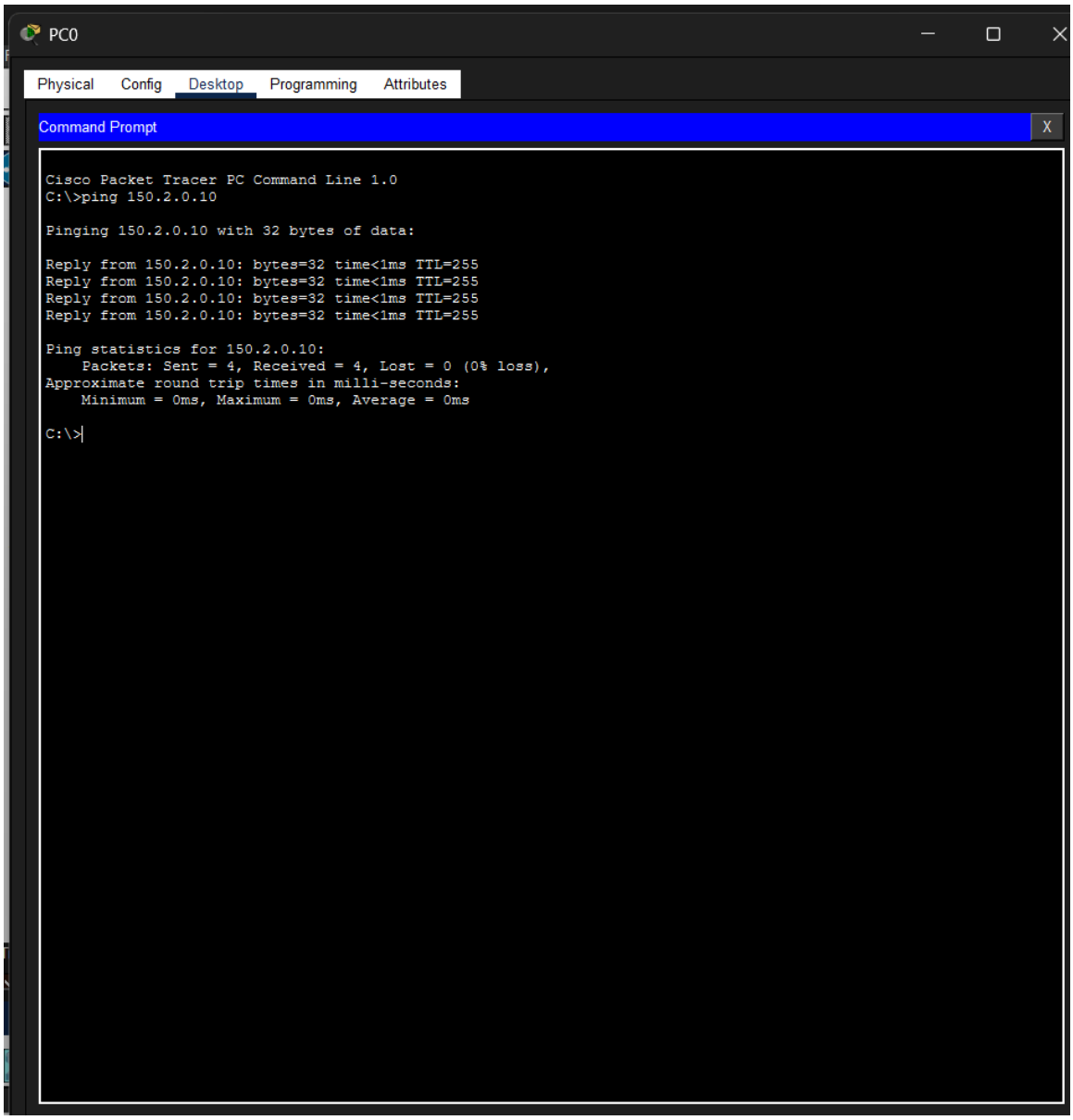
5.1 Pen Router - show standby brief

5.2 Pencil Router - show standby brief

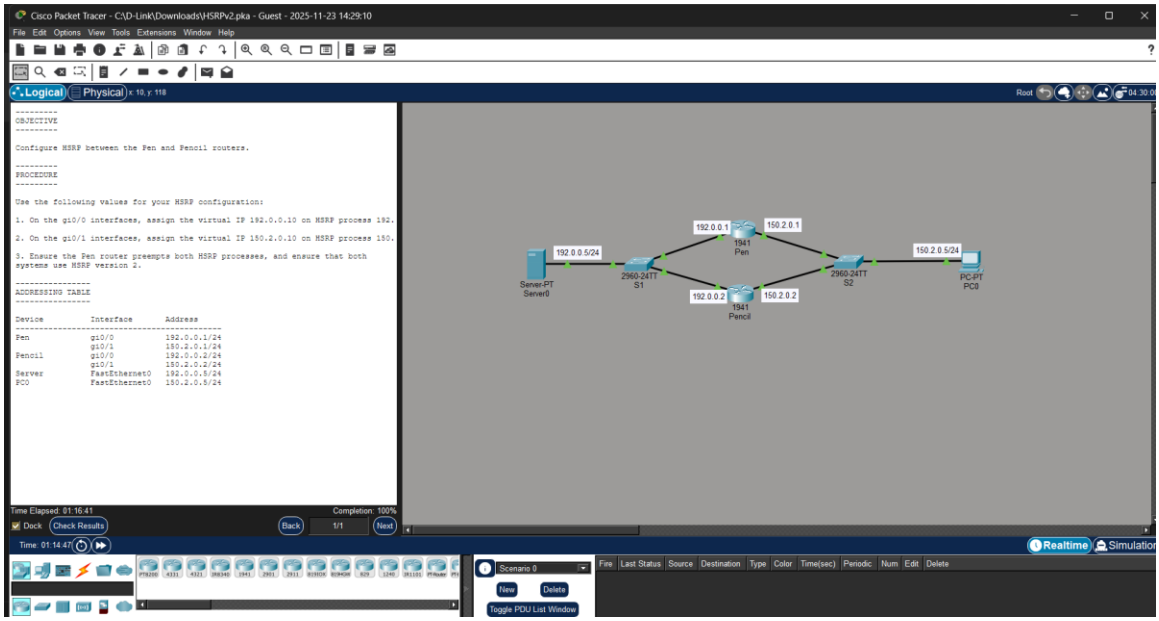
5.3 Server - Ping to Virtual IP 192.0.0.10



5.4 PC0 - Ping to Virtual IP 150.2.0.10



Final Topology:



6. Conclusion

The HSRP configuration was successfully implemented. Pen router became the Active router for both HSRP groups, while Pencil correctly transitioned to Standby. Verification tests confirmed successful redundancy through pings to the virtual IP addresses from both network segments. The network now supports fault-tolerant default gateway functionality using HSRP version 2.