**Small Office Network Documentation**

**1. Introduction**

The purpose of this document is to present the design and specifications of a Small Office Network, including the layout, number of PCs, networking equipment, and office facilities. This documentation serves as a reference for setting up and managing a small office network.

**2. Overview of the Office**

The small office is designed to support day-to-day business operations, ensuring reliable connectivity and efficient use of resources. The office is housed in a single-floor building designed to accommodate employees and essential equipment effectively.

**2.1 Building Layout**

- **Number of Floors:** 1 floor

- Office Area: Workstations, network equipment, and meeting space.

2.2 **Purpose of the Office Space**

- Office Area:

- 10 employee workstations equipped with desktop computers.

- 1 manager’s workstation with additional tools for monitoring and management.

- Networking equipment, including routers, switches, and patch panels.

- A small server room for managing office activities.

- A meeting area for discussions and presentations.

**3. Hardware and Software Specifications**

**3.1 Hardware**

- **Workstations**:

- 11 desktop computers (10 for employees, 1 for the manager).

- Intel i5 processors, 16GB RAM, 512GB SSD storage.

- **Networking Equipment:**

- 1 router

- 2 switches (16 ports each)

- Patch panels and Ethernet cables (Cat6)

- Wireless access points for connectivity

- **Server**:

- 1 server with the following specs:

- Intel Xeon processor

- 32GB RAM

- 1TB SSD storage

**3.2 Software**

- Operating System: Windows 10 for desktops, Linux for the server

- Networking Tools: Wireshark, NetMonitor

- Office Applications: Microsoft Office Suite

- Communication Tools: Zoom, Microsoft Teams

**4. Network Design**

**4.1 Topology**

- The network follows a \*\*star topology\*\* for better performance and easy management.

- All workstations are connected to switches, which are linked to the central router.

**4.2 IP Addressing**

- Subnetting is used to divide the network into segments:

- Subnet 1: Employee workstations

- Subnet 2: Server room and manager’s workstation

- Subnet 3: Wireless access points

**4.3 Security Features**

- Firewall configured on the central router

- VLANs to separate employee and administrative traffic

- Access control using MAC filtering and user authentication

**5. Additional Features**

- Power Backup: UPS systems installed for uninterrupted power supply.

- Air Conditioning: Temperature-controlled environment to protect equipment.

- CCTV Monitoring: Security cameras installed in key areas.