

List of requirements for network as the customer made specified

- Teacher room – 4 computer with windows 10
- Computer lab 1 – 20 computers with windows 10
- Computer lab 2 – 20 computers with windows 10
- Computer lab 3 – 20 computers with windows 10
- Administration office – 3 windows 10 computers
- Classroom block – 35 wired data points
- networked printer
- Wireless access – to hall area, classroom, computer labs, teacher's room and administration office (5)
- Wired connection
- Two Switch 2
- One Switch 3

Product	Quantity	Unit price	Total price
3 switch	1	2,500	2,500
2 switch	2	500	1,000
Wireless Access point	5	150	750
Window Pc	67	420	28,140
Network printer	1	600	600

Ipv4 scheme/documentation

Service provider Block of public IPv4 addresses 212.123.125.128/27.

= 30 useable Ip addresses on network

Insufficient amount IP addresses need around 100 Ip addresses.

Need to PAT to address insufficient amount of IP addresses.

$2^7 = 128$ Ip address

Private range 10.0.0.0 to 10.255.255.255

Wireless Sub net 1

7-bit host while $32 - 7 = 25$

Block of addresses 10.0.0.0/25

25 are 1s and rest 0s.

Binary sub mask 11111111 11111111 11111111 10000000

Decimal 255. 255. 255. 128 conversion of sub mask

10.0.0.0 – network ID first IP

10.0.0.127 – Broadcast ID Last IP

126 IP addresses to allocate.

Default Gateway - 10.0.0.1

Scope: 10.0.0.2 - 126

Wired Sub net 2

8 bit host = $32 - 7 = 24$

Block of address 10.0.0.0/24

24 are 1s and rest 0

Binary sub mask 11111111 11111111 11111111 00000000

Decimal 255. 255. 255. 0 conversion of sub mask

10.0.1.0— network ID first IP

10.0.0.252 – Broadcast ID Last IP

250 IP addresses to allocate.

Default Gateway - 10.0.1.2

Scope: 10.0.1.2 – 251

Consultant Rooms

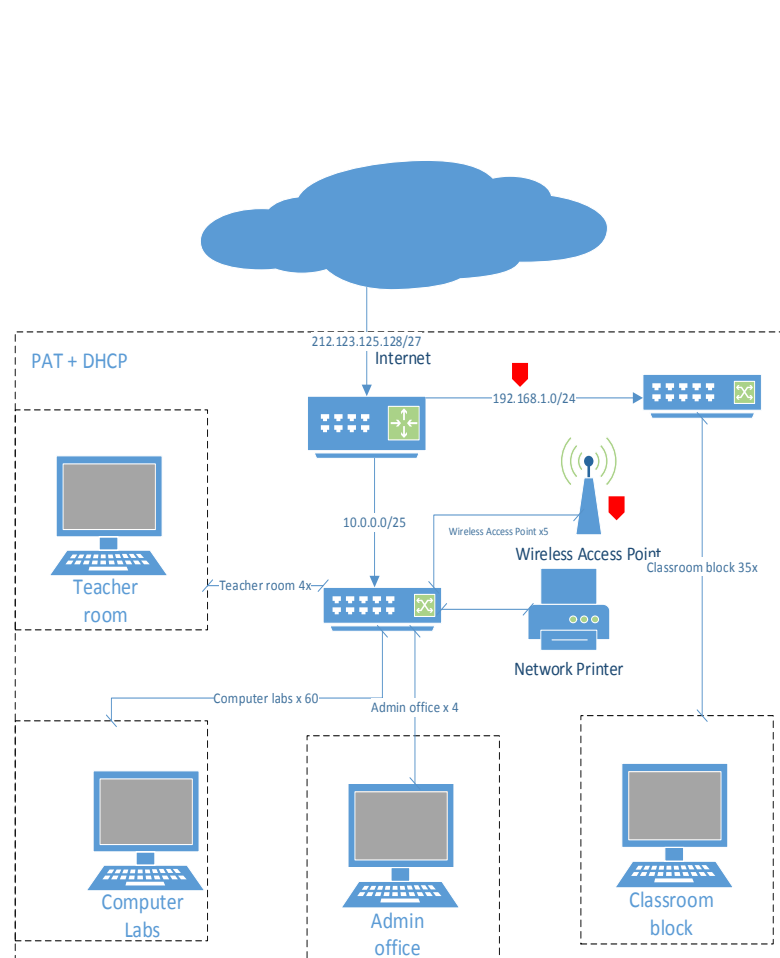
Address Allocation: DHCP
Address Range: 10.0.0.2 - 126
Subnet mask: 255.255.255.128
Default Gateway: 10.0.0.2

Admin office

Address Allocation: DHCP
Address Range: 10.0.0.2 - 126
Subnet mask: 255.255.255.128
Default Gateway: 10.0.0.2

Computer Labs

Address Allocation: DHCP
Address Range: 10.0.0.2 - 126
Subnet mask: 255.255.255.128
Default Gateway: 10.0.0.2



Legend		
Legend Subtitle		
Symbol	Count	Description
	1	Internet
	2	PC
	2	Layer 2 Switch
	1	Printer
	1	Wireless access point
	1	Router

Wireless Network

Address Allocation: DHCP
Address Range: 10.0.0.2 - 126
Subnet mask: 255.255.255.128
Default Gateway: 10.0.0.2

Network Printer

Address Allocation: DHCP
(Reserved)
Address Range: 10.0.0.2
MAC Address: (not known yet)
Subnet mask: 255.255.255.128
Default Gateway: 10.0.0.2

Classroom block

Address Allocation: DHCP
Address Range: 10.0.1.2 - 252
Subnet mask: 255.255.255.0
Default Gateway: 10.0.1.2