



IP Office

SIP Extension Support

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Documentation information

For the most current versions of documentation, go to the Avaya Support web site (<http://www.avaya.com/support>) or the IP Office Knowledge Base (<http://marketingtools.avaya.com/knowledgebase/>).

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Chapter 1.

IP Office SIP Extensions

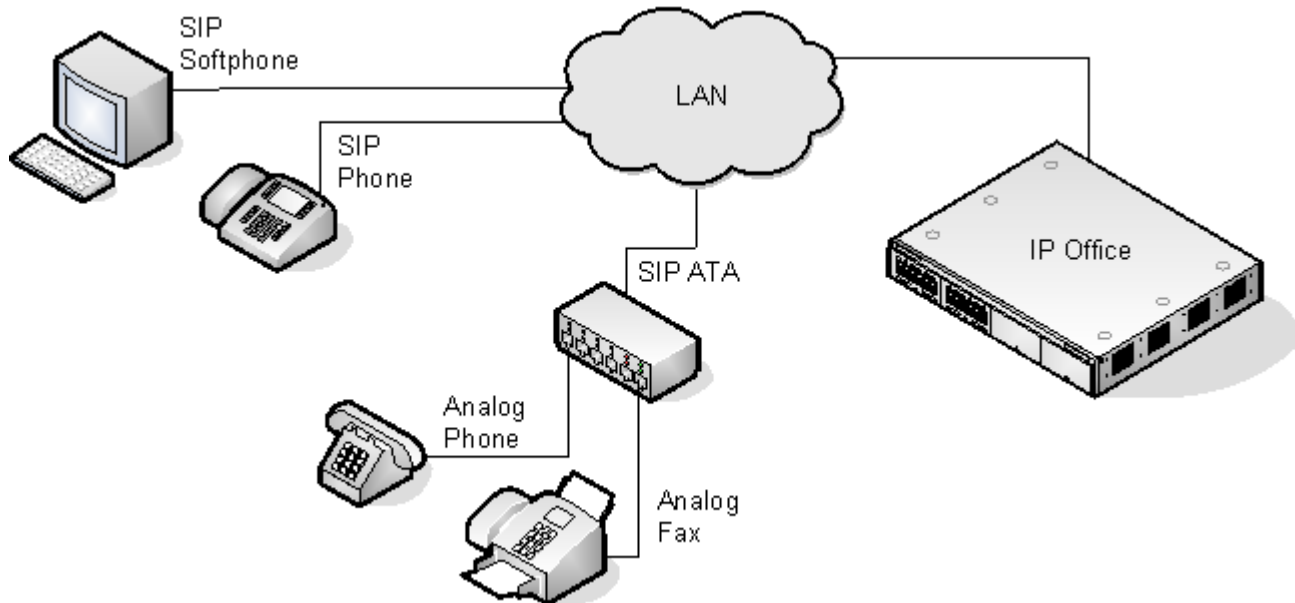
1. IP Office SIP Extensions

IP Office 5.0 and higher supports the use of SIP extension devices with the IP Office system. These can be SIP phones, SIP software clients or traditional analog devices attached to the SIP Analog Telephony Adapter (ATA).

Within the IP Office configuration, SIP extensions are licensed using the IP End-points license which is also used for non-Avaya H323 IP extensions. The number of SIP extensions supported is subject to available licenses and to the normal extension limits of the IP Office control unit being used.

This document provides notes on registering SIP devices with the IP Office system. It assumes that you are familiar with IP Office configuration using IP Office Manager, System Status Application and System Monitor.

This document only covers basic registration with the IP Office. Full configuration of the SIP extension device or client software will be covered by the manufacturer's own documentation.



- No NAT
Connection of SIP extension devices from locations where Network Address Translation (NAT) is applied to the connection is not supported. The IP Office does not provide NAT traversal services (for example STUN or TURN) for SIP extension devices.
- Multiple Line SIP Devices
Some SIP devices can support multiple lines or user accounts, each configured separately. If used with an IP Office each SIP line requires a separate IP Office SIP extension, user and license. Note this refers to a SIP device that can handle multiple simultaneous calls itself and not one that is handling multiple calls by holding them on the IP Office/receiving call waiting indication for waiting calls on the IP Office.
- The IP Office is the SIP Registrar and SIP Proxy
In most cases, a SIP extension device is configured with settings for a SIP registrar and a SIP proxy. For SIP devices connecting to an IP Office the LAN1 or LAN2 IP address on which the SIP registrar is enabled is used for both roles.
- IP Office Voice Compression = SIP Audio Codec
Unlike H323 IP devices which always support at least one G711 codec, SIP devices do not support a single common audio codec. Therefore it is important to ensure that the IP Office SIP extension codecs match a codec for which the SIP device is configured.
- IP Office Call Waiting = SIP 'REFER'
For the IP Office user associated with a SIP extension, Call Waiting should be enabled if the SIP device supports REFER. This is required for functions such as transferring calls.
- Phone Features
Beyond basic call handling via the IP Office (see the features listed below), the features available will vary between SIP devices and Avaya cannot make any commitments as to which features will or will not work or how features are configured.
 - Answer calls.
 - Hold.
 - Voicemail Collect.
 - Make calls.
 - Unsupervised Transfer.
 - Set Forwarding/DND.
 - Hang Up.
 - Supervised Transfer.
 - Park/Unpark.

1.1 Licensing

SIP Extensions are within the IP Office configuration use IP End-points licenses. Successful registration consumes one license count.


This license is also used for non-Avaya H323 IP extensions. There must be sufficient licenses for the number of extensions required.

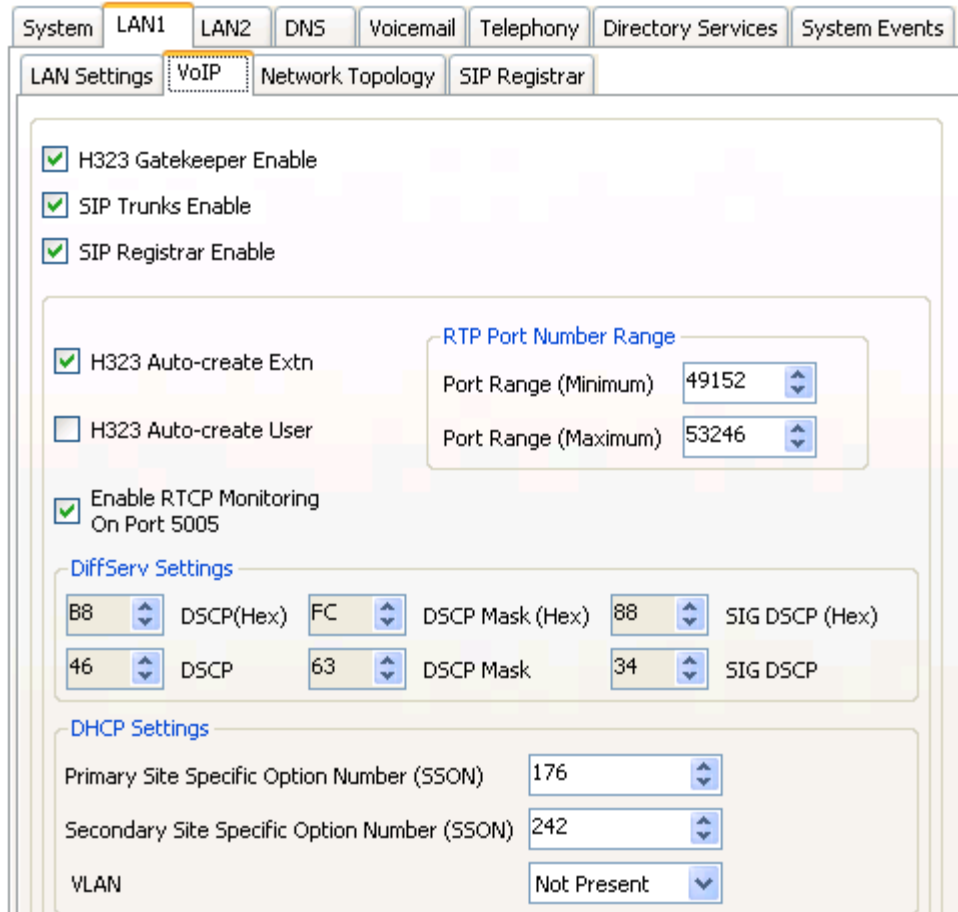
| Licence | |
|--|--|
| Licence Type | |
| 1600 Series Phones | |
| Advanced Small Community Networking | |
| CCC Server | |
| CCR Agent | |
| CCR CCC UPG | |
| CCR SUP | |
| IP End-points | |
| IP500 Upgrade Standard to Professional | |
| IP500 VCM Channels | |

| IP End-points | |
|----------------|-----------------------------------|
| Licences | |
| Licence Key | FXBh0y@TSjPH4SwnNy5E0Bad5gjMmrwbc |
| Licence Type | IP End-points |
| Licence Status | Valid |
| Instances | 20 |
| Expiry Date | Never |

