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ECE 407

Progress Report 3

Implement WAN on Cisco Packet Tracer. Collaborate with your team members to select proper routing algorithms, e.g., static/RIPv2/OSPFv2. Discuss the pros and cons of each routing algorithm to justify your selection. Implement basic devices configuration and routing protocols as needed, to ensure that any host (computer/IP phone/wireless user) in one network can access any other host in different companies.

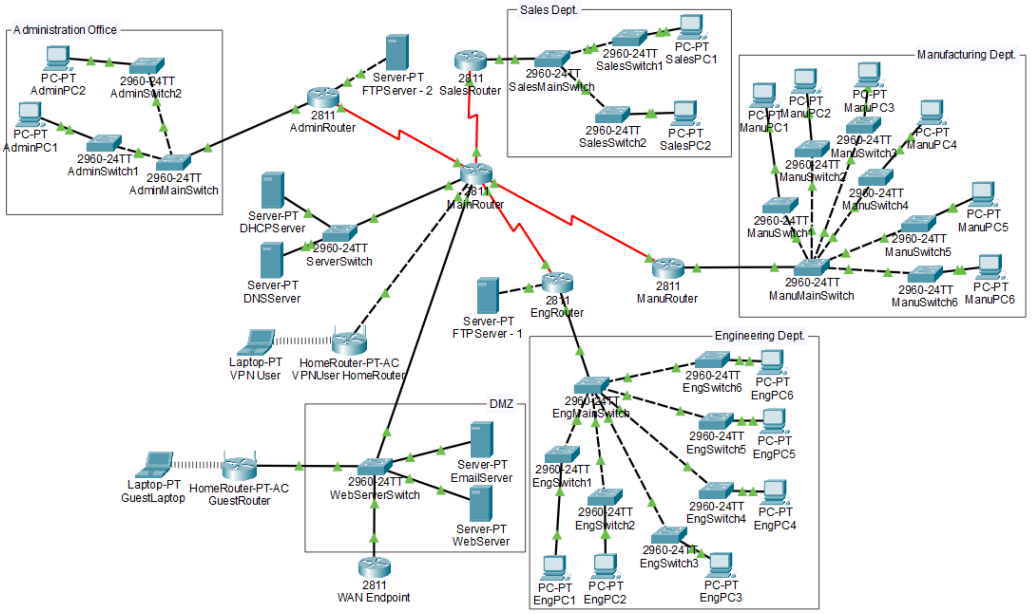
For the basic topology of our over WAN, we have 4 LANs, Company A, Company B, Company C and Company D connected using the RIPv2. Each of these LANs follow an extended star topology which branches from a main router connected to the department routers, a switch which holds the DNS/FTP/DHCP servers, and a switch which holds the WEB/EMAIL servers along with a connection to the head router of the WLAN for the company.

While selecting the routing implementation to use, we discussed how static routing is a form of routing in which a router uses a manually configured routing entry instead of data from dynamic routing traffic. In certain cases, a network administrator manually configured static routes by adding entries to a routing table, although this is not always the case. Static paths, in contrast to dynamic routing, are set and do not change when the network is changed or reconfigured. It is worth noting that on a router, both dynamic and static routing are typically used to optimize routing efficiency and provide backups if dynamic routing information is not shared. Within our network we used RIP v2 to connect all the central components to the main routers. RIP v2 is helpful in that it keeps track of the closest router for each destination address. We manually input the networks which the packets can transmit over, and it does the rest.

