

Welltech Platform NAT Traversal Recommendations

Target Objective:

Create a successful NAT traversal environment which supports the standard CPE device working behind all types NAT devices. The target environment will also support Audio/Video NAT traversal and fully utilize the platform NAT resource to save the bandwidth requirements.

Recommendations:

For Service Center:

- 1) We recommend that to setup WellSIP 6500 to have the following 3 UDP ports: 5060, 8080 and 18080 for normal operations. The settings display as figure 1-1.

Field	Value	Encrypt
SIP Domain		
Listen UDP Port	5060	<input type="checkbox"/>
Listen UDP Port2	8080	<input type="checkbox"/>
Listen UDP Port3	18080	<input checked="" type="checkbox"/>
Listen UDP Port4	18080	<input checked="" type="checkbox"/>

Figure 1-1

1. **5060:** Non-Encrypted, it is usually used for the device seating on the public IP address, using PPPoE or those devices can support only standard SIP 5060 port.
 2. **8080:** Non-Encrypted, it is recommended to be used for all device
 3. **18080:** Encrypted, the port is recommended to be used when ISP blocked the SIP service. It required specified CPE for encryption/decryption. Please contact Welltech for the CPE list.
- 2) If you have Wellgate 5250/5260 to act as a trunk for WellSIP 6500, the device type of Wellgate 5250/5260 in proxy is recommended to set to Gateway/RTP. The Wellgate 52xx subscriber will look like as figure 1-2.

Field	Value
Active Mode	<input checked="" type="radio"/> Active <input type="radio"/> InActive
TEL NO	1004
User Password	••••
User Group	5 - FHL
DNIS Screening Group	None
Emergency Group	None
Device Type	Gateway/RTP
User Account	1004
Web Password	••••
Authentication Mode	None
Call Authorization Mode	None
Caller ID Mode	Transparent
Hunting Method	Sequential

Figure 1-2

After the above settings, the RTP will go directly to Wellgate 52xx instead of using WellSIP 6500's RTP resource as Figure 1-3.

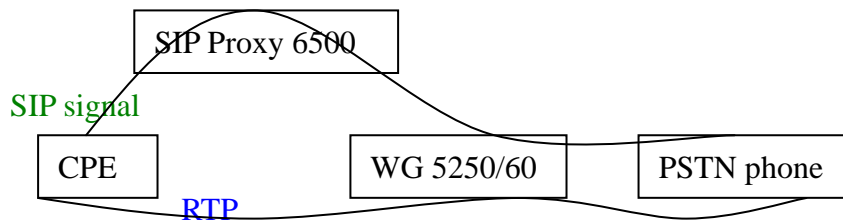


Figure 1-3

If you are suffering the one-way voice after applying above settings for a behind NAT devices, it might be caused by NAT box which doesn't support no UDP checksum (disable UDP checksum) features. You can either to upgrade the NAT box or set the corresponding subscriber to have RTP type set to "Yes" as Figure 1-4.

The screenshot shows the 'Modify Subscriber' configuration page. The 'Device Type' dropdown menu is set to 'Gateway'. Other fields include: Active Mode (Active selected), TEL NO (1004), User Password (masked), User Group (5 - FHL), DNIS Screening Group (None), Emergency Group (None), User Account (1004), Web Password (masked), Authentication Mode (None), Call Authorization Mode (None), Caller ID Mode (Transparent), and Hunting Method (Sequential).

Figure 1-4

- 3) If you have multiple WellSIP 6500s in your environment, please make sure that you set the WellSIP 6500 subscriber's device type to Proxy/RTP in order to fully utilize the RTP resource. By applying the above settings, when a WellSIP 6500's user calls another WellSIP 6500, the system will only use ONE RTP resource (normally is caller WS6500). You can set the device type to Proxy/RTP for each corresponding WS6500 by clicking **Configuration >Subscriber >New>Device Type**. Display as figure 1-5.

The screenshot shows the 'Modify Subscriber' configuration page, identical to Figure 1-4, but with the 'Device Type' dropdown menu set to 'Proxy/RTP'.

Figure 1-5

For CPE Devices

The local SIP port of CPE is recommended to use the ports between 8000 to 10000 (e.g. 8080) instead of 5060-5070, since most of NAT boxes will check and modify the message sending to or from the port 5060-5070 for SIP message. Unless the NAT box can do well for the SIP message modification (SIP-aware), it is not recommended to use this range.

For Subscriber Growing:

- By adding an additional WellRTP 5100, the platform will be able to increase the RTP handling capacity (each 384 RTP sessions based on G.723.1 60ms.) No any change is required for CPE devices.
- By adding an additional WellBG 5800 (session boarder controller), you will be able to distribute the loading of WellSIP 6500's NAT traversal capacity to SBC. However, you need to set the outbound proxy to SBC instead of WellSIP 6500. It is suitable for new subscribers.