1.2 Enabling SIP Extension Support

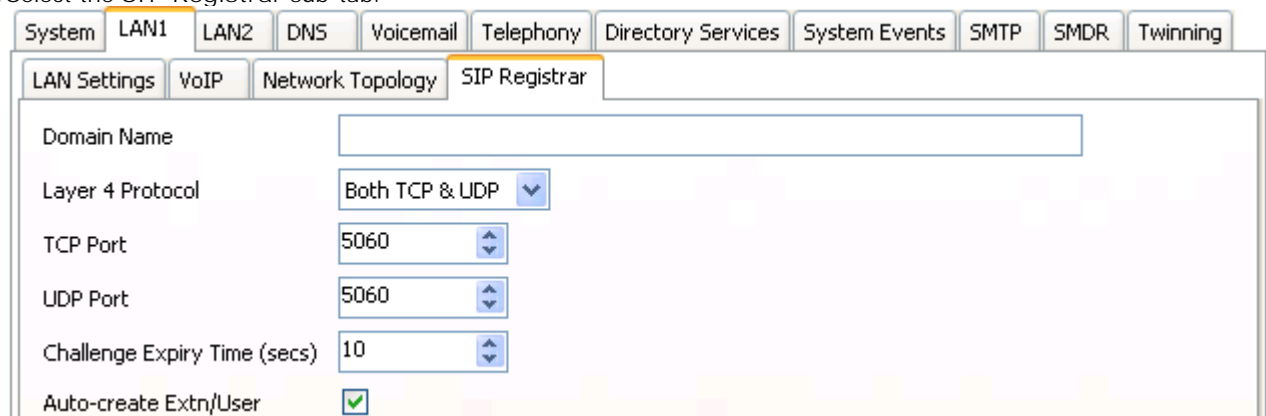
Once the IP Office system has [valid IP End-points licenses](#)^[8], it can support SIP extensions on its LAN1 and/or LAN2 interfaces.

1. Note that changing the SIP registrar settings of an IP Office system requires the IP Office system to be rebooted.
2. Using IP Office Manager, receive the IP Office system configuration.
3. Select  System.
4. Select either the LAN1 or LAN2 tab as required.
5. Select the VoIP sub-tab.



The screenshot shows the IP Office Manager configuration interface. The 'System' tab is selected, and the 'LAN1' sub-tab is active. Within the 'LAN Settings' section, the 'VoIP' sub-tab is selected. The configuration includes several checked options: 'H323 Gatekeeper Enable', 'SIP Trunks Enable', and 'SIP Registrar Enable'. There are also unchecked options for 'H323 Auto-create Extn' and 'H323 Auto-create User'. A section for 'RTP Port Number Range' shows 'Port Range (Minimum)' set to 49152 and 'Port Range (Maximum)' set to 53246. Other settings include 'Enable RTCP Monitoring On Port 5005' (checked), 'DiffServ Settings' with various DSCP and SIG DSCP values, and 'DHCP Settings' with 'Primary Site Specific Option Number (SSON)' set to 176, 'Secondary Site Specific Option Number (SSON)' set to 242, and 'VLAN' set to 'Not Present'.

6. Check that SIP Registrar Enable is selected.
7. Select the SIP Registrar sub-tab.



The screenshot shows the IP Office Manager configuration interface with the 'SIP Registrar' sub-tab selected. The configuration includes a 'Domain Name' text field, 'Layer 4 Protocol' set to 'Both TCP & UDP', 'TCP Port' set to 5060, 'UDP Port' set to 5060, and 'Challenge Expiry Time (secs)' set to 10. The 'Auto-create Extn/User' checkbox is checked.

- Domain Name: *Default = Blank*
This is the local SIP registrar domain name that will be needed by SIP devices in order to register with the IP Office. If this field is left blank, registration is against the LAN IP address. The examples in this documentation all use registration against the LAN IP address.

-
- Layer 4 Protocol: *Default = Both TCP & UDP*

The transport protocol for SIP traffic between the IP Office and SIP extension devices. Both TCP and/or UDP can be used.

- TCP Port: *Default = 5060*

The SIP port if using TCP. The default is 5060.

- UDP Port: *Default = 5060*

The SIP port if using UDP. The default is 5060.

- Challenge Expiry Time (sec): *Default = 10*


The challenge expiry time is used during SIP extension registration. When a device registers, the IP Office SIP Registrar will send a challenge back to the device and waits for an appropriate response. If the response is not received within this timeout the registration is failed.

- Auto-create Extn/User: *Default = On*


If this option is selected, the IP Office will automatically create user and SIP extension entries in its configuration based on SIP extension registration. If this method is being used for installation, it is important to check that the settings created match the SIP device. It is also important to deselect this option after installation of the SIP extension devices.

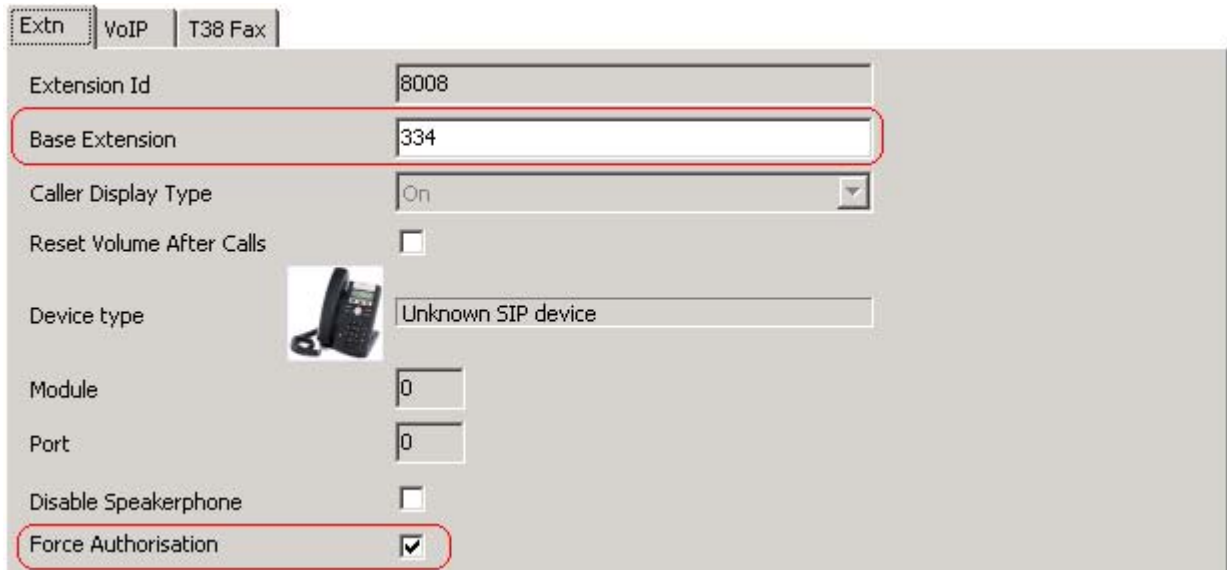
8. Send the configuration back to the IP Office.

1.3 SIP Extension Settings

SIP extensions can be created manually using  | SIP Extension or [automatically created](#) ^[14] during SIP device registration. Even if auto-created, the extension settings created in the IP Office configuration should be checked during installation.

This section looks just at the key configuration settings that affect SIP extension devices.