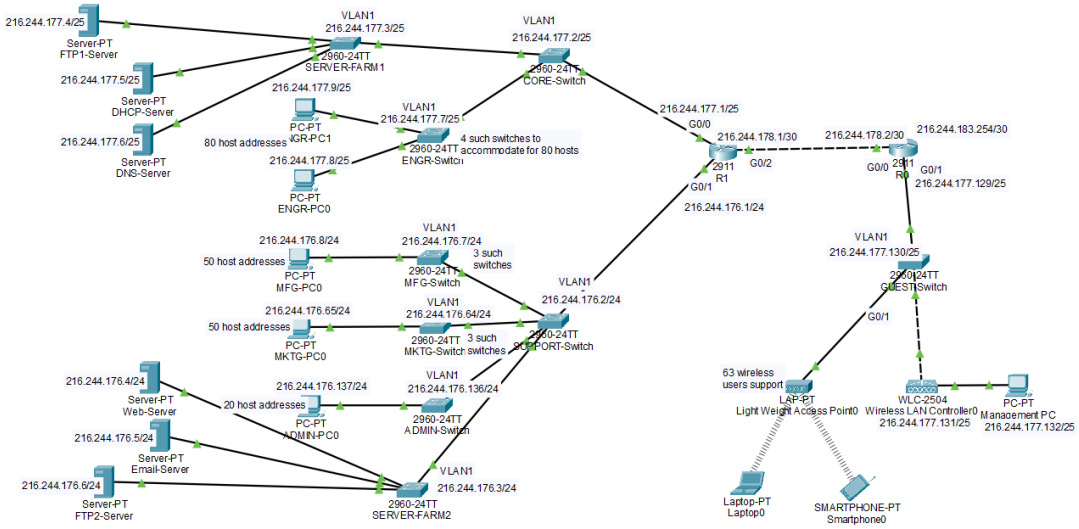
Below is the screenshot of our implementation of the WAN network:

And screenshots of individual LANs:

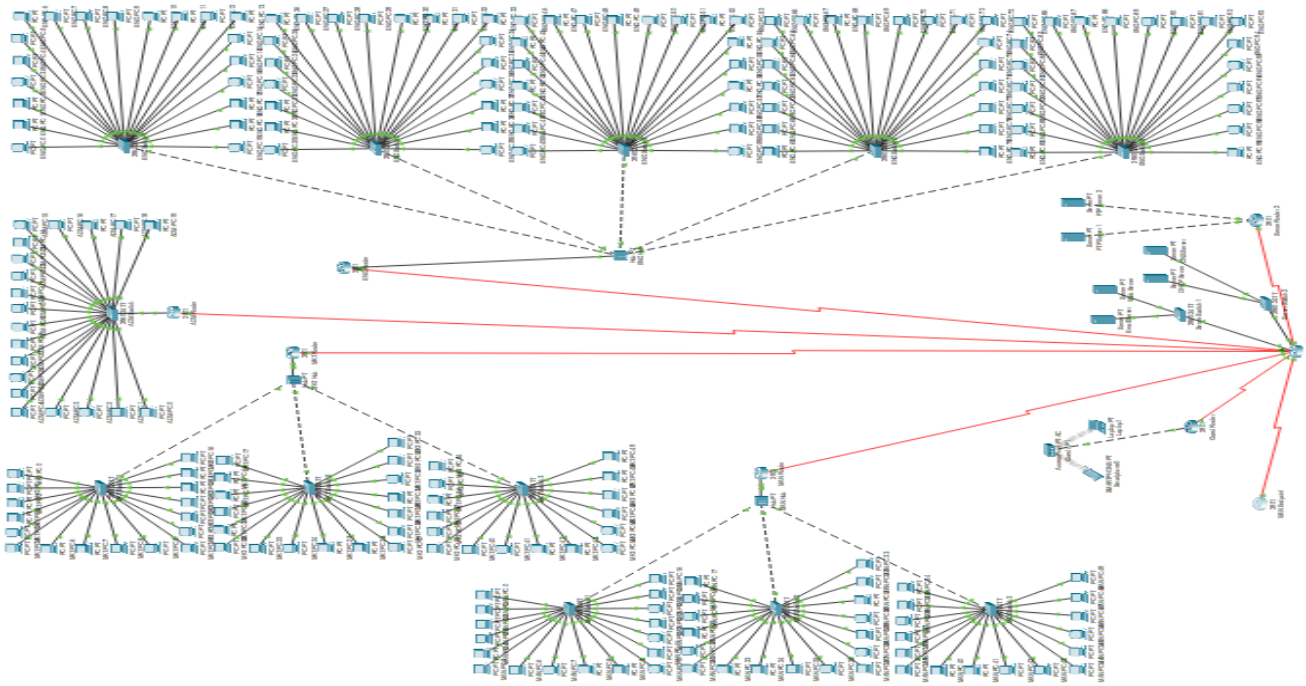
Company A (Nikhil Chaganti):



Company B (Ravishankar Natarajan):



Company C (Matthew Ostrowski):



Company D (Alan Palayil):