



SIP TRUNKING PBX CONFIGURATION GUIDE

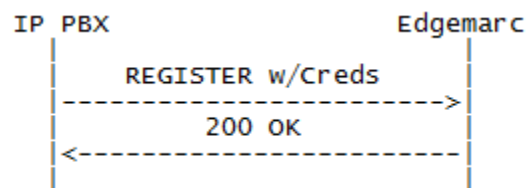
MegaPath requires specific settings to ensure successful SIP Registration between your PBX and MegaPath SIP Servers.

Depending on the make and model of your equipment, some of these settings may not be presented as listed below. You may have to refer to your PBX manual or vendor for assistance.

SIP Registration between PBX and Edgemarc

The Registration process is the first step in placing and receiving successful calls within MegaPath's VoIP Network. The diagram below show a basic registration method between an IP PBX and an Edgemarc Voice Router.

The diagram is an example where the PBX sends a SIP Register with credentials to an Edgemarc Voice Router. The Edgemarc then returns a successful 200 OK SIP message to complete the Registration process.



Depending on your PBX type, the naming convention may or may not be the same as the settings listed below; a reference to your PBX manual may be required:

- Username / SIP Username / SIP User ID / Credentials Username / Authorization Username/ID
Input **<PILOT NUMBER>** for this field - example below show 5552221234
- Password / SIP Password / Credentials Password / Authorization Password
Input provided SIP **<PASSWORD>** - example below show an encrypted password
- Expires Timer / Registration Timer / Registrar Timer / Expiry Time
Input **<60>** seconds for this field - some PBXs default to 3600 seconds
- Proxy IP / Outbound Proxy / SIP Server / SIP Proxy / Registrar
Input **<EDGEMARC's LAN IP>** for this field - example below show 192.168.1.1
- PBX IP
Input **<PBX IP>** for this field - example below show 192.168.1.2
- Caller ID / Contact / Display
Input **<PILOT NUMBER>** for this field - example below show 5552221234
- Realm
Input **<BroadWorks>** - this setting could be case sensitive depending on your PBX model.
- Port / SIP Port
Input **<5060>** for this field

Successful SIP Registration sent from your PBX with proper SIP Headers and accurate credentials, will receive a 200 OK from MegaPath's SIP Servers to the Edgemark towards the PBX to complete the registration process. Example shown below:

From IP PBX to Edgemark Router >>>

```
REGISTER sip:192.168.1.1:5060 SIP/2.0
Via: SIP/2.0/UDP 192.168.1.2:5060;branch=z9hG4bKE2B371D20
From: <sip:5552221234@192.168.1.1>;tag=6E6AEB8-2184
To: <sip:5552221234@192.168.1.1>
Call-ID: 1FF17E27-49D511E5-8602A6D7-34091E2F
User-Agent: Cisco-SIPGateway/IOS-15.2.4.M6a
Max-Forwards: 70
Timestamp: 1441157242
CSeq: 15706 REGISTER
Contact: <sip:5552221234@192.168.1.2:5060>
Expires: 60
Authorization: Digest
username="5552221234",realm="BroadWorks",uri="sip:192.168.1.1:5060",response="de811007e6954be3b571f3538b303e0d",nonce="BroadWorksXie23t92oTwpwfaeBW",cnonce="746DD405",qop=auth,algorithm=MD5,nc=00000001
Content-Length: 0
```

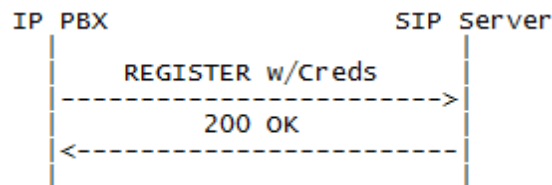
From Edgemark Router to IP PBX <<<

```
SIP/2.0 200 OK
Via: SIP/2.0/UDP 192.168.1.2:5060;branch=z9hG4bKE2B371D20
Record-Route: <sip:5552221234@192.168.1.1;lr>
From: <sip:5552221234@192.168.1.1>;tag=6E6AEB8-2184
To: <sip:5552221234@192.168.1.1>;tag=SD4jbt899-375118432-1441157242500
Call-ID: 1FF17E27-49D511E5-8602A6D7-34091E2F
CSeq: 15706 REGISTER
Contact: <sip:5552221234@192.168.1.2:5060>;expires=60;q=0.5
Timestamp: 1441157242
Content-Length: 0
```

SIP Registration between PBX and MegaPath SIP Server

The diagram below show a basic registration method between an IP PBX and MegaPath's SIP Server.