1. Select  Extensions and locate the SIP extension. Select the Extn tab.




Extn VoIP T38 Fax

Extension Id 8008

Base Extension 334

Caller Display Type On

Reset Volume After Calls

Device type  Unknown SIP device

Module 0

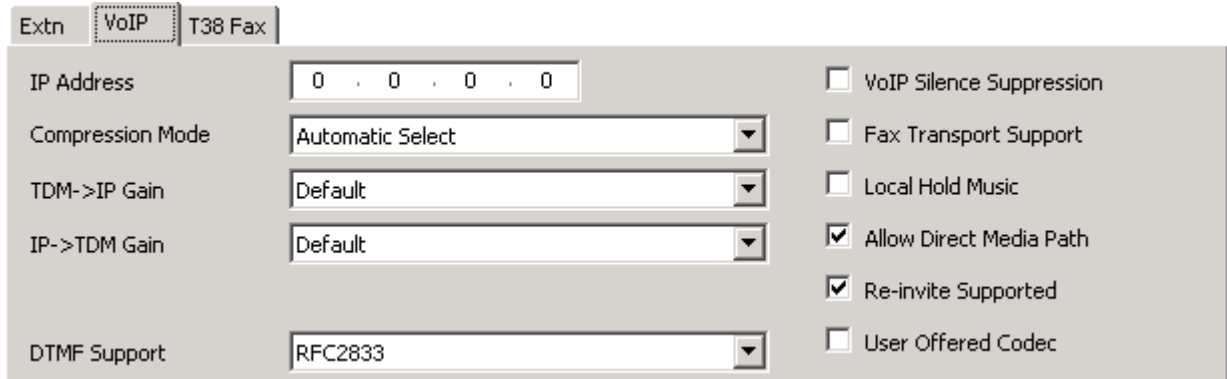
Port 0

Disable Speakerphone

Force Authorisation

- Base Extension
This should match the Extension setting of the SIP user added to the IP Office configuration.
- Force Authorization: *Default = On*
If enabled, SIP devices are required to register with the IP Office system using the Name and Login Code configured for the user within the IP Office configuration.

2. Select the VoIP tab.



Extn VoIP T38 Fax

IP Address 0 . 0 . 0 . 0

Compression Mode Automatic Select

TDM->IP Gain Default

IP->TDM Gain Default

DTMF Support RFC2833

VoIP Silence Suppression

Fax Transport Support

Local Hold Music


Allow Direct Media Path

Re-invite Supported

User Offered Codec

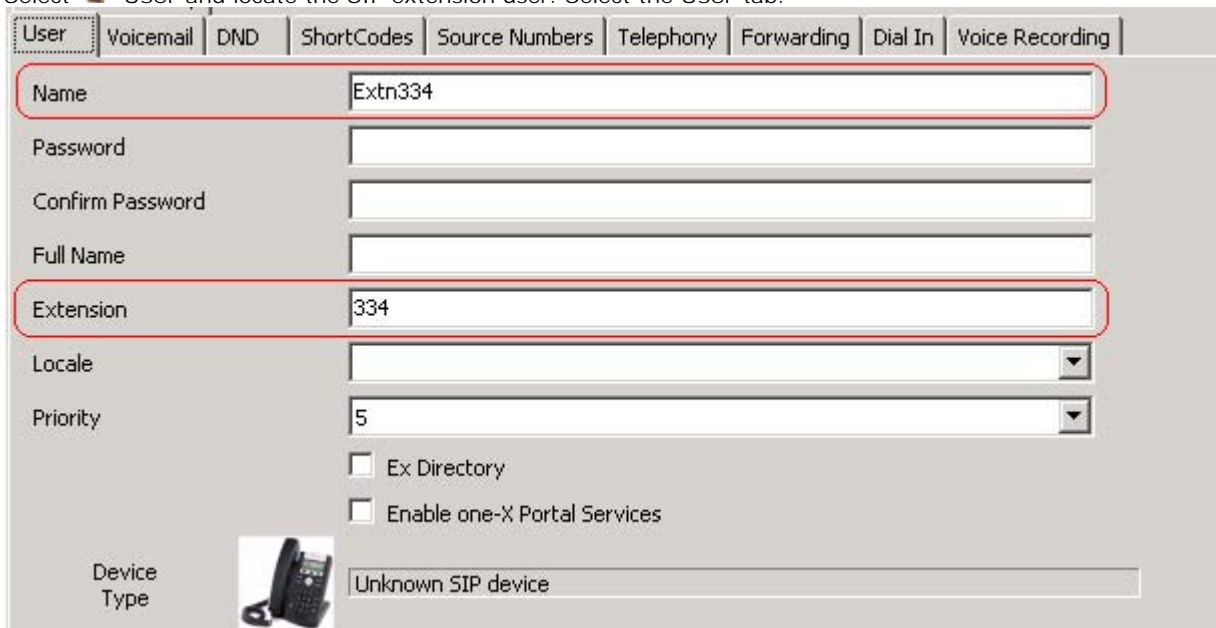
- Compression Mode
The selected mode must match an audio codec supported by the SIP device. If set to *Automatic Select*, then the codecs supported by the IP Office are set through the configuration option System | Telephony | Telephony | Automatic Codec Preferences.
 - User Offered Codec
If the SIP device is configured with a preferred first codec, enabling this option ensures that codec is used on calls to the SIP device.
- DTMF Support
This can be set to one of the two common methods used by SIP devices; *RFC2833* or *Inband*. The selection should be set to match the method used by the SIP device. However, if the method is not known or can vary on a per call basis, deselecting Allow Direct Media Path allows a VCM channel to be used for DTMF support when necessary.
- Local Hold Music
Select this option if the SIP device supports its own hold music source.
- Re-invite Supported
If the SIP device is able to receive REINVITE messages select this option.

1.4 SIP User Settings

SIP users can be created manually using  | User or [automatically created](#) ¹⁴ during SIP device registration. Even if auto-created, the user settings created in the IP Office configuration should be checked during installation.

This section looks just at the key configuration settings that affect SIP extension devices.

1. Select  User and locate the SIP extension user. Select the User tab.

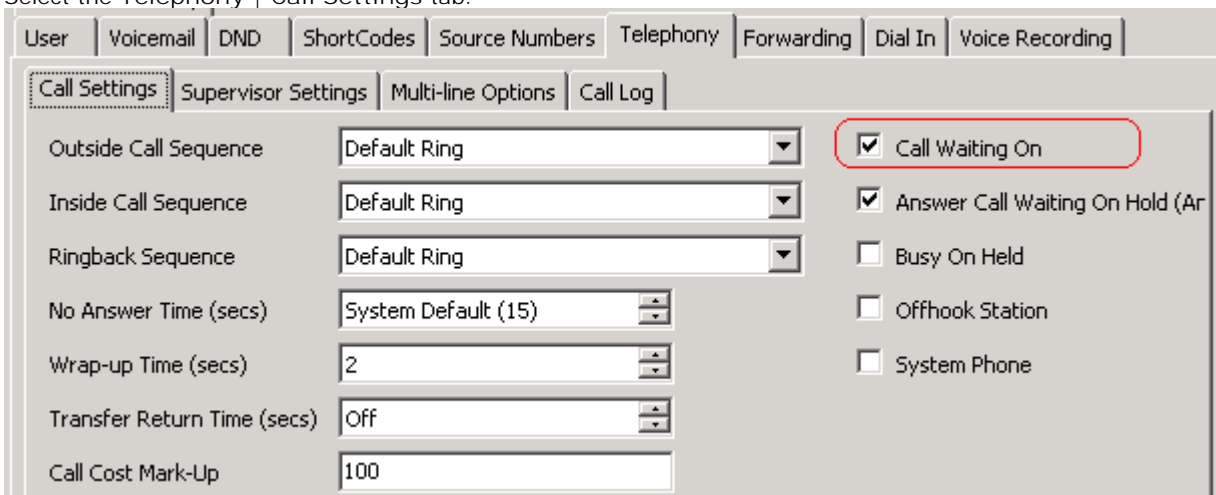


The screenshot shows the 'User' configuration page with the following fields and values:

| Field | Value |
|------------------------------|--------------------------|
| Name | Extn334 |
| Password | |
| Confirm Password | |
| Full Name | |
| Extension | 334 |
| Locale | |
| Priority | 5 |
| Ex Directory | <input type="checkbox"/> |
| Enable one-X Portal Services | <input type="checkbox"/> |
| Device Type | Unknown SIP device |

- Name
If the SIP extension is set to Force Authorization (the default), this field is used as the *Authorization Name* that must be set in the SIP device's configuration.
- Extension
This should match the SIP ID of the SIP device and the Base Extension setting of the SIP extension in the IP Office configuration.

