

# P-Asserted-Identity

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## Description

The P-Asserted-Identity header field can be used to convey the proven identity of the originator of a request within a trusted network. Since the From header field is populated by the originating UA it may not necessarily contain the actual identity. It usually is established by means of authentication between the originating UA and its outgoing proxy. The outgoing proxy then adds a P-Asserted-Identity header field to assert the identity of the originator to other proxies.

This header field has only meaning within what is called a trusted network by mutual agreement on the requirements for its use by the parties involved.

The P-Asserted-Identity header field is defined in RFC 3325 (<http://www.ietf.org/rfc/rfc3325.txt>).

Source: <http://www.z9hg4bk.org/sip/hf/p-asserted-identity.html>

## How P-Asserted-Identity (PAI) is handled in MOR

- If caller sends PAI, MOR reads it and resends to the callee automatically.
- If caller sends PAI and CallerID Number is 'Anonymous', MOR changes CallerID Number to the value from the PAI.
  - NOTE: CallerID Name is not changed! Only CallerID Number.
- If caller sends PAI and some Provider has **P-Asserted-Identity usage** enabled in it's Edit window, MOR ignores this setting, because it resends original PAI
- If caller is NOT sending PAI and some Provider has **P-Asserted-Identity usage** enabled in it's Edit window, MOR constructs PAI from CallerID, Server IP (from mor.conf file) and SIP Port (from sip.conf file).
  - NOTE: Provider CallerID rules are applied to every PAI sent to that Provider

In order to pass PAI from Caller to Callee automatically, set **pass\_pai = 1** mor.conf

SIP INVITE packet from Caller

```

--- SIP read from 192.168.1.106:5060 --->
INVITE sip:370630414398192.168.1.105 SIP/2.0
Via: SIP/2.0/UDP 192.168.1.106:5060;branch=98046878267164;root
From: "Anonymous" <sip:Anonymous@192.168.1.105>;tag=ast6646ed
To: <sip:370630414398192.168.1.105>
Contact: <sip:Anonymous@192.168.1.105>
Call-ID: 47c27f1140740251146031f70ebd31e@192.168.1.106
CSeq: 182 INVITE
User-Agent: MOR Softswitch
Max-Forward: 70
Date: Sat, 14 Oct 2012 14:09:07 GMT
Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REFER, SUBSCRIBE, NOTIFY, INFO
Content-Type: application/sdp
Content-Length: 311
    
```

MOR Core resends PAI and changes CallerID Number

```

*001*[112/MOR_Server-2-00000000*,*71040342439*] in new stack
app_mor.c:1156 mor_mwci: Core version: 11.0.19, Server ID: 1, Dial out settings: hm, active calls enabled: 1, active calls count: 5
p: check_banned_list: 1, use_speed_dialer: 1, play_busy_audio: 0, use_flat_rates: 1, server sip: 213.197.141.162
app_mor_variables.c:197 mor_get_variables: Toll balance: 0, call time: 0, toll time mod.: 1-000000, toll v.time when left: 0 s, toll
call_leg1: 0
app_mor_authentication.c:1013 mor_read_data_from_channel: Date: 2012-10-14, time: 14:09:07
app_mor_variables.c:181 mor_check_washout_washout: Pa.SIP date: 2012-10-14
app_mor_callerid.c:494 mor_handle_pai: Resending P-Asserted-Identity from caller to callee: <sip:34667097908212.199.220.211@5060>
app_mor_authentication.c:40 change_callerid: Changing CallerID from Anonymous to 3466709790
app_mor_authentication.c:1423 mor_read_data_from_channel: callID: "Anonymous" *5466709790, scc: 5466709790, dsl: 37063041439, Acov:
3705147-10
app_mor_authentication.c:1183 mor_get_user_by_sip: User's data retrieved: id: 0, loc_id: 1, balance: -27.493994, frozen_balance: 0
mor_priority, tariff_id: 2, postpaid: 1, day_type: FD, exchange_rate: 1.267300, ani: 0, call_balance: 0, time: 0, when left: 60s,
tariff_type: user_wholesale, allow_inte_calls: 0, did_from_did: 0, request: 0, owner: 0, sipbalance: 0, allow_dsl:
0, limit: 0, device_active_calls: 1, user_active_calls: 0, ip_group: 0, web_percent: 0.000000, originator sip: 192.168.1.106, callerid:
    
```

