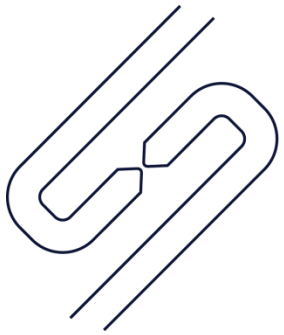


SCOPSERV
INTERNATIONAL INC.

ScopTEL RTP ‘directmedia’ Handling

ScopTEL IP PBX ™

What is directmedia?

- When SIP initiates the call, the INVITE message contains the information on where to send the media streams. ScopTEL uses itself as the end-points of media streams when setting up the call. Once the call has been accepted, ScopTEL sends another re-INVITE message to the clients with the information necessary to have the two clients send the media streams directly to each other.
- The ‘Can Reinvite’ option is used to enable directmedia options per peer in the ScopTEL GUI

ScopTEL IP PBX ™

What is a SIP re-INVITE

For more information you should reference this documentation at

- https://wiki.asterisk.org/wiki/display/AST/SIP+Direct+Media+Reinvite+Glare+Avoidance

The RFC can be found here

- https://tools.ietf.org/html/rfc3261#section-14

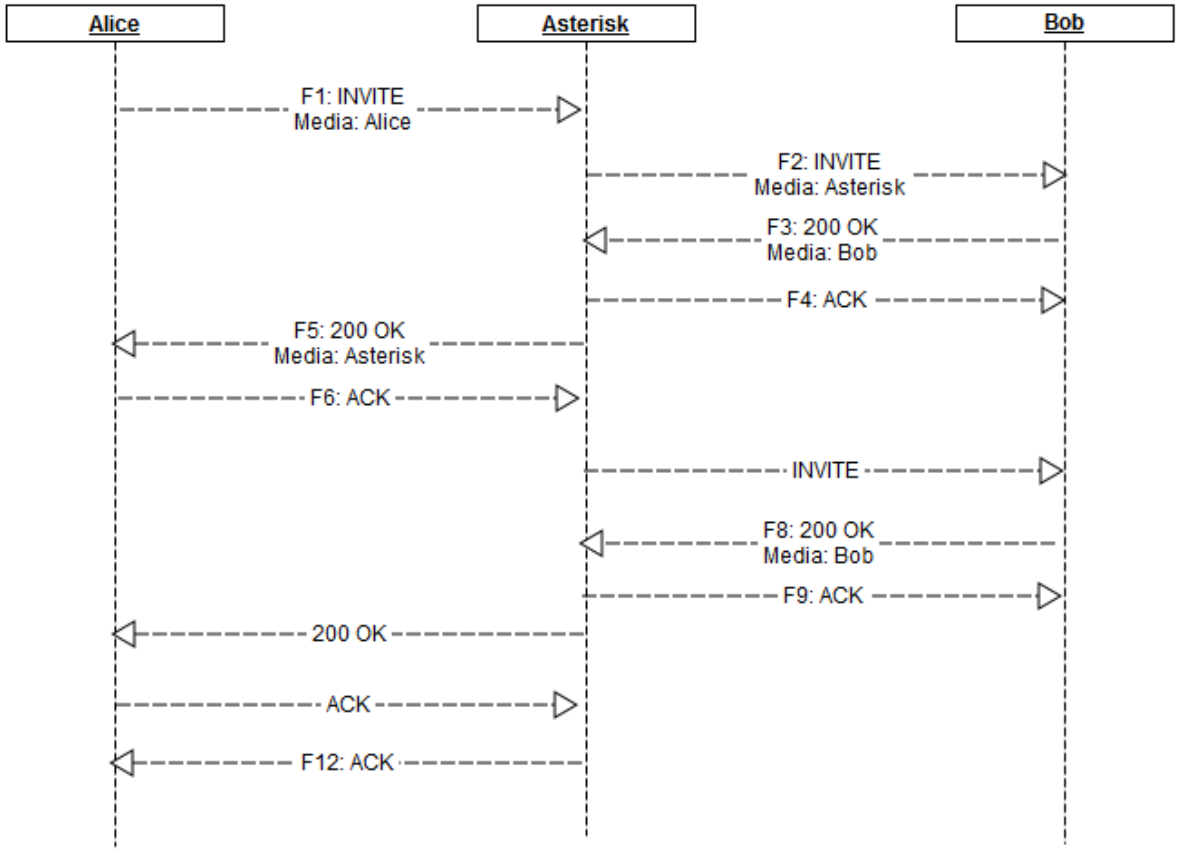
Sample Call flows can be found here

- https://tools.ietf.org/html/rfc3665

ScopTEL IP PBX TM

Directmedia/re-INVITE Overview

- When SIP endpoints communicate by way of ScopTEL, ScopTEL will attempt to send SIP re-INVITES in order to allow the endpoints to communicate directly. This allows for the computational load on the ScopTEL server to be decreased while also lessening the latency of the media streams between the endpoints. With directmedia enabled typical SIP traffic for a call might look like this.