2. Select the Telephony | Call Settings tab.



The screenshot shows the 'Telephony | Call Settings' configuration page with the following fields and values:

| Field | Value | Checkbox |
|-----------------------------|---------------------|--|
| Outside Call Sequence | Default Ring | <input checked="" type="checkbox"/> Call Waiting On |
| Inside Call Sequence | Default Ring | <input checked="" type="checkbox"/> Answer Call Waiting On Hold (Ar) |
| Ringback Sequence | Default Ring | <input type="checkbox"/> Busy On Held |
| No Answer Time (secs) | System Default (15) | <input type="checkbox"/> Offhook Station |
| Wrap-up Time (secs) | 2 | <input type="checkbox"/> System Phone |
| Transfer Return Time (secs) | Off | |
| Call Cost Mark-Up | 100 | |


- Call Waiting On
Most SIP devices require this setting to be enabled in order to allow features such as transferring calls.

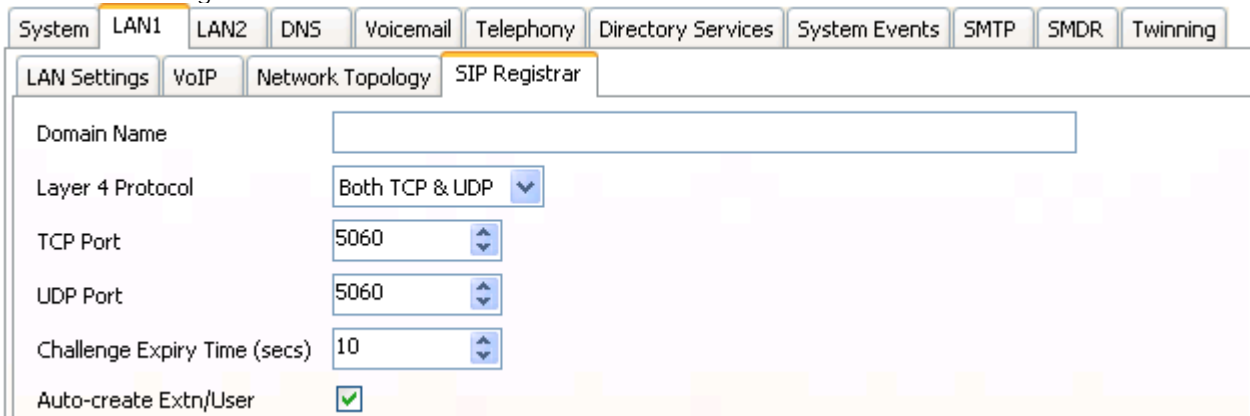
3. Select the Telephony | Supervisor Settings tab.

The screenshot shows the 'Supervisor Settings' tab in the IP Office SIP User Settings interface. The 'Login Code' field is highlighted with a red box and contains the text '****'. Below it are fields for 'Login Idle Period (secs)', 'Monitor Group' (set to '<None>'), 'Coverage Group' (set to '<None>'), and 'Status on No-Answer' (set to 'Logged On (No change)'). There is a section for 'Reset Longest Idle Time' with two radio buttons: 'All Calls' (selected) and 'External Incoming'. At the bottom left, there is a field for 'After Call Work Time (secs)' set to 'System Default (10)'. On the right side, there is a list of checkboxes: 'Force Login', 'Force Account Code', 'Outgoing Call Bar', 'Inhibit Off-Switch Forward/Transfe', 'Can Intrude', 'Cannot be Intruded' (checked), 'Can Trace Calls', 'CCR Agent', and 'Automatic After Call Work'.

- Login Code
If the SIP extension is set to Force Authorization (the default), this field is used as the *Authorization Password* that must be set in the SIP device's configuration.

1.5 Allowing SIP Extn/User Auto Creation

1. Note that changing the SIP registrar settings of an IP Office system requires the IP Office system to be rebooted.
2. Using IP Office Manager, receive the IP Office system configuration.
3. Select  System.
4. Select either the LAN1 or LAN2 tab on which the SIP registrar is enabled.
5. Select the SIP Registrar sub-tab.



Domain Name

Layer 4 Protocol: Both TCP & UDP

TCP Port: 5060

UDP Port: 5060

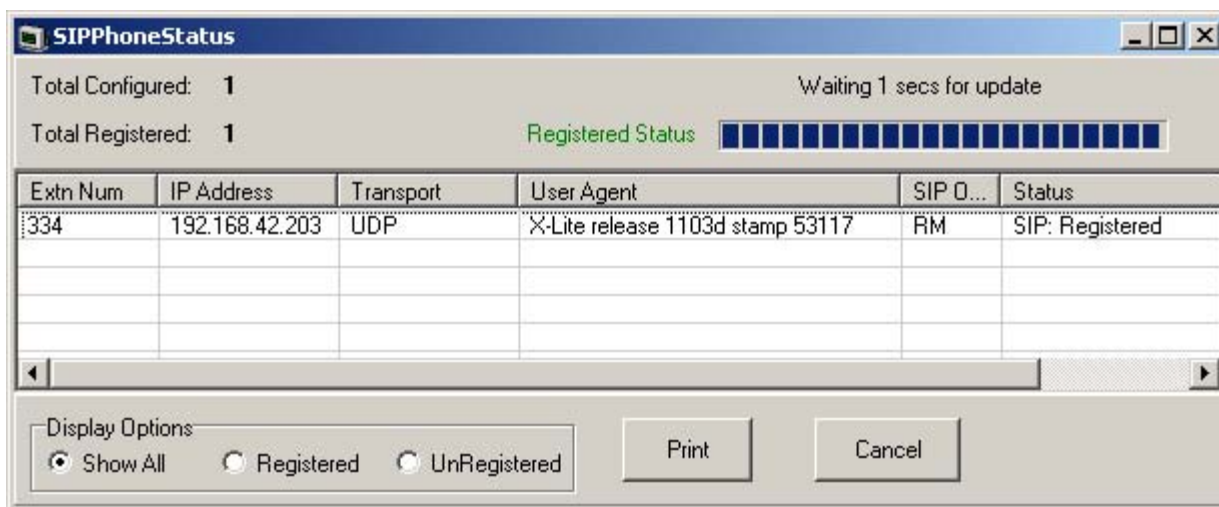
Challenge Expiry Time (secs): 10

Auto-create Extn/User:

6. Change the Auto-create Extn/User settings to the state required.
7. Send the configuration back to the IP Office.


1.6 System Monitor

The status of the SIP extensions in the IP Office configuration can be viewed in System Monitor. Select Status | SIP Phone Status. to display the SIP extension list.



Total Configured: 1

Total Registered: 1

Registered Status: 

| Extn Num | IP Address | Transport | User Agent | SIP O... | Status |
|----------|----------------|-----------|----------------------------------|----------|-----------------|
| 334 | 192.168.42.203 | UDP | X-Lite release 1103d stamp 53117 | RM | SIP: Registered |
| | | | | | |
| | | | | | |

Display Options: Show All Registered UnRegistered

Print Cancel

Chapter 2.

SIP Device Configuration

2. SIP Device Configuration

This section gives examples of the installation settings used with a variety of SIP devices tested with IP Office.

These are only the basic details for registration with an IP Office system, full installation and configuration, for example assigning device IP addresses, is covered in the device or software manufacturer's own documentation.

The devices covered are:

- [CounterPath Eyebeam/X-Lite Softphones](#) ^[17]
- [Polycom Soundpoint](#) ^[20]
- [Grandstream GXP 2000, GXP 2020](#) ^[21]
- [Avaya A10 ATA](#) ^[23]
- [Patton Micro ATA](#) ^[27]
- [Nokia S60 v3 SIP Client](#) ^[28]
- [Innovaphone IP22, IP24, IP28](#) ^[29]

The general process for connection to the IP Office can be done in two ways. Either allowing the IP Office to auto-create extension and user entries when a SIP device registers or manually creating those entries and then registering the SIP device. The steps are summarized below.

| Using Auto Create | Using Manual Configuration |
|---|--|
| <ol style="list-style-type: none">1. Add and check IP End-points licenses.2. Check the SIP Registrar settings.3. Enable Auto-Create Extn/User.4. Attach and configure the SIP device.5. Modify the IP Office user and extension settings.6. Disable Auto-Create Extn/User. | <ol style="list-style-type: none">1. Add and check IP End-points licenses.2. Check the SIP Registrar settings.3. Add SIP Extension settings to the IP Office configuration.4. Add SIP User settings to the IP Office configuration.5. Attach and configure the SIP device. |

2.1 CounterPath eyeBeam/X-Lite

CounterPath produce a range of VoIP products. X-Lite is a simple SIP client application that can be used as a PC softphone test SIP operation. X-Lite can be downloaded from <http://www.counterpath.com/>.

