

**Network: 192.168.100.0**

**HQ Building: 60 users per department**

Medical Lead Operation & Consultancy Services (MLOCS)

Medical Emergency & Reporting (MER)

Medical Records Management (MRM)

Information Technology (IT)

Customer Service (CS)

Guest Waiting Area (HQ-GWA)

Server-Side Site (SSS) - **10 devices**

**Branch Building: 30 users per department**

Nurses & Surgery Operations (NSO)

Hospital Labs (HL)

Human Resources (HR)

Marketing (MK)

Finance (FIN)

Guest Waiting Area (BR-GWA)

**ISP Routing Addresses**

**196.136.17.0/30**

**196.136.17.4/30**

**196.136.17.8/30**

**196.136.17.12/30**

**Core Router to L3 Switch Addressing**

**HQ-RTR > HQ-L3SW-1: 192.168.102.80/30**

**HQ-RTR > HQ-L3SW-2: 192.168.102.84/30**

**BR-RTR > HQ-RTR: 192.168.102.88/30**

**BR-RTR > BR-L3SW-1: 192.168.102.92/30**

**BR-RTR > BR-L3SW-2: 192.168.102.96/30**

## **Route Summarization**

### HQ Network

- 192.168.100.0/26
- 192.168.100.64/26
- 192.168.100.128/26
- 192.168.100.192/26
  - Summarized to 192.168.100.0/24
- 192.168.101.0/26
- 192.168.101.64/26
  - Summarized to 192.168.101.0/25

### Branch Network

- 192.168.101.128/27
- 192.168.101.160/27
- 192.168.101.192/27
- 192.168.101.224/27
- 192.168.102.0/27
- 192.168.102.32/27
  - Summarized to 192.168.101.128/24

### HQ Building

Department	Network	Subnet Mask	Host Range
MLOCS	192.168.100.0/26	255.255.255.192	192.168.100.1 - 192.168.100.62
MER	192.168.100.64/26	255.255.255.192	192.168.100.65 - 192.168.100.126
MRM	192.168.100.128/26	255.255.255.192	192.168.100.129 - 192.168.100.190
IT	192.168.100.192/26	255.255.255.192	192.168.100.193 - 192.168.100.254
CS	192.168.101.0/26	255.255.255.192	192.168.101.1 - 192.168.101.62
HQ-GWA	192.168.101.64/26	255.255.255.192	192.168.101.65 - 192.168.101.126

### Branch Building

Department	Network	Subnet Mask	Host Range
NSO	192.168.101.128/27	255.255.255.224	192.168.101.129 - 192.168.101.158
HL	192.168.101.160/27	255.255.255.224	192.168.101.161 - 192.168.101.190
HR	192.168.101.192/27	255.255.255.224	192.168.101.193 - 192.168.101.222
MK	192.168.101.224/27	255.255.255.224	192.168.101.225 - 192.168.101.254
FIN	192.168.102.0/27	255.255.255.224	192.168.102.1 - 192.168.102.30
BR-GWA	192.168.102.32/27	255.255.255.224	192.168.102.33 - 192.168.102.62

### Server-Side Site

Department	Network	Subnet Mask	Host Range
SSS	192.168.102.64/28	255.255.255.240	192.168.102.65 - 192.168.102.78

### **ISP & Core Router Addressing**

<b>Device</b>	<b>Interface</b>	<b>IP Address</b>	<b>Subnet Mask</b>
ISP-RTR-1	Se0/0/0	<b>196.136.17.2/30</b>	<b>255.255.255.252</b>
	Se0/0/1	<b>196.136.17.10/30</b>	<b>255.255.255.252</b>
ISP-RTR-2	Se0/0/0	<b>196.136.17.6/30</b>	<b>255.255.255.252</b>
	Se0/0/1	<b>196.136.17.14/30</b>	<b>255.255.255.252</b>
HQ-RTR	Se0/0/0	<b>196.136.17.1/30</b>	<b>255.255.255.252</b>
	Se0/0/1	<b>196.136.17.9/30</b>	<b>255.255.255.252</b>
BR-RTR	Se0/0/0	<b>196.136.17.5/30</b>	<b>255.255.255.252</b>
	Se0/0/1	<b>196.136.17.13/30</b>	<b>255.255.255.252</b>

### **Core Router & Layer-3 Switch Addressing**

Device	Interface	IP Address	Subnet Mask
HQ-RTR	Gig0/0	192.168.102.81/30	255.255.255.252
	Gig0/1	192.168.102.85/30	255.255.255.252
	Gig0/2	192.168.102.65/30	255.255.255.252
	Se0/1/0	192.168.102.89/30	255.255.255.252
BR-RTR	Gig0/0	192.168.102.93/30	255.255.255.252
	Gig0/1	192.168.102.97/30	255.255.255.252
	Se0/1/0	192.168.102.90/30	255.255.255.252
HQ-L3SW-1	Gig1/0/24	192.168.102.82/30	255.255.255.252
	Gig1/0/1 - VLAN 10	192.168.100.1/26	255.255.255.192
	Gig1/0/2 - VLAN 20	192.168.100.65/26	255.255.255.192
	Gig1/0/3 - VLAN 30	192.168.100.129/26	255.255.255.192
	Gig1/0/4 - VLAN 40	192.168.100.193/26	255.255.255.192
	Gig1/0/5 - VLAN 50	192.168.101.1/26	255.255.255.192
	Gig1/0/6 - VLAN 60	192.168.101.65/26	255.255.255.192
HQ-L3SW-2	Gig1/0/24	192.168.102.86/30	255.255.255.252
	Gig1/0/1 - VLAN 10	192.168.100.1/26	255.255.255.192
	Gig1/0/2 - VLAN 20	192.168.100.65/26	255.255.255.192
	Gig1/0/3 - VLAN 30	192.168.100.129/26	255.255.255.192
	Gig1/0/4 - VLAN 40	192.168.100.193/26	255.255.255.192
	Gig1/0/5 - VLAN 50	192.168.101.1/26	255.255.255.192
	Gig1/0/6 - VLAN 60	192.168.101.65/26	255.255.255.192

Device	Interface	IP Address	Subnet Mask
BR-L3SW-1	Gig1/0/24	192.168.102.94/30	255.255.255.252
	Gig1/0/1 - VLAN 80	192.168.101.129/27	255.255.255.224
	Gig1/0/2 - VLAN 90	192.168.101.161/27	255.255.255.224
	Gig1/0/3 - VLAN 100	192.168.101.193/27	255.255.255.224
	Gig1/0/4 - VLAN 120	192.168.101.225/27	255.255.255.224
	Gig1/0/5 - VLAN 130	192.168.102.1/27	255.255.255.224
	Gig1/0/6 - VLAN 140	192.168.102.33/27	255.255.255.224
BR-L3SW-2	Gig1/0/24	192.168.102.98/30	255.255.255.252
	Gig1/0/1 - VLAN 80	192.168.101.129/27	255.255.255.224
	Gig1/0/2 - VLAN 90	192.168.101.161/27	255.255.255.224
	Gig1/0/3 - VLAN 100	192.168.101.193/27	255.255.255.224
	Gig1/0/4 - VLAN 120	192.168.101.225/27	255.255.255.224
	Gig1/0/5 - VLAN 130	192.168.102.1/27	255.255.255.224
	Gig1/0/6 - VLAN 140	192.168.102.33/27	255.255.255.224