The diagram is an example where the PBX sends a SIP Register with credentials to MegaPath's SIP Server. The SIP Server then responds with a successful 200 OK message to complete the Registration process.



In this setup the PBX will send registration traffic directly to MegaPath SIP Servers, so configuring an SRV for the SIP Proxy will be required.

A Service record (SRV record) is a specification of data in the Domain Name System defining the location, i.e. the hostname and port number, of servers for specified services. Within MegaPath, the naming convention for SRV is as follows:

<CustomerStateAbbreviation>01-siptrunk.megapathvoice.net

- Example SRV: tx01-siptrunk.megapathvoice.net
 - Primary Host 1: lsancagb-siptrunk01.megapathvoice.net
 - Backup Host 2: asbnvacz-siptrunk01-fo.megapathvoice.net

It's important to note that some PBXs do not support SRV records so the primary host will be required.

Verify if your Network can resolve an SRV Record:

Windows:

- 1) Access Windows Command Prompt (Select Windows Logo/Run/Type "CMD" + Enter)
- 2) From Command Prompt, type the following:
 - a. nslookup - press the enter key
 - b. set type=SRV - press the enter key
 - c. _sip._udp.<input state>01-siptrunk.megapathvoice.net - press the enter key
 - i. Example: _sip._udp.tx01-siptrunk.megapathvoice.net

Linux/Unix:

- 1) Access Command Line (Terminal Session)
- 2) From Command Line, type the following:
 - a. host -t SRV _sip._udp.<input state>01-siptrunk.megapathvoice.net
 - i. Example: host -t SRV _sip._udp.tx01-siptrunk.megapathvoice.net

If your network resolved the SRV successfully, results will return a primary and secondary host.

Depending on your PBX type, the naming convention may or may not be the same as the settings listed below; a reference to your PBX manual may be required:

- Username / SIP Username / SIP User ID / Credentials Username / Authorization Username/ID
Input **<PILOT NUMBER>** for this field - example below show 5552221234
- Password / SIP Password / Credentials Password / Authorization Password
Input provided SIP **<PASSWORD>** - example below show an encrypted password
- Expires Timer / Registration Timer / Registrar Timer / Expiry Time
Input **<60>** seconds for this field - some PBXs default to 3600 seconds.
- Proxy IP / Outbound Proxy / SIP Server / SIP Proxy / Registrar
Input provided **<SRV Record>** for this field - example below shows primary host.
- PBX IP
Input **<PBX IP>** for this field - example below shows 10.10.18.20 via public IP 70.70.1.1
- Caller ID / Contact / Display
Input **<PILOT NUMBER>** for this field - example below shows 5552221234
- Realm
Input **<BroadWorks>** - this setting could be case sensitive depending on your PBX model.
- Port / SIP Port
Input **<5060>** for this field

Successful SIP Registration sent from your PBX with appropriate SIP Headers and accurate credentials, will receive a 200 OK from MegaPath's SIP Servers to the Edgemark towards the PBX to complete the registration process. Example shown below:

From IP PBX to MegaPath's SIP Server >>>

```
REGISTER sip:lsancagb-siptrunk01.megapathvoice.net SIP/2.0
Via: SIP/2.0/UDP 10.10.18.20:5060;branch=z9hG4bK76d84442;rport
Max-Forwards: 70
From: <sip:5552221234@lsancagb-siptrunk01.megapathvoice.net>;tag=as61f45374
To: <sip:5552221234@lsancagb-siptrunk01.megapathvoice.net>
Call-ID: 4ff8722109ae78b1542998263e724c53@192.168.0.198
CSeq: 134359 REGISTER
User-Agent: FPBX-12.0.68(11.18.0)
Authorization: Digest username="5552221234", realm="BroadWorks", algorithm=MD5, uri="sip:lsancagb-siptrunk01.megapathvoice.net", nonce="BroadWorksXidc5wjypTvqqapgBW", response="84b20b851dc2f7d63b0585eaec3f2c97", qop=auth, cnonce="6d48017e", nc=000094c5
Expires: 60
Contact: <sip:5552221234@10.10.18.20:5060>
Content-Length: 0
```