A. Either enable Auto-Create Extn/User or otherwise manually add SIP extensions and users to the IP Office configuration.

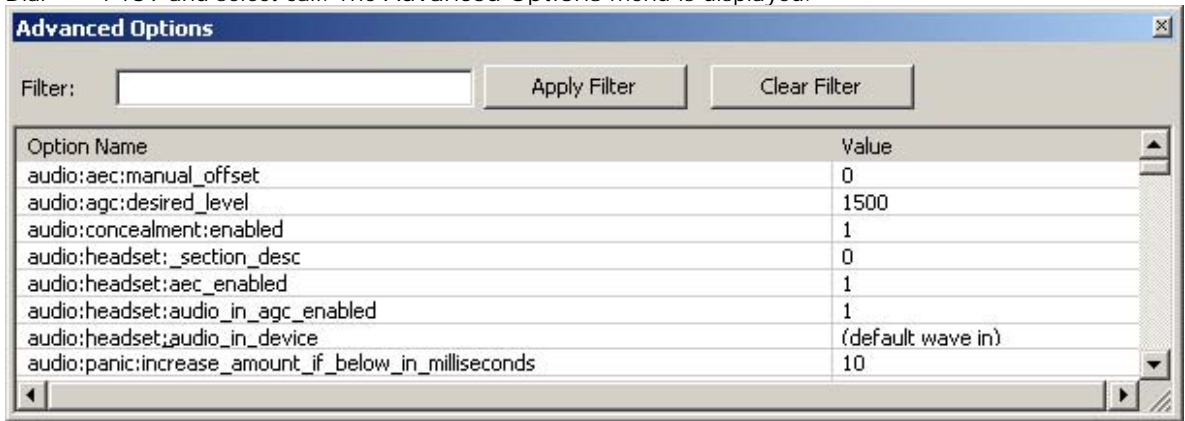
1. Either enable the IP Office to allow [automatic creation](#) ¹⁴⁾ based on SIP phone registration or manually add the SIP extension and user details to the IP Office configuration.
2. Start the X-Lite SIP client application.
3. Click on the down arrow icon and select SIP Account Settings....
4. Click on Add....

5. Set the fields to match the IP Office configuration settings are indicated above.
6. In the Domain Proxy section enable Register with domain and receive incoming calls and select domain.
7. When completed click on OK.

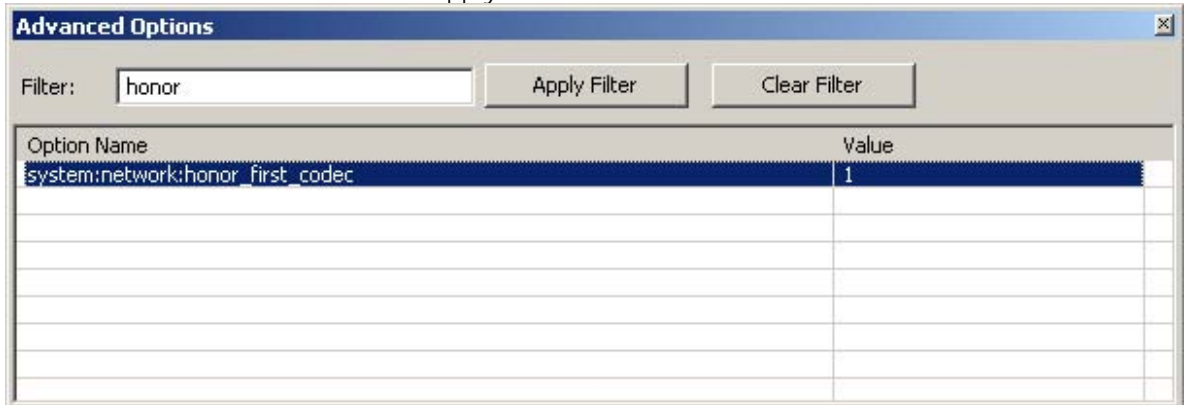
| Enabled | Acct # | Domain | Username | Display Name |
|-------------------------------------|--------|------------------------|----------|--------------|
| <input checked="" type="checkbox"/> | 1 | 192.168.42.1 (default) | 334 | SIPMe |
| <input type="checkbox"/> | | | | |
| <input type="checkbox"/> | | | | |
| <input type="checkbox"/> | | | | |

8. Ensure the the account is Enabled.
9. Click Close. The X-Lite client will now attempt to register with the IP Office. The success or failure of that process will be displayed by the client.
10. If left with its default configuration, then on calls from an IP Office DS extension to the X-Lite client, the speech from the client will not be heard. The solution is to either configure the client with a single [audio codec](#) ¹⁹⁾ or to perform the following process.

a. Dial ***7469 and select call. The Advanced Options menu is displayed.

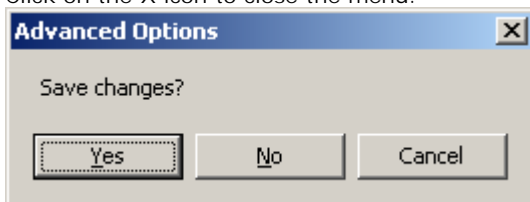


b. Enter *honor* in the filter field and click Apply Filter.



c. Set the value for system:network:honor_first_codec to 7.

d. Click on the X icon to close the menu.



e. Click on Yes to save the change.

B. If installed using extension and user auto-creation, check the settings of the IP Office SIP extension and user created by the SIP devices registration.

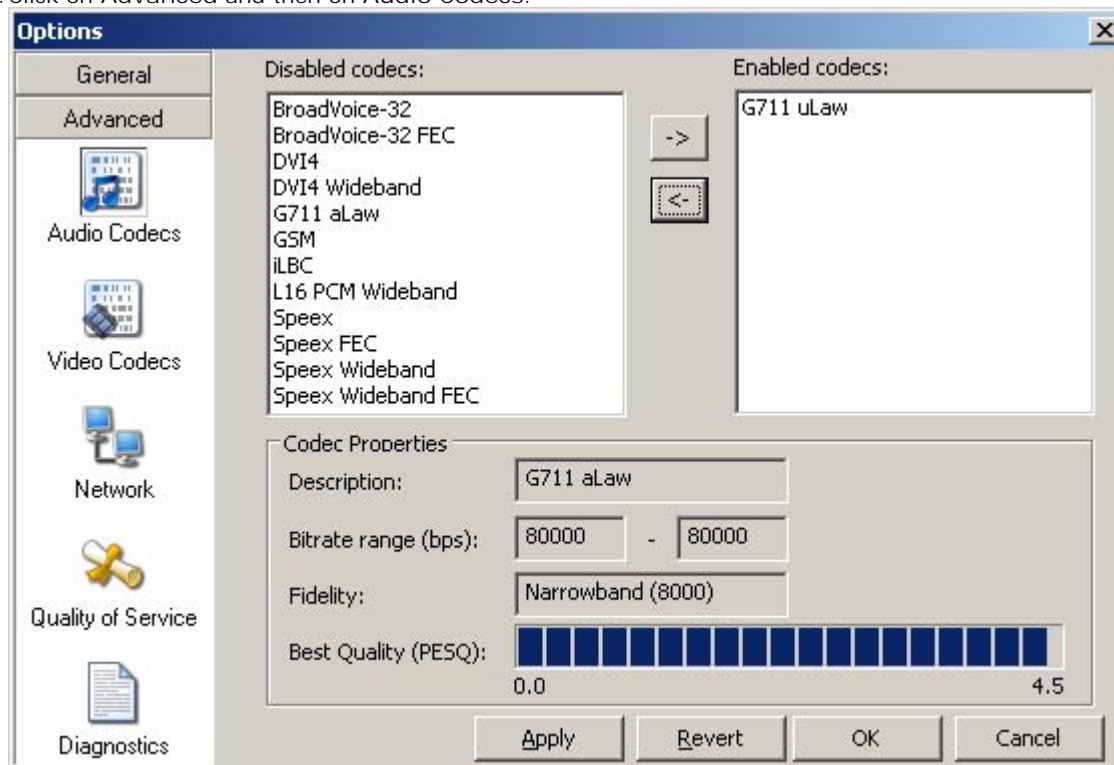
C. Make test calls from and to the SIP device.