ScopTEL IP PBX ™

Caveats

- ScopTEL tries to re-INVITE media streams to an optimal path. If there's no reason for ScopTEL to stay in the media path the media will be redirected. This does not really work well in the case where ScopTEL is outside and the clients are on the inside of a NAT. In that case, you want to set directmedia=nonat
- If ScopTEL and the clients are on the same subnet then there is no value in enabling directmedia since conserving bandwidth is not an issue
- If one device is on a different side of a NAT device than another phone or ScopTEL, you can't allow directmedia for that device.
- If the clients use different CODEC's, ScopTEL will not issue a re-invite.
- If the Dial() command contains "k", "K", ''t'', ''T", "h", "H", "w", "W" or "L" (with multiple arguments) ScopTEL will not issue a re-INVITE. Therefore these features are not supported when directmedia is invoked:
    - tT Allow DTMF Transfer
    - hH Allow to hangup using * key
    - wW Allow to Record call (automon)
    - L Limit the call to 'x' ms
    - kK Allow Call Park DTMF feature Code

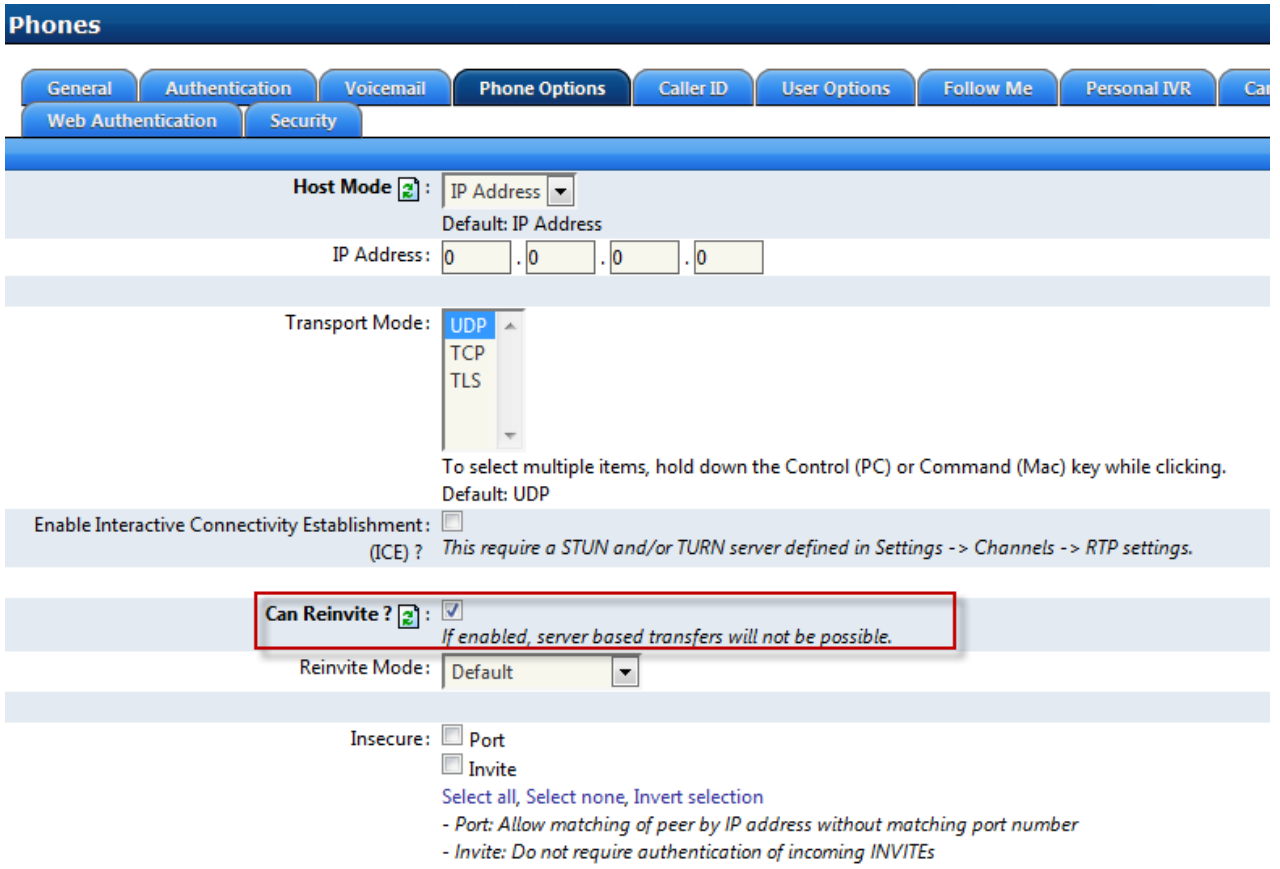
