ENTERPRISE SERVICES

Network Design Lab

By

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Topology (To be drawn by the student)

Addressing Table (Filled by the student)

Device	Model	Interfaces Used	IP Address	Encapsulation	Data Link Address

Scenario

The current project is a network for a Caned food company. This company has two branches in two different cities. The main branch is at Nablus city, the second one is at Tubas. Nablus branch has about 300 hosts, and Tubas branch has 100 hosts. The current infrastructure at both sites is one flat LAN at each branch. Both branches are connected via a leased line subscription. The company is asking for a redesign to enhance performance and reliability of the network, they are asking for the following:

1. The main branch is to be divided into multiple different networks based on organizational department:

   a. HR: 25 employees.

   b. IT: 12 employees.

   c. Production department: 200 hosts.

   d. Sales department:40 employees.

   e. Financial department: 30 employees.

2. Tubas branch is to be divided into Organizational departments as follows:

   a. Sales: 10 employees.

   b. Production department: 90 hosts.

3. The main branch at Nablus has the internet connection which is a metro Ethernet subscription with PALTEL this should provide internet connectivity for both sites.

Conceptual Requirements

Required Concepts that must be included in your design:

   a. DHCP: all network addresses on both branches should be dynamic through one central DHCP server(use 8.8.8.8 as a DNS server).

   b. NAT: for the internet connection (use the Lab network as an ISP network).

   c. Router on a stick interVLAN routing.

   d. Summary Static Routes.

Tasks

1. Design the logical topology as per the requirements.
2. Design an appropriate addressing scheme.
3. Connect the topology proposed.
4. Configure all devices with the required configurations.
5. Enable routing between all possible destinations on all sites.
6. Configure all conceptual requirements.
7. Test connectivity and all required services.