D. If not installing any further SIP devices, Disable Auto-Create Extn/User if it is enabled.

Codec Selection

If the X-Lite client is left configured to support multiple audio codecs, then on calls to the extension there will be no return speech from the client. This can be resolved by configuring the client to only support a single audio codec, matching one of the codecs configured for the IP Office SIP extension.

1. Click on the down arrow icon and select Options.
2. Click on Advanced and then on Audio Codecs.



3. Ensure that the Enabled codecs column contains just a single codec. That codec must be one supported by the IP Office extension configuration for the SIP extension.
4. Click OK.

2.2 Polycom SoundPoint Phones

A. Either enable Auto-Create Extn/User or otherwise manually add SIP extensions and users to the IP Office configuration.

1. Browse to the IP address of the phone. By default the phone uses DHCP and displays its IP address on the display.
2. Select SIP. You will be requested to enter the administrator name and password. The default values are *polycom* and *456*.
3. in the Outbound Proxy and Server 1 sections, set the Address, Port and Transport details to match the IP Office LAN on which the SIP registrar is enabled.

POLYCOM **SoundPoint IP Configuration**

Home General Network SIP Lines

SIP Configuration Parameters:

Servers Local Settings

Servers

Outbound Proxy

Address: 192.168.42.1 (System | LAN | LAN Settings | IP Address)

Port: 5060

Transport: UDPonly

Server 1

Address: 192.168.42.1 (System | LAN | LAN Settings | IP Address)

Port: 5060

Transport: UDPonly

4. Click Submit. The phone will reset and load the new settings. That can take up to 2 minutes.
5. When you can return to the administration menu, select Lines. In the Line 1 section, enter the details to match the IP Office SIP extension and user.

POLYCOM **SoundPoint IP Configuration**

Home General Network SIP Lines

Line Parameters:

Line 1 Line 2

Line 1

Identification

Display Name: SIP4637

Address: 4637 (User | User | Extension Extn | Base Extension)

Auth User ID: SIP4637 (User | User | Name)

Auth Password: ●●●● (User | Telephony | Call Settings | Login Code)

Label: SIP4637

Type: Private Shared

Third Party Name: []

Num Line Keys: []

Calls Per Line Key: []

Server 1

Address: 192.168.42.1 (System | LAN | LAN Settings | IP Address)

Port: 5060

Transport: UDPonly

6. Click Submit. The phone will reset and load the new settings. That will take up to 2 minutes.
7. Select Network and then Audio Processing. Check that the codecs match those configured for the SIP extension on the IP Office. If you make any changes click Submit and wait for the phone to reset.

B. If installed using extension and user auto-creation, check the settings of the IP Office SIP extension and user created by the SIP devices registration.

C. Make test calls from and to the SIP device.

D. If not installing any further SIP devices, Disable Auto-Create Extn/User if it is enabled.

2.3 Grandstream

Grandstream devices can support multiple user accounts for the same or different SIP provider accounts. The configured accounts are displayed on the phone display and the user can select which account is used when making a call. For IP Office operation, each account can represent a different IP Office SIP extension and user.

A. Either enable Auto-Create Extn/User or otherwise manually add SIP extensions and users to the IP Office configuration.

1. Browse to the IP address of the phone. By default the phone uses DHCP and displays its IP address on the display. Enter the password (the default is admin).
2. Click Login. Select Account 1 or the account that you want to use for IP Office connection.

Grandstream Device Configuration

STATUS
BASIC SETTINGS
ACCOUNT 1
ACCOUNT 2
ACCOUNT 3
ACCOUNT 4
ACCOUNT 5
ACCOUNT 6

Account Active: No Yes

Account Name:

SIP Server: System | LAN | LAN Settings | IP Address

Outbound Proxy:

SIP User ID: User | User | Extension
Extn | Base Extension

Authenticate ID: User | User | Name

Authenticate Password:

Name: User | Telephony | Call Settings | Login Code

local SIP port: (default 5060)

SIP Registration Failure Retry Wait Time: (in seconds. Between 1-3600, default is 20)

SIP T1 Timeout:

SIP T2 Interval:

SIP Transport: UDP TCP

Use RFC3581 Symmetric Routing: No Yes

NAT Traversal (STUN): No No, but send keep-alive Yes

SUBSCRIBE for MWI: No Yes

PUBLISH for Presence: No Yes

Proxy-Require:

Voice Mail UserID: (UserID for voice mail system)

Preferred Vocoder: (in listed order)

| | | | |
|-----------|---------------------------------------|-----------|--|
| choice 1: | <input type="text" value="G.729A/B"/> | choice 5: | <input type="text" value="G.726-32"/> |
| choice 2: | <input type="text" value="PCMA"/> | choice 6: | <input type="text" value="iLBC"/> |
| choice 3: | <input type="text" value="G.723.1"/> | choice 7: | <input type="text" value="G.722 (wide band)"/> |
| choice 4: | <input type="text" value="PCMU"/> | choice 8: | <input type="text" value="GSM"/> |

SRTP Mode: Disabled Enabled but not forced Enabled and forced

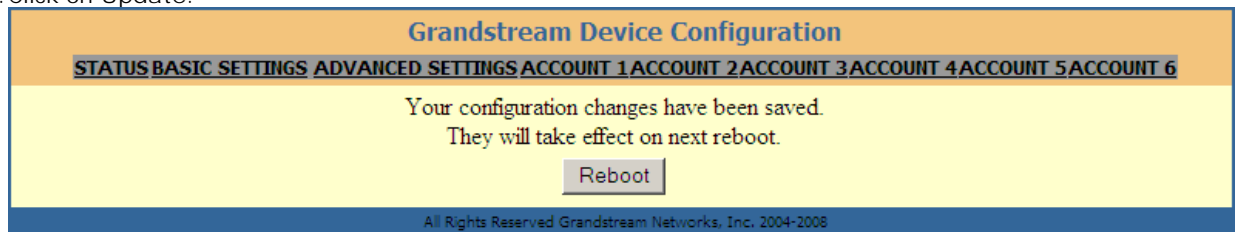
eventlist BLF URI:

Special Feature:

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3. Set the fields indicated above to match those required for the IP Office system.

4. Click on Update.



5. Click on Reboot. The phone may take up to 1 minute to reboot.



B. If installed using extension and user auto-creation, check the settings of the IP Office SIP extension and user created by the SIP devices registration.

C. Make test calls from and to the SIP device.

D. If not installing any further SIP devices, Disable Auto-Create Extn/User if it is enabled.

2.4 Avaya A10 ATA

The Avaya A10 Analog Telephone Adapter provides 4 Phone/FXS ports on its rear plus a LAN port. It can be used to connect analog phone devices to the IP Office via the LAN, with the extensions appearing in the IP Office configuration as SIP extensions.

A. Either enable Auto-Create Extn/User or otherwise manually add SIP extensions and users to the IP Office configuration.

1. Browse to the IP address of the A10.
2. Enter the administrator name and password. The defaults are *nimdbg* and *54321*.
3. Select Telephony and then SIP.