ScopTEL IP PBX ™

Additional Caveats

- When choosing which peers to set this option on, you should be careful. It is best to only set this option on peers that are also under your control and that will also have this option set. For instance, if your setup has multiple peered ScopTEL servers, then it is a great idea to use this option for those peers. If, on the other hand, you have had SIP re-INVITE glare issues with a SIP provider, then you should be hesitant to set this option without thoroughly testing with your provider first.
- When setting directmedia = outgoing on your peered ScopTEL servers, it is a good idea to set the option for ScopTEL servers in question. This way calls can go from any ScopTEL server to any other ScopTEL server and glares will be prevented.

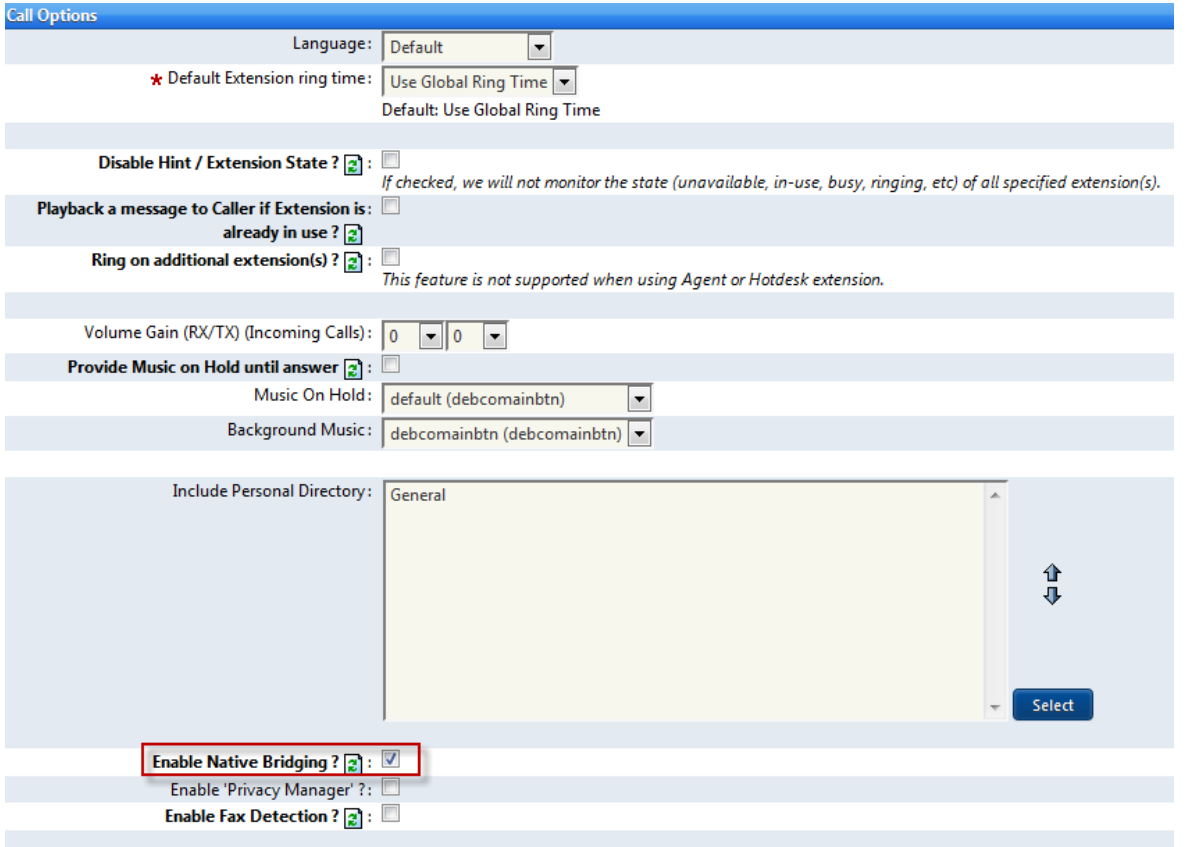
How to enable directmedia/re-INVITES in the ScopTEL GUI per Extension

Navigate to an extension and edit the Phone Options and find ‘Can Reinvite’ and enable it.
Several Modes become available from the drop list. Refer to the following documentation to decide which mode to use.



