**VLSM exercise ANSWER**

192.168.10.0/24

Finance department – 22 users

Admin department – 6 users

Marketing department – 38 users

Sales department – 33 users

Guest wireless – 14 users

IT support – 12 users

Servers – 5 devices

* First determine how many host bits are needed (to be borrowed) to satisfy each network.
* Start with subnetting the supplied network into subnets large enough to support the largest network.
* Allocate the first of these to the largest network.
* Once created, take the next remaining subnet and determine if it can be allocated appropriately to the next biggest network. If it is too big then subnet that network into smaller ones.
* Continue until a subnet has been created for each required network.

This may help

<http://computernetworkingnotes.com/subnetting-supernetting-and-vlsm/vlsm.html>

**Answer**

Our biggest network size is 64.

Split (subnet) the supplied /24 into 4 x /26 networks (64 ip addresses each).

Allocate the first 2 networks to Marketing & Sales.

Split the 3rd /26 network into 2 x /27 (32 ip addresses each)

Allocate the 1st /27 network to Finance

Split the 2nd /26 network into 2 x /28 (16 ip addresses each)

Allocate these to Guest wifi & IT support

So far we have consumed 3 x /26 (3 blocks of 64).

We still need two /29 networks for Admin & Servers.

We will take these from the last /26.

First split into 2 x /27

Split the first of these /27 (32) into 2 x /28 (16)

Split the first of these /28 into 2 x /29 (8)

Allocate these two /29 networks to Admin & Servers

Marketing need 64 192.168.10.0 – 63 /26

Sales need 64 192.168.10.64 – 127 /26

Finance need 32 192.168.10.128 – 159 /27

Guest wifi need 16 192.168.10.160 – 175 /28

IT support need 16 192.168.10.176 – 191 /28

Admin need 8 192.168.10.192 – 199 /29

Servers need 8 192.168.10.200 – 207 /29