

## MyNetFone SIP Trunk Authentication

The MyNetFone SIP Trunk service is slightly different from other SIP Trunk services, in that it does not authenticate users with the standard username/password method (otherwise known as a Registration-based authentication) or the standard number format.

Instead, the MyNetFone SIP Trunk service conducts authentication based on the following information:

1. The Public IP Address of the Internet Connection that the SIP Trunk service / PBX system is using
2. The MyNetFone DID that is being sent from your PBX system
3. Correct formatting of various fields within the SIP Packets being sent from PBX system

The illustration below shows an “INVITE” SIP Packet that has been sent from your PBX system. This particular outgoing call attempt will successfully authenticate with MyNetFone.

This information was retrieved from a packet capture using the Protocol Analysis tool “Wireshark”. The important fields have been outlined in Red. These fields are required for successful authentication (as well as other various call-related behaviours and call setup):

```

Session Initiation Protocol
  Request-Line: INVITE sip:0280088000@sip20.mynetfone.com.au:5060 SIP/2.0
  Message Header
    Via: SIP/2.0/UDP 115.187.240.24:5060;branch=z9hg4bk-d8754z-0b32fb20a71de607-1---d8754z-;rport
    Max-Forwards: 70
    Contact: <sip:0280049174@115.187.240.24:5060>
    To: <sip:0280088000@sip20.mynetfone.com.au:5060>
    From: "0280049174"<sip:0280049174@sip20.mynetfone.com.au:5060>;tag=ef0bd55f
    Call-ID: YTFjMzVIZTRiMDM5OWRlYTlkMjAONWNhM2RmYzQwNzk.
    CSeq: 1 INVITE
    Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REGISTER, SUBSCRIBE, NOTIFY, REFER, INFO, MESSAGE
    Content-Type: application/sdp
    Supported: replaces
    User-Agent: 3CXPhoneSystem 9.0.13530.0
    Content-Length: 279
    Remote-Party-ID: "0280049174"<sip:0280049174@sip20.mynetfone.com.au:5060>;party=calling
  Message Body
    Session Description Protocol
      Session Description Protocol version (v): 0
      Owner/Creator, Session Id (o): 3cxPS 520093696000 200722612225 IN IP4 115.187.240.24
      Session Name (s): 3cxPS Audio call
      Connection Information (c): IN IP4 115.187.240.24
      Time Description, active time (t): 0 0
      Media Description, name and address (m): audio 7002 RTP/AVP 8 0 3 101
      Connection Information (c): IN IP4 115.187.240.24
      Media Attribute (a): rtpmap:8 PCMA/8000
      Media Attribute (a): rtpmap:0 PCMU/8000
      Media Attribute (a): rtpmap:3 GSM/8000
      Media Attribute (a): rtpmap:101 telephone-event/8000
      Media Attribute (a): sendrecv
  
```

Further information for each of the outlined fields is provided on the next page.

**VIA: SIP/2.0/UDP 115.187.240.24:5060**

In the VIA field, “115.187.240.24” is the Public IP address of your Internet Connection. This section of the field must display the Public IP Address of the Internet Connection that your PBX system is using, and not an Internal LAN IP Address. “5060” is the SIP signalling port that will be used to control the call.

**CONTACT: <sip:0280049174@115.187.240.24:5060>**

In the CONTACT field, “0280049174” is one of the MyNetFone DID’s that has been assigned to your account as part of the MyNetFone SIP Trunking service. “115.187.240.24” is the Public IP address of your Internet Connection. This section of the field must display the Public IP Address of the Internet Connection that your PBX system is using, and not an Internal LAN IP Address.

**TO: <sip:0280088000@sip20.mynetfone.com.au**

In the TO field, “0280088000” is the number that has been dialled from your PBX. “sip20.mynetfone.com.au” is the Proxy Server for the MyNetFone SIP Trunk Service. All outgoing calls must be sent to this proxy. The IP address can be used instead of hostname if desired. The format of [DID]@[Proxy Server] must be used.

**FROM: “0280049174”<sip:0280049174@sip20.mynetfone.com.au:5060;**

In the FROM field, “0280049174” is one of the MyNetFone DID’s that have been assigned to your account as part of the SIP Trunking service. “sip20.mynetfone.com.au” is the Proxy Server for the MyNetFone SIP Trunk Service. All outgoing calls must be sent to this proxy.

## Session Description Protocol

In this portion of the SIP Packet, you will notice that the following 3 fields are highlighted: The “Owner/Creator” field and two “Connection Information” fields.

All of these fields must display the Public IP Address of the Internet Connection that your PBX system is using, and not an Internal LAN IP Address.