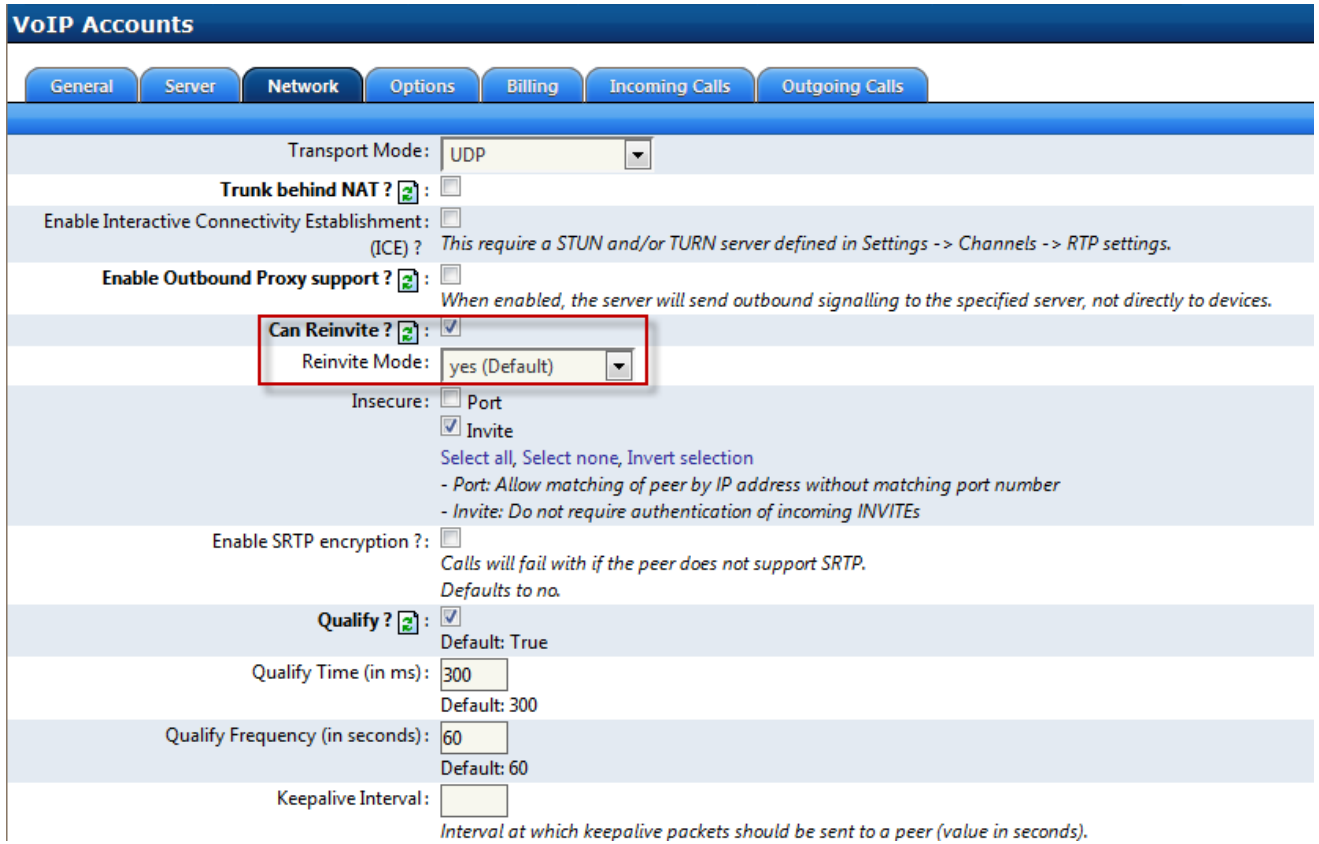
How to enable directmedia/re-INVITES in the ScopTEL GUI per Extension

Navigate to an extension and edit the User Options and find ‘Enable Native Bridging’ and enable it.
This will prevent any invalid Dial commands from being executed and disable some unsupported features such as call monitoring.