SIP INVITE packet to callee

```

INVITE sip:10270430424398192.40.32.122:5060 SIP/2.0
Via: SIP/2.0/UDP 192.168.1.105:5060;branch=98046878267164;root
From: "Anonymous" <sip:34667097908212.199.220.211@5060>
To: <sip:10270430424398192.40.32.122:5060>
Contact: <sip:34667097908212.199.220.211@5060>
Call-ID: 7834709794644433a20e62d8e4108192.168.1.105
CSeq: 182 INVITE
User-Agent: MOR Softswitch
Max-Forward: 70
Date: Sat, 14 Oct 2012 14:09:07 GMT
Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REFER, SUBSCRIBE, NOTIFY, INFO
Content-Type: application/sdp
Content-Length: 243
    
```

# Configuration for Provider to send PAI if it is not present from the Caller

Enable it per Provider basis in its Settings:

**SIP Specific**

Fromuser:

Authuser:

Fromdomain:

Trustpid:  No  Yes

Sendripid:  No  Yes

Insecure: Port:  Invite:

T.38 Support:  No  Yes

SIP 302 Reinvite Support:  No  Yes

**P-Asserted-Identity usage:**  No  Yes

**P-Asserted-Identity**

The P-Asserted-Identity header field can be used to convey the proven identity of the originator of a request within a trusted network. Since the From header field is populated by the originating UA it may not necessarily contain the actual identity. It usually is established by means of authentication between the originating UA and its outgoing proxy. The outgoing proxy then adds a P-Asserted-Identity header field to assert the identity of the originator to other proxies.

This header field has only meaning within what is called a trusted network by mutual agreement on the requirements for its use by the parties involved.

The P-Asserted-Identity header field is defined in RFC 3325.

- Make sure correct external IP address is set in mor.conf in variable **server\_ip**.
- SIP port will be taken from sip.conf, if not found, default one (5060) will be used.

## How P-Asserted-Identity (PAI) is handled in MOR X11 and later versions

MOR internal logic for PAI sending is controlled by three variables:

- If Caller sends PAI or not.
- pass\_pai** - pass\_pai value in mor.conf configuration file. If pass\_pai is not defined, default value is 0.
- Pass PAI** - Pass PAI check-box value in Provider Settings and Device settings page. This setting can overwrite global **pass\_pai** variable for specific Provider/Device. Available options are **'Global'** (same as pass\_pai value in mor.conf), **'Yes'** and **'No'**. Please check table below to see how MOR checks if Pass PAI is active or not for specific Device/Provider combination.
- P-Asserted-Identity usage** - P-Asserted-Identity check-box value in Provider Settings page.

Pass PAI is controlled by global pass\_pai option in mor.conf which can be overwritten for specific provider/device. Please follow table below to determine if pass PAI will be active or not.

pass_pai in mor.conf	Pass PAI in Device settings	Pass PAI in Provider settings	pass PAI active?
1	Global	Global	Yes
1	Global	Yes	Yes
1	Global	No	No
1	Yes	Global	Yes
1	Yes	Yes	Yes
1	Yes	No	No

1	No	Global	No
1	No	Yes	No
1	No	No	No
0	Global	Global	No
0	Global	Yes	Yes
0	Global	No	No
0	Yes	Global	Yes
0	Yes	Yes	Yes
0	Yes	No	No
0	No	Global	No
0	No	Yes	No
0	No	No	No

If callflow is DID provider -> End Device, then DID provider will act as Device and End Device as Provider in PAI active calculation table above.

PAI sending behaviour can be summarised by these rules:

- If caller sends PAI, pass PAI is active, then **P-Asserted-Identity usage** setting does not matter, MOR resends received PAI to the callee automatically.
- If caller does not send PAI (or caller sends PAI but pass PAI is **not** active) and **P-Asserted-Identity usage** is **enabled**, MOR **always constructs new PAI**. New PAI is constructed from CallerID, Server IP (defined in server\_ip variable from mor.conf file) and SIP Port (from /etc/asterisk/sip.conf file).
- If caller does not send PAI (or caller sends PAI but pass PAI is **not** active) and **P-Asserted-Identity usage** is **disabled**, PAI is not sent by MOR.