**Please Note:** It may not be possible to edit all the above fields within the PBX system itself. Some of the IP Addresses in the above fields may need to be modified on your Router.

Some Routers may be flexible enough to allow modification of Nat Parameters or “SIP ALG” behaviour, but some routers may not.

An example of this would be the IP Address in the “CONTACT” or the “Session Description Protocol” fields.

With the LAN IP address being used in the “CONTACT” or “Session Description Protocol” fields, MyNetFone may send some SIP Packets and/or RTP Traffic to the LAN IP Address (instead of the Public IP Address of your Internet Connection).

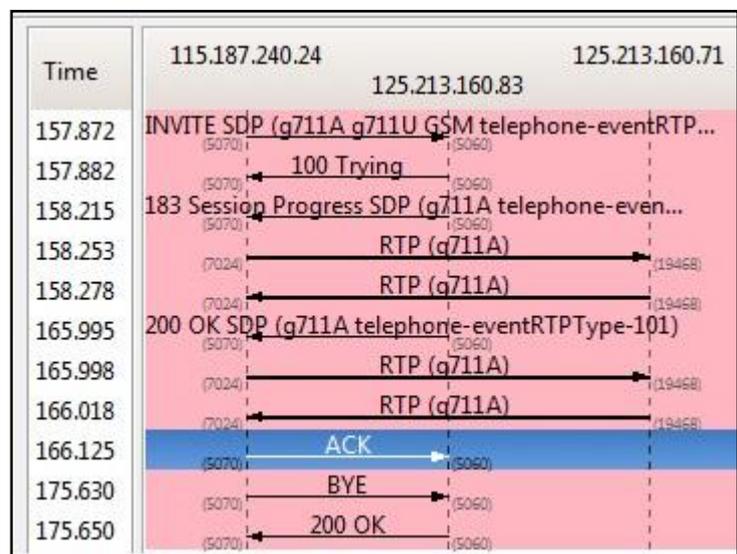
Examples of possible issues caused by such a scenario include (but are not limited to):

- Outgoing Calls being rejected during the call setup phase
- Incoming Call failure or abnormal behaviour
- SIP and/or RTP Traffic being sent to the wrong destination

Below is an overview of a successful outbound call from the Protocol Analysis tool “Wireshark”. The network traffic of the outbound call was captured and Wireshark was used for analysis.

A breakdown of the outbound call is below:

1. The “**INVITE SDP**” Packet is sent from the PBX system to MyNetFone. This is to request that an outgoing call be made.
2. The “**100 Trying**” Packet is sent from MyNetFone to the PBX system. This is to inform the PBX that the call attempt is being processed.
3. The “**183 Session Progress SDP**” Packet is sent from MyNetFone to the PBX system. This is to inform the PBX that the other party is currently ringing the relevant destination.



4. The “**RTP (g711A)**” packet is then sent from the PBX system to MyNetFone. This begins the audio stream between the PBX to MyNetFone.
5. The “**RTP (g711A)**” packet is then sent from the MyNetFone to the PBX system. This begins the return audio stream between MyNetFone & the PBX system.
6. The “**200 OK SDP**” Packet is sent from MyNetFone to the PBX system. This is to inform the PBX that the call has been answered by the relevant destination.
7. The “**RTP (g711A)**” packet is then sent from the PBX system to MyNetFone. *Please note this is the exact same stream continuing from above, this is the way Wireshark displays the call progression in this scenario.*
8. The “**RTP (g711A)**” packet is then sent from the MyNetFone to the PBX system. *Please note this is the exact same stream continuing from above, this is the way Wireshark displays the call progression in this scenario.*
9. The “**ACK**” Packet is sent from the PBX system to MyNetFone. This is to inform MyNetFone that the PBX has successfully received the previous “200 OK SDP” Packet.

10. The **“BYE”** Packet is sent from the PBX system to MyNetFone. This is to inform MyNetFone that the PBX has chosen to disconnect the call.
11. The **“200 OK”** Packet is sent from MyNetFone to the PBX system.  
This is to inform the PBX that MyNetFone has successfully received the previous **“BYE”** Packet, and that the call will now be disconnected.

Depending on the abilities and/or features of your Router or Gateway device, it may not be possible to view SIP Packets as they are being sent to MyNetFone. Modification of SIP Packets may occur as they pass through your Router or Gateway device, which would result in different data being displayed from the LAN-Side compared to the WAN-Side.

In this case, MyNetFone is able to capture the SIP and RTP Traffic that is sent/received to and from your Public IP Address for troubleshooting purposes.

For further technical assistance, please contact MyNetFone Business Support on 1300 887 899. Alternatively, you can email a request for technical assistance to [business-support@mynetfone.com.au](mailto:business-support@mynetfone.com.au).