Unite

Network Setup – North America IPv4

Revised 2/9/26

- Internet service provider (ISP) delivers the internet over a wired connection
- Allow or whitelist IP Addresses
    - 72.53.160.0/20 (allow traffic to and from this IP range in the firewall)
    - 64.78.44.56/32 (allow traffic to and from this IP range in the firewall)
    - SNTP: 64.28.115.137
    - WAN Ping Response: 64.28.122.110 and 64.28.121.110
    - NetMasq: 255.255.240.0
- SIP signalling occurs on UDP port 5060 or TCP port 5061 (TLS 1.2). SIP information comes from Kamailio.
- SecureSIP Registration (SIP TLS)
    - TCP 5061
- RTP occurs in the UDP port rang 30000-65000(with secure SIP enabled: SRTP on TCP port range 30000-65000). Assigned Dynamically
- The following TCP ports are utilized by the telephones to contact a configuration server:
    - 80 (destination port, image files)
    - 443 (destination port, polycom phones, chat application)
    - 636 (secure LDAP for corporate directory access of the phones)
    - 1443 (destination port, cloud softphone)
    - 5222 (desktop and mobile applications presence servers)
    - 5280 (presence server)
    - 2443 (destination port, Cisco phones)
    - 6716 (destination port, Yealink phones)
    - *See firewall set up example at end of the document*
- Power for IP Phones
    - PoE L2/L3 switches in place (802.3af Ethernet standards)
        - IP Telephone Power Info
            - Yealink – PoE Max 4.0W, Idle 2.7W (Class 2)

    ## **OR**
    - Outlet for each phone to connect power adapter

- *Recommended* - VLAN set up for IP telephones
- *Recommended* – Setup Bandwidth Management (BWM)/Rate Control/Traffic Shipping to reserve the exact amount of bandwidth your phones needed at all times
    - Default Codec is G.729 for voice
    - G.711 is used for fax and some voice where the carrier does not support G.729
    - Each conversation will utilize 80K of data
- QoS for voice is required
- Verify SIP ALG and/or SIP Helper Fix Up is turned off on internet router
- Ensure the router/firewall does not block the phones' NAT binding/Keep-Alive packets that are sent every 15 seconds
- DHCP is required. DHCP Scope Options/recommendations…
    - Recommended – Set DNS to Google's DNS servers 8.8.8.8 and 8.8.4.4
        - By default most networks are setup to use ISPs DNS servers and we frequently see these have intermittent slowdowns that cause the phones to lose registration.
        - Another option for DNS servers are OpenDNS 208.67.222.222 and 208.67.220.220
        - If you have your own DNS servers outside of ISP DNS, these can be used.

Item	DHCP Option	Data Value	Notes
IP Address	1	0.0.0.0	Network provided
Subnet Mask	1	0.0.0.0	Network provided
Default Gateway	3	0.0.0.0	Network provided
Primary DNS Server	6	0.0.0.0	Network provided (Server Option)
Secondary DNS Server	6	0.0.0.0	Network provided (Server Option)
Tertiary DNS Server	6	0.0.0.0	Network provided (Server Option)
DNS Domain Name	15	Site-specific	Server Option
SNTP Server	42	0.0.0.0	Network provided
LAN Port VLAN ID	128	VLANID=xyz;	Network provided
Vendor Specific Information	43	**See Option 43 note***	Vendor Class - if necessary

Note for Option 43…Yealink phone is yealink

- IF REQUIRED - Custom MOH or AA greeting format
  - Supports both .wav or .ogg forma
    - Mono
    - WAV/OFF, u-Law
    - 16 MB maximum
    - 64kbits/s
    - 8000Hz sample rate

Software – Not Required but Recommended

These need to be installed by network team if user is unable to download their software

- Use this link for the latest deployment versions and options Network & Technical Information for UNITE – American Telephone
- **Mobile and Desktop Apps minimum requirements**
  - Android 4.1 or later
  - iOS 10.0 or later
  - Windows 7 or later
  - Mac OS X 10.8 or later

Configuring a customer's Firewall:

Below is an example for North American customer's:

IP: 72.53.160.0/20 & 64.78.44.56/32 (If your firewall does not allow CIDR format, the /20 translates to 255.255.240.0)
IP (SNTP): 64.28.115.137
IP (For WAN Ping Responses): 64.28.122.110 and 64.28.121.110
IP (For LDAP / Corp Directory):
 -Yealink LDAP: 199.193.204.67
 -Polycom LDAP: 64.78.26.255
Port Range (Audio): 30000-65000 UDP, 30000-65000 TCP
Port Range (SIP): 5060 UDP, 5061 TCP (TLS 1.2)
Port Range (Configuration Servers): TCP source ports: 80, 443, 636, 1443, 2443, 6716, 6718 | TCP
Destination ports: 80, 443, 636, 1443, 2443, 6716, 6718
Port Range (Presence Servers): TCP Destination ports: 5222 and 5280