All available options are described in table bellow.

Caller Sends PAI	pass PAI is active	P-Asserted-Identity usage	MOR Action?
Yes	Yes	Yes	Resends received PAI to the callee automatically
Yes	Yes	No	Resends received PAI to the callee automatically
Yes	No	Yes	Constructs new PAI
Yes	No	No	PAI is not sent
No	Yes	Yes	Constructs new PAI
No	No	Yes	Constructs new PAI
No	Yes	No	PAI is not sent
No	No	No	PAI is not sent

## P-Asserted-Identity and CallerID

P-Asserted-Identity header can overwrite CallerID headers, depending on options in Device settings and/or Provider Settings pages and settings in /etc/asterisk/mor.conf configuration file.

- If **Trustpid** is enabled in device settings (if call originates from device) or provider settings (if call originates from DID provider), Asterisk will replace CallerID headers with values from P-Asserted-Identity headers.
- **anonymous\_callerid\_by\_rpidpai** and **use\_callerid\_from\_pai** variables defined in /etc/asterisk/mor.conf file can overwrite CallerID headers with P-Asserted-Identity headers. Their usage is described here.

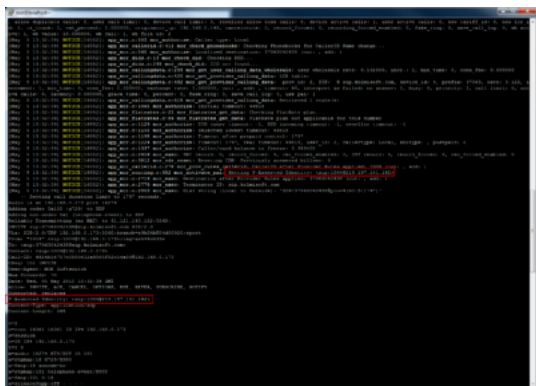
## Provider see my Calls with CallerID and name details as Anonymous (anonymous@anonymous.invalid)

In such case, check these details:

- If in Device of User which sends Calls **Trustpid** is enabled;

- If in Provider settings, to which Calls are being sent with PAI re-send, **PAI** is disabled;
- If **pass\_pai** is enabled in mor.conf;
- If Trustpid is enabled on Provider side;

## Asterisk CLI example



## Configuration Examples

### Sending anonymous call with original callerid in PAI header

The client wants to send calls anonymously by including the Privacy: id header.

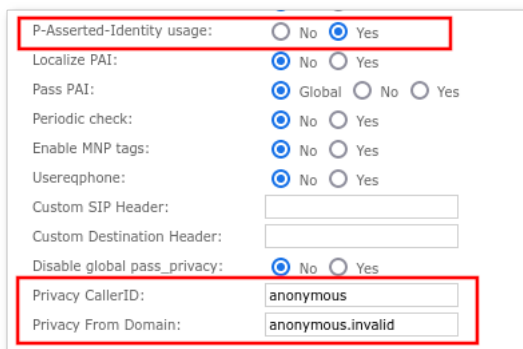
```
INVITE sip:37068311111@xx.xx.xx.xx;transport=UDP SIP/2.0
...
To: <sip:37068311111@192.168.56.104;transport=UDP>
From: <sip:123456789@192.168.56.104;transport=UDP>;tag=efa8f069
Privacy: id
...
```

Provider expects From header anonymous, but original callerid in PAI header.

```
INVITE sip:37068311111@yy.yy.yy.yy:5060 SIP/2.0
...
From: "anonymous" <sip:anonymous@anonymous.invalid>;tag=as00bf2b78
To: <sip:37068311111@yy.yy.yy.yy:5060>
...
P-Asserted-Identity: <sip:+123456789@xx.xx.xx.xx:5060>
Privacy: id
...
```

Configuration In Provider Settings:

- **P-Asserted-Identity usage:** set to yes
- **Privacy CallerID:** set to 'anonymous'
- **Privacy From Domain:** set to 'anonymous.invalid'



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