

TTEC Network Design.

This project aims to create a robust and efficient network infrastructure for a hypothetical company or business using CISCO Packet Tracer. It focuses on designing a scalable and secure network to support the organization’s day- to-day operations, data communication and resource sharing among employees and departments.

A BPO company Support centre employs 600 staff which has recently expanded and as a result they need to move to a new building. A building has been identified but has no network. Our implementation will be to setup new network service needs to be designed and implemented in the new building. Existing Network comprises of the following elements: The new building is expected to have three floors with two departments in each for example; First floor- (Sales and Marketing Department-120 users expected, Human Resource and Logistics Department-120 users expected). Second floor- (Finance and Accounts Department-120 users expected, Administrator and Public Relations Department-120 users expected). Third floor- (ICT-120 users expected, Server Room-12 devices expected).

In this stage a logical design is required, which shows the measures that you would put in place to ensure that the new network meets the current business need and is future-proofed Technologies Implemented: -

Steps taken for this project: -

1.Creating a network topology using Cisco Packet Tracer.

2.Hierarchical Network Design.

3.Connecting Networking devices with Correct cabling.

4.Configuring Basic device settings.

5.Creating VLANs and assigning ports VLAN numbers.

6.Subnetting and IP Addressing.

7.Configuring Inter-VLAN Routing on the Multilayer switches (Switch Virtual Interface).

8.Configuring Dedicated DHCP Server device to provide dynamic IP allocation.

9.Configuring SSH for secure Remote access.

10.Configuring OSPF as the routing protocol.

11.Configuring NAT Overload (Port Address Translation PAT).

12.Configuring standard and extended Access Control Lists ACL.

13.Configuring switchport security or Port-Security on the switches.

14.Configuring WLAN or wireless network (Cisco Access Point).

15.Host Device Configurations.

16.Configuring ISP routers.

17.Test and Verifying Network Communication.