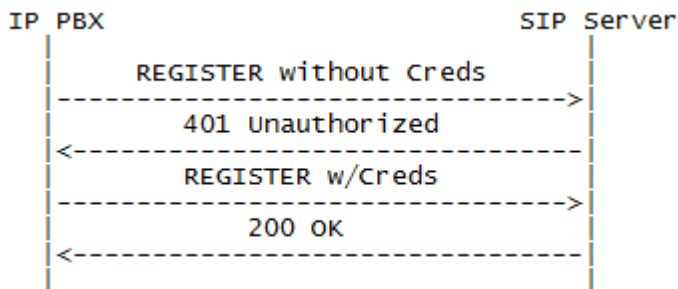
From MegaPath's SIP Server to IP PBX <<<

```
SIP/2.0 200 OK
Via: SIP/2.0/UDP 10.10.18.20:5060;received=70.70.1.1;branch=z9hG4bK76d84442;rport=49686
From: <sip:5552221234@lsancagb-siptrunk01.megapathvoice.net>;tag=as61f45374
To: <sip:5552221234@lsancagb-siptrunk01.megapathvoice.net>;tag=aprqrg1dt1-231rka30203ed
Call-ID: 4ff8722109ae78b1542998263e724c53@192.168.0.198
CSeq: 134359 REGISTER
Contact: <sip:5552221234@10.10.18.20:5060>;expires=60
```

SIP Registration without initial Credentials

The diagram below shows a basic registration method between an IP PBX and MegaPath's SIP Server. In this setup, the initial registration sent from the PBX does not include the Authorization Digest header providing the SIP Username and Password.

In this diagram you will notice a 401 Unauthorized "Challenge" SIP message is sent to allow the PBX to send a secondary Registration request with the appropriate authentication digest header.



- Username / SIP Username / SIP User ID / Credentials Username / Authorization Username/ID
Input **<PILOT NUMBER>** for this field - example below show 5552221234
- Password / SIP Password / Credentials Password / Authorization Password
Input provided SIP **<PASSWORD>** - example below show an encrypted password
- Expires Timer / Registration Timer / Registrar Timer / Expiry Time
Input **<60>** seconds for this field - some PBXs default to 3600 seconds.
- Proxy IP / Outbound Proxy / SIP Server / SIP Proxy / Registrar
Input provided **<SRV Record>** for this field - example below show primary host IP.
- PBX IP
Input **<PBX IP>** for this field - example below show public IP 70.70.1.1
- Caller ID / Contact / Display
Input **<PILOT NUMBER>** for this field - example below show 5552221234
- Realm
Input **<BroadWorks>** - this setting could be case sensitive depending on your PBX model.
- Port / SIP Port
Input **<5060>** for this field

From IP PBX to MegaPath's SIP Server >>>

```

REGISTER sip:67.103.60.53 SIP/2.0
From: <sip:5552221234@67.103.60.53>;tag=bdec00-4a02b8aa-13c4-5506-a27af-13882dd0-a27af
To: <sip:5552221234@67.103.60.53>
Call-ID: c09530-4a02b8aa-13c4-5506-a27af-629f8a0a-a27af
CSeq: 1 REGISTER
Via: SIP/2.0/UDP 70.70.1.1:5060;rport;branch=z9hG4bK-a27af-27ab0605-4f974819;rport
Max-Forwards: 70
Supported: 100rel
User-Agent: IGW Trunk
Expires: 60
Contact: <sip:5552221234@70.70.1.1:5060>
Content-Length: 0
  
