

Routers with known issues

- **Comcast home version with wireless** - have them change to Comcast business version. The home version with wireless gets used by Comcast to also support their open Wi-Fi network (Hotspot) and this can lead to over utilization and voice quality issues. It is reported that it can be disabled, instructions are here <http://bgr.com/2014/06/11/how-to-disable-comcast-xfinity-wi-fi-hotspot/>. If this does not work then a call to Comcast customer service is needed.
- **Motorola SBG-650** - usually leads to audio problems (used by Time Warner). The problem with this one is that under high it starts buffering (or even freezing) packet output and it doesn't seem to be a way to set QOS to still allow RTP so it will end up with voice quality issues.
- **Dlink DIR-655** – SIP ALG is enabled by default as well as the router will stop passing the audio packets after 10 seconds of connection reporting that the port is not available.
- **EdgeMarc** - EdgeMarc routers have problems supporting transfer, providing pass through when acting as proxy and the SIP ALG whether off or on (which requires separate licensing) does not function correctly. Older firmware versions have less problems than the newer.
- **Ubee** modem/router, frequently used by Time Warner. This modem has been reported as causing loss of audio. As reported to us by a Time Warner engineer, there is a cache that crashes and then stops RTP from passing.
- **Arris** modem/gateway - This device running DOCSIS 2.0 has limit bandwidth support. If more than 4 simultaneous calls are connected it will discard packets causing audio issues. DOCSIS version 3.0 has greater bandwidth support and looks to be able to support up to 16 calls.

The following routers are known to have SIP ALG enabled by default, if you identify additional ones please let me know so the document can be updated.

Motorola - SBG6580 - (SurfBoard Extreme Wireless Cable Modem Gateway)

No Registration possible behind NAT as the device changes Call-ID and causes the responses to be discarded by SIP clients/ATAs

No Solution at this time (SIP ALG, called SIP Pass Through, cannot be disabled).

Must disable NAT and put the device in bridge mode (check Motorola website for guide).

SpeedTouch - ST560 v6 (*firmware* >= 5.4.0.13 comes with SIP ALG enabled by default.) NAT type: symmetrical

Issues: No incoming calls. It replaces the private IP appearing in SIP headers with the public IP using a dumb text replacement. If for example the private IP appears in the "Call-ID" it replaces it too (that it's completely unnecessary).

To disable SIP ALG:

~# telnet router

-> connection unbind application=SIP port=5060
-> saveall

Zyxel - 660 family comes with SIP ALG enabled by default. NAT type: symmetrical

Issues: No incoming calls. SIP protocol broken making 50% of outgoing calls impossible because the wrong values are inserted into SIP headers.

To disable SIP ALG:

```
~# telnet router
Menu option "24. System Maintenance".
Menu option "8. Command Interpreter Mode".
ip nat service sip active 0
```

Netgear - WGR614v9 Wireless-G Router, DGN2000 Wireless-N ADSL2+ Modem Router

Firmware V1.0.18_8.0.9NA

To disable SIP ALG: From Wan Setup Menu, NAT Filtering, uncheck the box next to "Disable SIP ALG"

SMC - To-do - NAT type: No symmetrical

Issues: The ALG doesn't replace the private address in "Call-ID" header (that is correct) but it does replace the "call-id" value in "Refer-To" header so SIP transfer is broken.

To disable SIP ALG: ToDo no ALG related options found via web and telnet. No idea of how to disable it.

Linksys - WRV200, WRT610N. NAT type: Symmetrical

Issues: The ALG replaces the private address in "Call-ID" header (not needed at all). Some phones (as Linksys with latest firmware) encode the "Call-ID" value in the "Refer-To" header (by escaping the dots) so the private IP appearing there is not replaced with the public IP. This causes that the call transfer fails since the proxy/PBX/endpoint will not recognize the dialog info.

To disable SIP ALG on WRV200; no ALG related options found via web and telnet. No idea of how to disable it. To disable SIP ALG on WRT610N: Web Interface: Administration, Management, under side heading 'Advanced Features' SIP ALG, can be disabled.

Fortinet - All models come with SIP Helper enabled by default

To disable SIP helper:

```
~# telnet firewall
config system settings
set sip-helper disable
set sip-nat-trace disable
end
config system session-helper
show <---- use this to find out which entry is configured for typically 12 or 13 delete 12
end
```

For SIP Trunks

**If using Virtual IPs under objects make sure to turn OFF NAT within each IPv4 rule for VoIP. If not using Virtual IPs under objects, make sure to turn ON NAT under each IPv4 rule for VoIP.*

The preferred solution is to configure the SIP ALG. Policies that use the SIP ALG will not use SIP helper. Full documentation at <http://docs.fortinet.com> then pick FortiOS for the version on your device, then VoIP solutions: SIP.

Cisco - 800 series to disable the NAT services for SIP in IOS, just run these commands:

```
no ip nat service sip tcp port 5060
no ip nat service sip udp port 5060
```

Juniper/Netscreen - SSG Series to disable SIP ALG:

In the Web interface: Security -> ALG

Asus RT-AC66U - with their most current firmware enables their SIP ALG by default. THERE IS NO GUI OPTION TO DISABLE IT. To disable the SIP ALG manually, you enable telnet to the device via the WWW interface Telnet to the device (from a command line enter "telnet 192.168.1.1" or the appropriate IP address for the device.)

Issue the following commands:

```
nvram get nf_sip
(It should return a "1")
nvram set nf_sip=0
nvram commit
Reboot
```

Then reboot the router for the changes to take effect.

Under firmware 3.0.0.4.374_257 SIP ALG is located in (via the web interface):

1. Log into the router's web interface.
2. Go to Advanced Settings / WAN on left side.
3. From the tabs across the top, choose NAT Pass through.
Change SIP pass through to "Disable." Hit apply.

For phones to pick up the change immediately, reboot each of them, otherwise they will pick up the new NAT table with changes during their next registration.

Comcast DPC3939B - has ALG pre-installed and cannot be turned off.

Comcast Netgear Gateway Model CG3000 DCR - will not allow customer to disable SIP ALG. The only true way to work around this is to place the CG3000 into bridge mode and then place a router/firewall behind it. *(note, we have seen sites that made this change and still encountered issues, suspicion is that it does not function in a true bridge mode. Some sites had to replace with a regular modem.)

Arris TG862G and **TG862G-CT** - SIP ALG is enabled and no way to disable. These are often used by Comcast as a Gateway.

AT&T Uverse Arris NVG589 - SIP ALG is enabled by default and cannot be disabled. By default, it will not support hosted phones, AT&T may be able to open port 5060 for SIP traffic but it is reported to us it is not possible for user level admin to do so.

ACTIONTEC model GT784WNV - Frequently used by Verizon. The manual states that ALG is assigned automatically and there is no mention of a way to disable.

Verizon FiOS G1100 - This modem has SIP ALG enabled by default and Verizon has not provided a method to disable this feature. Verizon has also not released if it can be disabled by Verizon itself. Best recommendation at this time is not to use this modem.