# Bank Branch Network Infrastructure - Technical Report

## 1. Project Summary

This document outlines the design and configuration of a network infrastructure for a new bank branch. The setup includes IP subnetting, VLAN segmentation, inter-VLAN routing using Router-on-a-Stick, OSPF dynamic routing, SSH for secure remote access, and port security mechanisms.

## 2. IP Addressing Scheme

The IP addressing plan is based on the 172.16.10.0/24 network, which is divided into eight equal subnets using FLSM. Each subnet supports a specific VLAN and department.

## 3. Network Configuration Details

* VLANs: 10 (Management), 20 (Marketing), 30 (Accounting), 100 (Native VLAN)
* Subnetting: 172.16.10.0/24 divided into 8 subnets using /27 mask
* Router-on-a-Stick: Sub-interfaces configured on R1 (Gi0/0.10, Gi0/0.20, Gi0/0.30)
* OSPF Routing: Enabled between routers R1, R2, and R3
* SSH Access: Enabled on R3 and switch S1-Office3 for secure management
* Port Security: Applied on access ports with restrict mode and sticky MAC addresses
* **Syslog Server**: Configured for centralized logging
* **NTP Server**: Set up for time synchronization across network devices
* **E-mail Server**: Deployed for internal communication and alert notifications

## 4. Conclusion

This configuration ensures a secure, segmented, and scalable network for the bank branch, supporting both operational efficiency and security best practices.