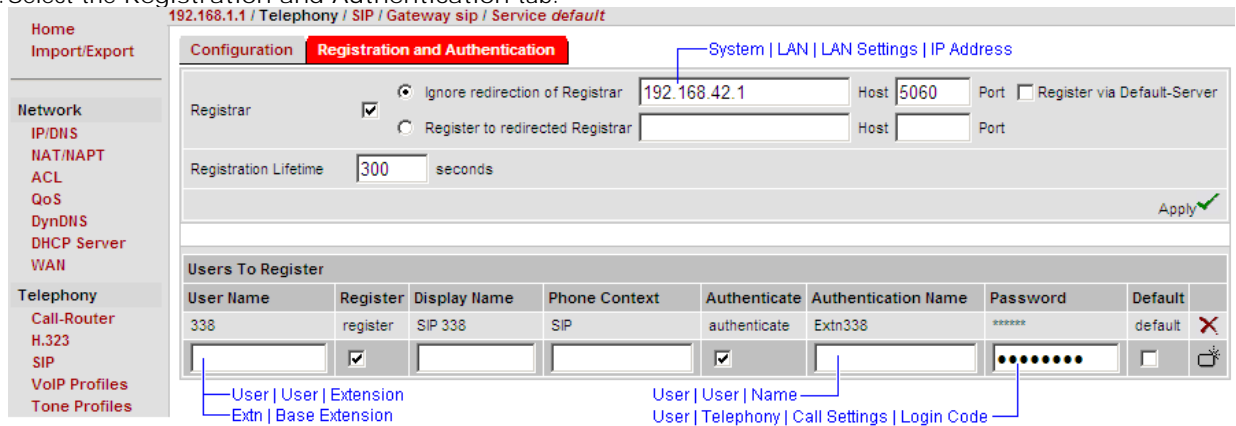
| Name | Domain | Default-Server | Registration | Authentication | Binding | State |
|------|--------|----------------|--------------|----------------|---------|---------|
| sip | / | / | To / | (none) | eth0 | Enabled |

4. Select the Gateways tab and click on sip.


5. Click on default in the Services section. Select the Configuration tab.

- Ensure that the Domain field is empty and the check box not selected.
- Enable the check box for Default-Server (Outbound Proxy) and select Set always the actual Registrar as Default Server.
- Click Apply

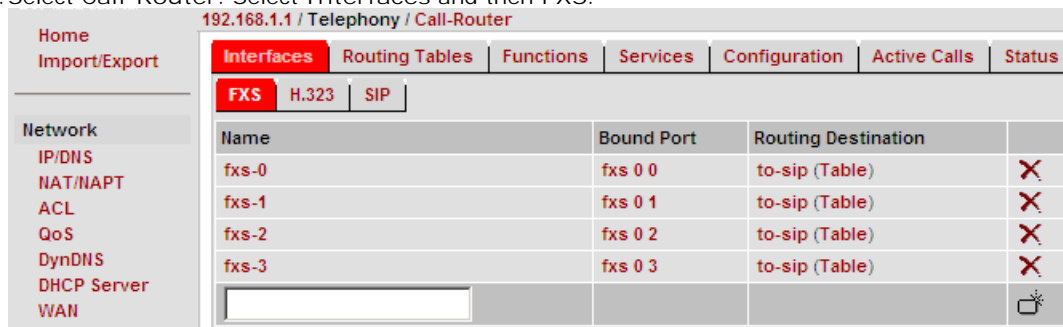
6. Select the Registration and Authentication tab.



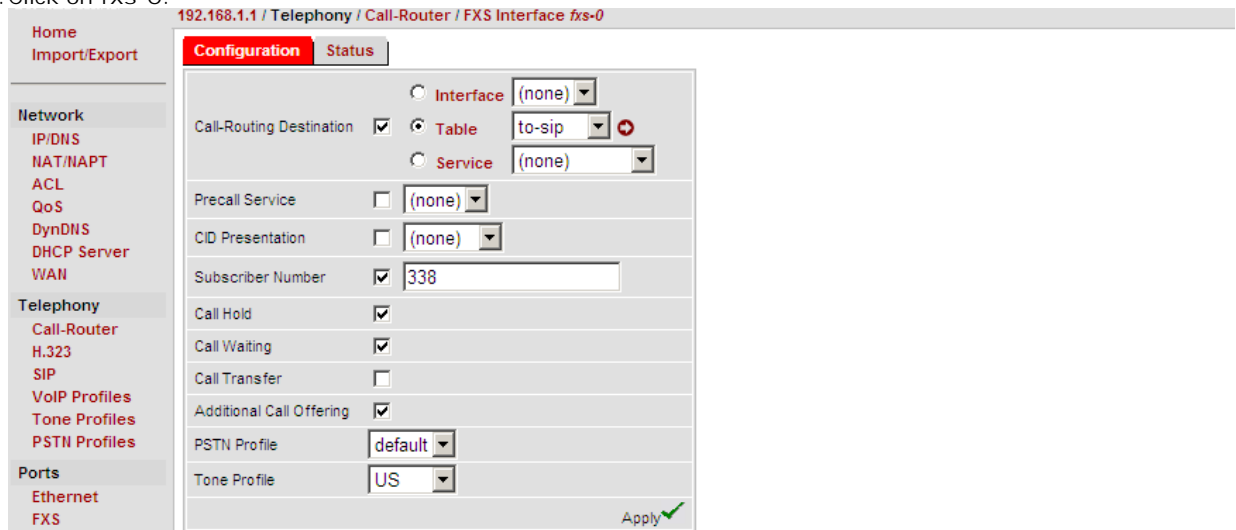
- Enable the Registrar checkbox. Select Ignore redirection of Registrar and enter the IP address and SIP port of the IP Office LAN on which the SIP registrar is enabled. Click Apply ✓.

7. In the Users To Register section, create a user matching the IP Office SIP extension and user. Enter the settings and click on .


8. Select Call-Router. Select Interfaces and then FXS.



9. Click on fxs-0.




- Enable the Call-Routing Destination checkbox. Select Table and in the adjacent drop down list select *to-sip*.
- Enable the Subscriber Number checkbox and enter the IP Office extension number for the SIP extension and user.
- Click Apply ✓.

10. Click on the  arrow icon after *to-sip*.

- Ensure that the table contains T with the destination sip (SIP Interface).

11. Select Call-Router again and then select the Routing Tables tab.

12. Select *from-sip*.

- Enter the IP Office SIP extension number.
- For the Destination select Interface and select the matching fxs port for that extension number.
- Click .

13. Repeat for any other SIP extensions on the unit.

14. Click Save to save the settings so that they will still apply after the unit is restarted.

- B. If installed using extension and user auto-creation, check the settings of the IP Office SIP extension and user created by the SIP devices registration.
- C. Make test calls from and to the SIP device.
- D. If not installing any further SIP devices, Disable Auto-Create Extn/User if it is enabled.

Notes

- When calling from a phone attached to an FXS port, there is a delay of approximately 5 seconds while the unit wait for dialing to be completed before it routes the dialed digits to the IP Office. To avoid this delay dial # after dialing the digits.
- The G723 Codec should not be used with the Avaya A10 ATA. However that codec is not enabled by default.

192.168.1.1 / Telephony / VoIP Profiles / Profile *default*

Home
Import/Export

Network
IP/DNS
NAT/IAPT
ACL
QoS
DynDNS
DHCP Server
WAN

Telephony
Call-Router
H.323
SIP
VoIP Profiles
Tone Profiles
PSTN Profiles

Ports
Ethernet
FXS

Various
System
AAA
Time

Voice Fax Modem Dejitter Buffer Status

| Position | Codec | Rx Length [ms] | Tx Length [ms] | Silence Suppression | | |
|----------|-------------|----------------|----------------|---|---|---|
| 1 | g711ulaw64k | 20 | 20 | <input checked="" type="radio"/> default <input type="radio"/> yes <input type="radio"/> no | ✓ | ✗ |
| 2 | g711alaw64k | 20 | 20 | <input checked="" type="radio"/> default <input type="radio"/> yes <input type="radio"/> no | ✓ | ✗ |
| 3 | g729 | 20 | 20 | <input checked="" type="radio"/> default <input type="radio"/> yes <input type="radio"/> no | ✓ | ✗ |
| | transparent | | | <input checked="" type="radio"/> default <input type="radio"/> yes <input type="radio"/> no | | ✗ |

Additional Voice Parameters

Default Silence Suppression If not specified by the codec

Highpass Filter Voice input filter for A/D conversion

Post Filter Voice ouput filter for D/A conversion

DTMF Relay

RTP Payload Type For Tone Events (NTE)

RTP Payload Type For Signaling Events (NSE)

RTP Traffic Class

Apply ✓

2.5 Patton Micro ATA

A. Either enable Auto-Create Extn/User or otherwise manually add SIP extensions and users to the IP Office configuration.