```

From MegaPath's SIP Server to IP PBX <<<**SIP/2.0 401 Unauthorized**

From: <sip:5552221234@67.103.60.53>;tag=bdec00-4a02b8aa-13c4-5506-a27af-13882dd0-a27af
 To: <sip:5552221234@67.103.60.53>;tag=SDgrl6299-1197488277-1441311612077
 Call-ID: c09530-4a02b8aa-13c4-5506-a27af-629f8a0a-a27af
 CSeq: 1 REGISTER
 Via: SIP/2.0/UDP 70.70.1.1:5060;branch=z9hG4bK-a27af-27ab0605-4f974819;rport;rport=5060
 WWW-Authenticate: DIGEST qop="auth",nonce="BroadWorksXie4npxgtTiu2oh3BW",realm="BroadWorks",algorithm=MD5
 Content-Length: 0

From IP PBX to MegaPath's SIP Server >>>**REGISTER sip:67.103.60.53 SIP/2.0**

From: <sip:5552221234@67.103.60.53>;tag=bdec00-4a02b8aa-13c4-5506-a27af-13882dd0-a27af
 To: <sip:5552221234@67.103.60.53>
 Call-ID: c09530-4a02b8aa-13c4-5506-a27af-629f8a0a-a27af
 CSeq: 2 REGISTER
 Via: SIP/2.0/UDP 70.70.1.1:5060;rport;branch=z9hG4bK-a27af-27ab063a-269bfe47;rport
 Max-Forwards: 70
 Supported: 100rel
 User-Agent: IGW Trunk
 Expires: 60
 Authorization: Digest
 username="5552221234",realm="BroadWorks",nonce="BroadWorksXie4npxgtTiu2oh3BW",uri="sip:67.103.60.53",response="7756cb9f8e09857442014d2de87b589b",algorithm=MD5,cnonce="27ab063a",qop=auth,nc=00000001
 Contact: <sip:5552221234@70.70.1.1:5060>
 Content-Length: 0

From MegaPath's SIP Server to IP PBX <<<**SIP/2.0 200 OK**

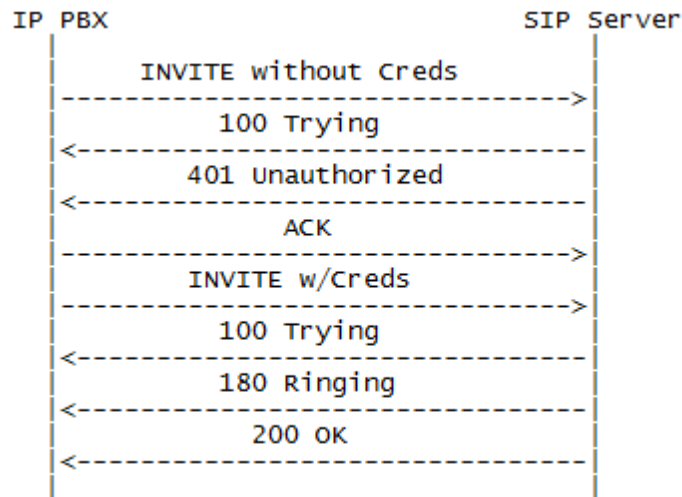
From: <sip:5552221234@67.103.60.53>;tag=bdec00-4a02b8aa-13c4-5506-a27af-13882dd0-a27af
 To: <sip:5552221234@67.103.60.53>;tag=SDgrl6299-1955057788-1441311612157
 Call-ID: c09530-4a02b8aa-13c4-5506-a27af-629f8a0a-a27af
 CSeq: 2 REGISTER
 Via: SIP/2.0/UDP 70.70.1.1:5060;branch=z9hG4bK-a27af-27ab063a-269bfe47;rport;rport=5060
 Contact: <sip:5552221234@70.70.1.1:5060>;expires=60;q=0.5
 Allow-Events: call-info,line-seize,dialog,message-summary,as-feature-event,x-broadworks-hoteling,x-broadworks-call-center-status

SIP INVITE for Outgoing Calls using the Pilot Number

MegaPath requires specific settings to ensure successful SIP Negotiation occur when placing outgoing calls.

Similar to SIP Registration, SIP INVITEs from your PBX are “challenged” requiring the PBX to provide SIP credentials in order to route calls through MegaPath’s VoIP network.

The diagram below show a basic outgoing call where the PBX sends a SIP INVITE to MegaPath’s SIP Server. In this setup, the initial INVITE does not include the Authorization header providing the SIP Username and Password so a 401 Unauthorized “Challenge” SIP message is sent to the PBX.



