

Progress Report 1

As a Network Administrator, please describe the requirements of the LAN, and allocate IP addresses for each department and network devices.

There are a total of 210 employees in four departments, i.e., 30 employees in the engineering department, 90 employees in the manufacturing department, 50 employees in the sales/marketing department, and 40 employees in the administration office. This company has assigned a pool of IP addresses ranging 216.244.158.0 to 216.244.167.255. The IP address 216.244.167.254 is reserved for the end point of the WAN link.

We first evaluate the IP ranges of the company and each of its departments. While configuring all the routers, we should properly administer the passwords, warning messages for users trying to log on the configuration and place security measures to ensure the network safety. A routing table below will help to explain the IP addresses ranges for each department of the company.

To depict the best way to use DHCP and statically route the network can be done using a routing table and divide the IP address ranges for each of the components. The IP range for each of the departments and guest's WLAN may all be seen within the addressing tables below.

Company D				
Leaving Main Router To	Interface	IP Address	Subnet Mask	Default Gateway
Engineering Office	S1/0	216.244.158.1	255.255.255.0	N/A
Manufacturing Office	S1/1	216.244.159.1	255.255.255.0	N/A

Sales & Marketing Office	S1/2	216.244.160.1	255.255.255.0	N/A
Administration Office	S1/3	216.244.161.1	255.255.255.0	N/A
Hub Server- FTPs and DNS	F0/1	216.244.162.1	255.255.255.0	N/A
Web Server- Email and Web	E0/0/0	216.244.163.1	255.255.255.0	N/A
Wireless- Guest	F0/0	216.244.164.1	255.255.255.0	N/A
Main Router into Company D Departments:				
Engineering Router	S1/0	216.244.165.1	255.255.255.252	N/A
Engineering to Switch	F0/0 (PCs/PHs)	216.244.158.1	255.255.255.0	216.244.158.1
Manufacturing Router	S1/0	216.244.165.29	255.255.255.252	N/A
Manufacturing to Switch	F0/0 (PCs/PHs)	216.244.159.1	255.255.255.0	216.244.159.1
Sales & Marketing Router	S1/0	216.244.165.119	255.255.255.252	N/A
Sales & Marketing to Switch	F0/0 (PCs/PHs)	216.244.160.1	255.255.255.0	216.244.160.1

Administration Router	S1/0	216.244.165.169	255.255.255.252	N/A
Administration to Switch	F0/0 (PCs/PHs)	216.244.161.1	255.255.255.0	216.244.161.1
Main Router into Company D Servers:				
Hub Server Switch to Main Router	F0/1	216.244.162.1	255.255.255.0	N/A
DNS Server	F0/1	216.244.162.2	255.255.255.0	216.244.162.1
FTP Server 1	F0/0	216.244.162.3	255.255.255.0	216.244.162.1
FTP Server 2	F0/0	216.244.162.4	255.255.255.0	216.244.162.1
Web Server Switch to Main Router	F0/1	216.244.163.1	255.255.255.0	N/A
Web Server	E1/0	216.244.163.2	255.255.255.0	216.244.163.1
Email Server	E1/0	216.244.163.3	255.255.255.0	216.244.163.1
WLAN:				
Leaving Router into Switch (LAN)	G0/0/0	216.244.167.254	255.255.248.252	N/A
DHCP Server	G0/0/1	216.244.167.255	255.255.248.0	216.244.167.254