**Company Branch Network Implementation Report**

**Executive Summary**

This report outlines the network design and implementation for XYZ Company's new branch office in Bonalbo, Eastern Australia. As a fast-growing food trading company with over 2 million global customers, XYZ Company required a separate, efficient network infrastructure for this new location. The network was designed to meet specific requirements while ensuring scalability and ease of management.

**Project Overview**

Objectives

- Design and implement a separate network for the Bonalbo branch

- Establish three department-specific VLANs

- Provide wireless connectivity for each department

- Enable automatic IP addressing for all devices

- Ensure inter-department communication

Network Specifications

- Base Network: 192.168.1.0/24 (provided by ISP)

- Subnets: 3 (/26 each)

- Equipment: 1 Cisco Router, 1 Cisco Switch

**Network Design**

Subnet Allocation

1. Admin/IT: 192.168.1.0/26

- Network ID: 192.168.1.0

- Broadcast ID: 192.168.1.63

- Usable Host Range: 192.168.1.1 - 192.168.1.62

2. Finance/HR: 192.168.1.64/26

- Network ID: 192.168.1.64

- Broadcast ID: 192.168.1.127

- Usable Host Range: 192.168.1.65 - 192.168.1.126

3. Customer Service/Reception: 192.168.1.128/26

- Network ID: 192.168.1.128

- Broadcast ID: 192.168.1.191

- Usable Host Range: 192.168.1.129 - 192.168.1.190

VLAN Configuration

- VLAN 10: Admin/IT

- VLAN 20: Finance/HR

- VLAN 30: Customer Service/Reception

Wireless Networks

Each department is equipped with a dedicated wireless access point, ensuring secure and separate wireless connectivity.

**Implementation Details**

Router Configuration

- Inter-VLAN routing enabled

- DHCP server configured for each subnet

- Subinterfaces created for each VLAN

Switch Configuration

- VLANs created and assigned to appropriate ports

- Trunk port configured for router connection

DHCP Configuration

DHCP pools configured for each subnet, ensuring automatic IP address assignment:

- Admin/IT Pool: 192.168.1.0/26

- Finance/HR Pool: 192.168.1.64/26

- Customer Service/Reception Pool: 192.168.1.128/26

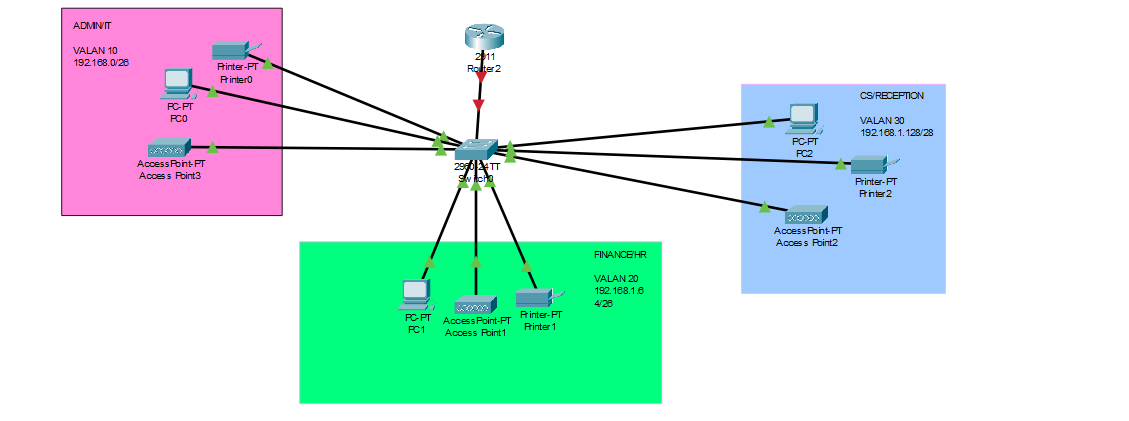
Security Measures

- VLAN segregation for department isolation

- DHCP snooping enabled on the switch

- Port security implemented on access ports

**Network Diagram**

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