

### Minimum Requirements

#### Open Ports & Protocols

The following ports should be allowed both inbound and outbound in any firewall or devices with applied access-lists.

IP Range	IP PORTS
72.11.192.64/27	SIP Ports (UDP 5060 & 5061)
72.11.193.64/27	SIP Ports (UDP 5060 & 5061)
72.11.194.64/27	SIP Ports (UDP 5060 & 5061)
72.11.195.64/27	SIP Ports (UDP 5060 & 5061)
216.194.0.230/32	DNS (UDP 53 / TCP 53)
216.194.9.230/32	DNS (UDP 53 / TCP 53)
216.194.61.230/32	DNS (UDP 53 / TCP 53)
216.194.28.0/24	HTTP Prov (TCP 80, 443)
72.11.192.0/22	HTTP Prov (TCP 80, 443)

- SIP ALG Shut Off
- IPSEC ALG Shut Off
- All interfaces match configurations (auto negotiate)
- No errors on any interfaces or circuits
- International IP addresses are blocked by default

#### Network Performance

Customer provided bandwidth links must have minimum requirements accessing a primary and secondary MetTel datacenter.

- **Throughput** = 80% of Circuit (524280/  
Latency = Throughput)

**Example:**  $524280(\text{bits})/0.047 = 11.1\text{Mbps}$

- **Jitter** = < 15ms
- **Bandwidth** = Sufficient for  
Voice Codec

#### Concurrent Calls

- G.711 = 86k/CALL
- G.729 = 36k/CALL
- T.38 = 80k/CALL