



DISTRIBUTED NETWORK

Design and Implementation



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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

You are a network architect working for a company that just took a project for redesigning a network for a company called NIS that works in consulting and business strategy planning. NIS has three locations, an HQ in Ramallah Al Ersal street, one main branch in Nablus located in Rafedia St. west of the city, and a small office to the east. The company also rented a building in Al Baloo' to be used for its data center.

Multimedia processing occur in HQ with all video and images stored in the data center which contains the file, email, and web servers. Nablus east branch stores all multimedia content on a local storage unit located in the west branch. The applications used in Nablus west branch are transaction based software that only send text based transactions to Ramallah HQ.

NIS HQ has 200 employees, the data center has 13 servers, Nablus west branch has 70 employees, and Nablus east branch has 30 employees.

PALTEL offers frame relay and leased line services everywhere. Metro Ethernet (simply Ethernet) available only in Ramallah.

Tasks

1. Design the logical topology as per the requirements.
2. Carefully choose the appropriate WAN connection option for each link to give the best performance with the least possible cost.
3. Design an appropriate addressing scheme.
4. Connect the topology proposed.
5. Configure all devices with the required configurations (simulate each LAN with a single host).
6. Enable routing between all possible destinations on all sites.
7. Proper security should be implemented where required.