- Username / SIP Username / SIP User ID / Credentials Username / Authorization Username/ID
Input **<PILOT NUMBER>** for this field - example below show 5552221234
- Password / SIP Password / Credentials Password / Authorization Password
Input provided SIP **<PASSWORD>** - example below show an encrypted password
- Expires Timer / Registration Timer / Registrar Timer / Expiry Time
Input **<60>** seconds for this field - some PBXs default to 3600 seconds.
- Proxy IP / Outbound Proxy / SIP Server / SIP Proxy / Registrar
Input provided **<SRV Record>** for this field - example below show primary host.
- PBX IP
Input **<PBX IP>** for this field - example below show public IP 70.70.1.1
- Caller ID / Contact / Display
Input **<PILOT NUMBER>** for this field - example below show 5552221234
- Realm
Input **<BroadWorks>** - this setting could be case sensitive depending on your PBX model.
- Port / SIP Port
Input **<5060>** for this field

From IP PBX to MegaPath's SIP Server >>>

INVITE sip:4085558888@lsancagb-siptrunk01.megapathvoice.net SIP/2.0
 Via: SIP/2.0/UDP 10.10.18.20:5060;branch=z9hG4bK0ad07ace;rport
 Max-Forwards: 70
 From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
 To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>
 Contact: <sip:5552221234@10.10.18.20:5060>
 Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
 CSeq: 102 INVITE
 User-Agent: FPBX-12.0.68(11.18.0)
 Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REFER, SUBSCRIBE, NOTIFY, INFO, PUBLISH, MESSAGE
 Supported: replaces, timer
 Content-Type: application/sdp
 Content-Length: 862

From MegaPath's SIP Server to IP PBX <<<**SIP/2.0 100 Trying**

Via: SIP/2.0/UDP 10.10.18.20:5060;received=70.70.1.1;branch=z9hG4bK0ad07ace;rport=49686
 From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
 To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>
 Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
 CSeq: 102 INVITE

From MegaPath's SIP Server to IP PBX <<<**SIP/2.0 401 Unauthorized**

Via: SIP/2.0/UDP 10.10.18.20:5060;received=70.70.1.1;branch=z9hG4bK0ad07ace;rport=49686
 From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
 To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>;tag=SDr54q899-293174564-1441904752754
 Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
 CSeq: 102 INVITE
 WWW-Authenticate: DIGEST qop="auth",nonce="BroadWorksXieeguzqTdgjz89BW",realm="BroadWorks",algorithm=MD5
 Content-Length: 0

From IP PBX to MegaPath's SIP Server >>>

ACK sip:4085558888@lsancagb-siptrunk01.megapathvoice.net SIP/2.0
 Via: SIP/2.0/UDP 10.10.18.20:5060;branch=z9hG4bK0ad07ace;rport
 Max-Forwards: 70
 From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
 To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>;tag=SDr54q899-293174564-1441904752754
 Contact: <sip:5552221234@10.10.18.20:5060>
 Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
 CSeq: 102 ACK
 User-Agent: FPBX-12.0.68(11.18.0)
 Content-Length: 0

From IP PBX to MegaPath's SIP Server >>>

INVITE sip:4085558888@lsancagb-siptrunk01.megapathvoice.net SIP/2.0
 Via: SIP/2.0/UDP 10.10.18.20:5060;branch=z9hG4bK2894055c;rport
 Max-Forwards: 70
 From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
 To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>
 Contact: <sip:5552221234@10.10.18.20:5060>
 Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
 CSeq: 103 INVITE
 User-Agent: FPBX-12.0.68(11.18.0)
Authorization: Digest username="5552221234", realm="BroadWorks", algorithm=MD5, uri="sip:4085558888@lsancagb-siptrunk01.megapathvoice.net", nonce="BroadWorksXieeguzqTdgjz89BW", response="02cc1a2ea3175f71a7eaabfe07beadb7", qop=auth, cnonce="11b43c3c", nc=00000001
 Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REFER, SUBSCRIBE, NOTIFY, INFO, PUBLISH, MESSAGE
 Supported: replaces, timer