How to enable directmedia/re-INVITES in the ScopTEL GUI per VoIP Interface

Navigate to a VoIP Interface and edit the Network Options and find ‘Can Reinvite’ and enable it.
Several Modes become available from the drop list. Refer to the following documentation to decide which mode to use.



ScopTEL IP PBX ™

directmedia=yes

ScopTEL by default tries to redirect the RTP media stream to go directly from the caller to the callee. Some devices do not support this (especially if one of them is behind a NAT). The default setting is YES. If you have all clients behind a NAT, or for some other reason want ScopTEL to stay in the audio path, you may want to turn this off. This setting also affect direct RTP at call setup (a new feature in 1.4 - setting up the call directly between the endpoints instead of sending a re-INVITE). Additionally this option does not disable all reINVITE operations. It only controls ScopTEL generating reINVITEs for the specific purpose of setting up a direct media path. If a reINVITE is needed to switch a media stream to inactive (when placed on hold) or to T.38, it will still be done, regardless of this setting. Note that direct T.38 is not supported.

ScopTEL IP PBX ™

directmedia=nonat

An additional option is to allow media path redirection re-INVITE but only when the peer where the media is being sent is known to not be behind a NAT (as the RTP core can determine it based on the apparent IP address the media arrives from).

ScopTEL IP PBX ™

directmedia=update

Yet a third option... use UPDATE for media path redirection, instead of INVITE. This can be combined with 'nonat', as 'directmedia=update,nonat'. It implies 'yes'.

ScopTEL IP PBX™

directmedia=outgoing

When sending directmedia reinvites, do not send an immediate reinvite on an incoming call leg. This option is useful when peered with another SIP user agent that is known to send immediate direct media reinvites upon call establishment. Setting the option in this situation helps to prevent potential glares. Setting this option implies 'yes'.

SCOPSERV
INTERNATIONAL INC.

Vous avez besoin de plus d'information?

ScopServ International Inc.
Siège Social
4486, Boul. Gouin O., Montréal (Québec)
Canada H4J 1B7
Tél. : 514-373-8102 Sans frais : 1 866-722-3292
Courriel: info@scopserv.com
Contact : Denis Trépanier

ScopServ France
(via Channel Plus)
5 Place de la Pyramide, Paris La Défense
92088 FRANCE
Tél. : +33 1 55 68 12 79 Cell.: +33 7 62 92 41 61
Courriel: info@scopserv.fr
Contact : Hervé Loustalot

ScopServ South Africa PTY
ScopServ Integrated Services
9 Kingfisher Drive, Douglasdale, Johannesburg
Gauteng, 2129 Afrique du Sud
Phone: +27 11 700 3800 Fax: +27 11 700 3810
Email: info@scopservice.co.za
Contact : Janet Souter

ScopServ États-Unis
(via Axis Internet)
P.O. Box 311, Bennett, CO, 80102-0311, États-Unis
Tél. : +1 303 592 2947 Téléc. : +1 303 893 2947
Courriel : info@axint.net
Contact : George Stoutenburgh

Nous vous remercions pour votre intérêt envers nos solutions.

SCOPSERV
INTERNATIONAL INC.

Need more information?

ScopServ International Inc.
Corporate Headquarters
4486, Gouin W. Blvd., Montreal (Quebec)
Canada H4J 1B7
Phone: 514-373-8102 Toll Free: 1 866-722-3292
Email: info@scopserv.com
Contact: Denis Trépanier

ScopServ France
(via Channel Plus)
5 Place de la Pyramide, Paris La Défense
92088 FRANCE
Phone: +33 1 55 68 12 79 Cell.: +33 7 62 92 41 61
Email: info@scopserv.fr
Contact: Hervé Loustalot

ScopServ South Africa PTY
ScopServ Integrated Services
9 Kingfisher Drive, Douglasdale, Johannesburg
Gauteng, 2129 South Africa
Phone: +27 11 700 3800 Fax: +27 11 700 3810
Email: info@scopservice.co.za
Contact: Janet Souter

ScopServ United States
(via Axis Internet)
P.O. Box 311, Bennett, CO, 80102-0311, United States
Phone: +1 303 592 2947 Fax: +1 303 893 2947
Email: info@axint.net
Contact: George Stoutenburgh

We thank you for your trust and interest in our solutions.

ScopTEL™ IP PBX

Because Communication Matters

Aim high, aim right!

Ask your preferred integrator for a free consultation.

scopserv.com

ScopTEL™ IP PBX

La solution pour vos communications d’entreprise

Visez loin, visez juste !

Contactez votre intégrateur préféré et demandez une consultation gratuite.

scopserv.com