Content-Type: application/sdp
Content-Length: 862

From MegaPath's SIP Server to IP PBX <<<

SIP/2.0 100 Trying

Via: SIP/2.0/UDP 10.10.18.20:5060;received=70.70.1.1;branch=z9hG4bK2894055c;rport=49686
From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>
Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
CSeq: 103 INVITE

From MegaPath's SIP Server to IP PBX <<<

SIP/2.0 180 Ringing

Via: SIP/2.0/UDP 10.10.18.20:5060;received=70.70.1.1;branch=z9hG4bK2894055c;rport=49686
From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>;tag=SDr54q899-1464576089-1441904754819
Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
CSeq: 103 INVITE
Supported:
Contact: <sip:4085558888@67.103.60.53:5060;transport=udp>
Allow: ACK,BYE,CANCEL,INFO,INVITE,OPTIONS,PRACK,REFER,NOTIFY,UPDATE
Content-Type: application/sdp
Content-Disposition: session;handling=required
Content-Length: 180

From MegaPath's SIP Server to IP PBX <<<

SIP/2.0 200 OK

Via: SIP/2.0/UDP 10.10.18.20:5060;received=70.70.1.1;branch=z9hG4bK2894055c;rport=49686
From: <sip:5552221234@megapathvoice.com>;tag=as642e79a3
To: <sip:4085558888@lsancagb-siptrunk01.megapathvoice.net>;tag=SDr54q899-1464576089-1441904754819
Call-ID: 32e946764bd7c54523cd78dd721749b5@megapathvoice.com
CSeq: 103 INVITE
Supported:
Contact: <sip:4085558888@67.103.60.53:5060;transport=udp>
Allow: ACK,BYE,CANCEL,INFO,INVITE,OPTIONS,PRACK,REFER,NOTIFY,UPDATE
Accept: application/media_control+xml,application/sdp
Content-Type: application/sdp
Content-Disposition: session;handling=required
Content-Length: 180

SIP INVITE for Outgoing Calls using a Non-Pilot Number

MegaPath requires specific settings to ensure successful SIP negotiation occur when placing outgoing calls using a non-pilot number in the "From" Field of an INVITE. In this setup, users will have the ability to place calls and present a VoIP DID other than the Pilot Number.

To accomplish this setup, a P-asserted-identity header will be required and must include the PILOT NUMBER as shown below.

Depending on the make and model of your equipment, these settings may not be presented as listed below. You may have to refer to your PBX manual or vendor for assistance.

- P-Asserted Identity / PAI / Some PBX models will list the P-Asserted Identity within a section called "Header Action Name" or "Remote Party/Privacy" where a drop down menu will allow you to select P-Asserted-Identity.

Input **<PILOT NUMBER>** for this field - example below show 5552221234

Outgoing Call Example: INVITE shows an outgoing call from the PBX using a non-Pilot number 5552224444 to PSTN number 4085558888 with the P-Asserted Identity set as the Pilot Number 5552221234.

INVITE sip:4085558888@megapathvoice.com:5060 SIP/2.0

Via: SIP/2.0/UDP 70.70.1.1:5060;branch=z9hG4bKF66A6C9E

From: "Test" <sip:5552224444@70.70.1.1:5060>;tag=4C526990-650

To: <sip:4085558888@megapathvoice.com:5060>

Call-ID: 52379C5A-5AE011E5-9EC2A6D7-34091E2F@192.168.1.2

CSeq: 102 INVITE

Contact: <sip:5552224444@70.70.1.1:5060>

Supported: timer, resource-priority, replaces, sdp-anat

User-agent: Cisco-SIPGateway/IOS-15.2.4.M6a

Expires: 60

P-asserted-identity: "Test" <sip:5552221234@70.70.1.1:5060>

Allow: INVITE, OPTIONS, BYE, CANCEL, ACK, PRACK, UPDATE, REFER, SUBSCRIBE, NOTIFY, INFO, REGISTER

Content-Length: 0

MegaPath SIP Servers will send a "challenge" 401 Unauthorized SIP response to the INVITE to prompt the PBX to resend the INVITE with an Authorization Digest header as shown below:

INVITE sip:4085558888@megapathvoice.com:5060 SIP/2.0

Via: SIP/2.0/UDP 70.70.1.1:5060;branch=z9hG4bKF66A6C9E

From: "Test" <sip:5552224444@70.70.1.1:5060>;tag=4C526990-650

To: <sip:4085558888@megapathvoice.com:5060>

Call-ID: 52379C5A-5AE011E5-9EC2A6D7-34091E2F@192.168.1.2

CSeq: 102 INVITE

Contact: <sip:5552224444@70.70.1.1:5060>

Authorization: Digest username="5552221234", realm="BroadWorks", nonce="BroadWorksXield8cc8Trmav5pBW",

uri="sip:4085558888@192.168.1.1:5060", response="0557656d494f0ce50501b6e9d457b9cb", algorithm=MD5,

cnonce="A25263DA", qop=auth, nc=00000001

Supported: timer, resource-priority, replaces, sdp-anat

User-agent: Cisco-SIPGateway/IOS-15.2.4.M6a

Expires: 60

P-asserted-identity: "Test" <sip:5552221234@70.70.1.1:5060>

Allow: INVITE, OPTIONS, BYE, CANCEL, ACK, PRACK, UPDATE, REFER, SUBSCRIBE, NOTIFY, INFO, REGISTER

Content-Length: 0

SIP reINVITE – for PBX Call Forwarding

The process for forwarding or redirecting an incoming call can be accomplished within the MegaPath network by having the PBX include a Diversion header within the redirect INVITE message.

Depending on the make and model of your equipment, this settings may not be presented as listed below. You may have to refer to your PBX manual or vendor for assistance.

- Diversion / Diverting / Forward to Outside Number
The PBX should list the **<Forwarding Number>** within the diversion header - example below show 5552221111 as the number which is set to forward calls to 4085558888.

Forward Example: A ReINVITE of an incoming PSTN Call from 7035557777 to PBX Number 5552221111 where PBX TN 5552221111 is set to forward all calls to 4085558888.

```
INVITE sip:4085558888@tx01-siptrunk.megapathvoice.net SIP/2.0
Via: SIP/2.0/UDP 70.70.1.1:5060;branch=z9hG4bK18f5124d;rport
From: <sip:7035557777@megapathvoice.com>;tag=as51a4c3a2
To: <sip:4085558888@tx01-siptrunk.megapathvoice.net>
Contact: <sip:7035557777@70.70.1.1:5060>
Call-ID: 4a2634cb2fb22b936967db5532b5612a@megapathvoice.com
CSeq: 102 INVITE
User-Agent: FPBX-2.11.0(11.5.1)
Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REFER, SUBSCRIBE, NOTIFY, INFO, PUBLISH
Supported: replaces, timer
Diversion: "5552221111"sip:5552221111@megapathvoice.com
Max-Forwards: 70
Content-Type: application/sdp
Content-Length: 1305
```

MegaPath SIP Servers will send a “challenge” 401 Unauthorized SIP response to the ReINVITE to prompt the PBX to resend the INVITE with an Authorization Digest header as shown below:

```
INVITE sip:4085558888@tx01-siptrunk.megapathvoice.net SIP/2.0
Via: SIP/2.0/UDP 70.70.1.1:5060;branch=z9hG4bK519d4cd8;rport
From: <sip:7035557777@megapathvoice.com>;tag=as51a4c3a2
To: <sip:4085558888@tx01-siptrunk.megapathvoice.net>
Contact: <sip:7035557777@70.70.1.1:5060>
Call-ID: 4a2634cb2fb22b936967db5532b5612a@megapathvoice.com
CSeq: 103 INVITE
User-Agent: FPBX-2.11.0(11.5.1)
Authorization: Digest username="5552221234", realm="BroadWorks", algorithm=MD5, uri="sip:4085558888@tx01-siptrunk.megapathvoice.net", nonce="BroadWorksXiex38nzdT5x6ylhBW", response="7a61cb5cd624bc01f0f0ca4560c41270", qop=auth, cnonce="3f60fe2a", nc=00000001
Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REFER, SUBSCRIBE, NOTIFY, INFO, PUBLISH
Supported: replaces, timer
Diversion: "5552221111"sip:5552221111@megapathvoice.com
Max-Forwards: 70
Content-Type: application/sdp
Content-Length: 1305
```