1. Browse to the IP address of the Micro ATA.
2. Login and select SIP.

SIP Configuration

SIP Server Settings (Current Server: 192.168.42.1:5060; Domain:; Base RTP Port: 8002)

* SIP Registration Server Address: 192.168.42.1 —System | LAN | LAN Settings | IP Address

SIP Port: 5060

SIP Domain:

Voice Port: 8002

* Leaving a setting blank will force the unit to use the information obtained via DHCP and/or DNS

Send Registration Request with Expire Time: 3600

Send Unregistration at boot

Send SUBSCRIBE.

SUBSCRIBE Server IP or FQDN(defaults to registration server):

3. Enter the values to match the settings of the IP Office LAN on which the SIP Registrar is enabled. Click Save.
4. Select CODECS.

Audio/CODEC Configuration

CODECS

| Selected | Silence Suppression | Preferred-Codec |
|---|---------------------|----------------------------------|
| <input checked="" type="checkbox"/> G711U | ON | <input type="radio"/> |
| <input checked="" type="checkbox"/> G711A | ON | <input type="radio"/> |
| <input checked="" type="checkbox"/> G723 | ON | <input type="radio"/> |
| <input checked="" type="checkbox"/> G726 | ON | <input type="radio"/> |
| <input checked="" type="checkbox"/> G729 | ON | <input checked="" type="radio"/> |

5. Set the codecs to match those set for the IP Office SIP extension. Click Save CODEC Configuration.
6. Select Phone 1.

User Information

Phone Number: 343 CallerID Name: SIP343

User Name: Extn343 Password: ●●●●●●

Port: 5060 SIP Registration status: Registered

Voice Mail Setting

Voice Mail Number: *17

7. Enter the values to match the IP Office SIP extension and user settings. Click Save.

- B. If installed using extension and user auto-creation, check the settings of the IP Office SIP extension and user created by the SIP devices registration.
- C. Make test calls from and to the SIP device.
- D. If not installing any further SIP devices, Disable Auto-Create Extn/User if it is enabled.

2.6 Nokia S60 v3 SIP Client

The Nokia S60 SIP Client is a SIP client application that can be installed and used on a range of Nokia phones. The process below was performed on a Nokia e64 but

For Nokia S60 SIP Clients, the IP Office SIP Extension setting Force Authorization should be disabled.

A. Either enable Auto-Create Extn/User or otherwise manually add SIP extensions and users to the IP Office configuration.

1. Select Menu | Tools | Settings | Connection | Sip settings | New SIP profile.

2. Enter the following settings:

- Profile name: Give the profile a name that indicates its function.
- Service profile: Select *IETP*.
- Default access point: Enter your access point.
- Public user name: Enter an address of the form *<IP Office extension number>@<IP Office SIP Enabled LAN IP address>*, for example *338@192.168.42.1*.
- Use compression: Select *no*.
- Registration: Select *always on*.
- Use security: Select *no*.
- Proxy server: Leave blank.
- Registrar server:
 - Registrar server address: Enter the IP Office SIP Enabled LAN IP address.
 - Realm: Enter an address of the form *<IP Office user name>@<IP Office SIP Enabled LAN IP address>*, for example *Extn338@192.168.42.1*.
 - User name: Enter the IP Office extension number.
 - Password: Enter the IP Office user's login code.
 - Transport type: Select *auto*.
 - Port: Match the port set on the IP Office LAN SIP Registrar tab, by default this is *5060*.

3. Select Menu | Tools | Settings | Connection | Internet telephone | New profile.

- Select the SIP profile just created above.

4. Select Menu | Communication | Internet tel. | Options | Settings.

- Change the Default call type to *Internet call*.

B. If installed using extension and user auto-creation, check the settings of the IP Office SIP extension and user created by the SIP devices registration.

C. Make test calls from and to the SIP device.

D. If not installing any further SIP devices, Disable Auto-Create Extn/User if it is enabled.

2.7 Innovaphone IP22, IP24, IP28

A. Either enable Auto-Create Extn/User or otherwise manually add SIP extensions and users to the IP Office configuration.

1. Browse to the IP address of the unit.

| Configuration | Info | Admin | License | Update | NTP | Sync | HTTP-Server | HTTP-Client | Logging | SNMP | Telnet | Certificates |
|----------------|-------------|---|---------|--------|-----|------|-------------|-------------|---------|------|--------|--------------|
| General | | | | | | | | | | | | |
| IP | Version | 7.00 hntfix:3 IP28[09-703000 11], Bincode[09-70300011], Hardware[402] | | | | | | | | | | |
| ETH0 | SerialNo | 00-90-33-21-01-7d (9e) | | | | | | | | | | |
| LDAP | DRAM | 16 MB | | | | | | | | | | |
| TEL1 | FLASH | 8 MB | | | | | | | | | | |
| TEL2 | Coder | 8 Channels of G.711,G.726,G.729 | | | | | | | | | | |
| TEL3 | Sync | - | | | | | | | | | | |
| TEL4 | SNTP Server | 135.64.181.220 | | | | | | | | | | |
| TEL5 | Time | 05.06.2009 07:13 | | | | | | | | | | |
| TEL6 | Uptime | 17d 11h 37m 29s | | | | | | | | | | |

2. In the left hand column select GATEWAY.
3. You will be prompted to login. The default user name is *admin*. The default password is *ip22*, *ip24* or *ip28* depending on the unit type.

| Configuration | General | Interfaces | SIP | GK | Routes | CDR0 | CDR1 | Calls | admin | Help | | | | | | |
|----------------|-----------------------|--|--------|----|--------|------|------|-------|-------|------|------|-------|-------|--|--|--|
| General | | | | | | | | | | | | | | | | |
| IP | Call Logging | <input type="checkbox"/> | | | | | | | | | | | | | | |
| ETH0 | Route Logging | <input type="checkbox"/> | | | | | | | | | | | | | | |
| LDAP | Billing CDRs only | <input type="checkbox"/> | | | | | | | | | | | | | | |
| TEL1 | Logging Filter(GW:Nr) | <input type="text"/> : <input type="text"/> | | | | | | | | | | | | | | |
| TEL2 | Licenses | <table border="1"> <thead> <tr> <th>Name</th> <th>Count</th> <th>Usage</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> | | | | | | | | | Name | Count | Usage | | | |
| Name | Count | Usage | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| TEL3 | OK | | Cancel | | | | | | | | | | | | | |

4. Select Interfaces.

| Configuration | General | Interfaces | SIP | GK | Routes | CDR0 | CDR1 | Calls | admin | Help |
|----------------|-----------|------------|---------|----------|----------|-------|-------|--------------|-------|------|
| General | | | | | | | | | | |
| IP | Interface | CGPN-In | CDPN-In | CGPN-Out | CDPN-Out | State | Alias | Registration | | |
| ETH0 | TEL1 | + | | | | Up | | | | |
| LDAP | TEL2 | + | | | | Up | | | | |
| TEL1 | TEL3 | + | | | | Up | | | | |
| TEL2 | TEL4 | + | | | | Up | | | | |
| TEL3 | TEL5 | + | | | | Up | | | | |
| TEL4 | TEL6 | + | | | | Up | | | | |
| TEL5 | TEL7 | + | | | | Up | | | | |
| TEL6 | TEL8 | + | | | | Up | | | | |
| TEL7 | TEST | + | | | | | | | | |
| TEL8 | TONE | + | | | | | | | | |
| Administration | HTTP | + | | | | | | | | |
| Gateway | ECHO | + | | | | | | | | |

5. Select TEL1 in the Interfaces page.

Name:

Disable:

Tones:

Interface Maps:

Internal Registration

Protocol:

Feature Codes Support: (with Feature Codes)

Dynamic Group:

Direct Dial:

Locked White List:

OK Cancel Apply Delete Help

6. In the Protocol drop down list select *SIP*. Enter the details as indicated below to match your IP Office SIP extension and user.

Name

Disable

Tones

Interface Maps

Internal Registration

Protocol

Server Address (primary) System | LAN | LAN Settings | IP Address

Server Address (secondary) User | User | Extension
- Extn | Base Extension

ID@Domain @

Username User | User | Name

Password Retype User | Telephony | Call Settings | Login Code

Feature Codes Support (with Feature Codes)

Dynamic Group

Direct Dial

Locked White List

Media Properties

General Coder Preference Framesize [ms] Silence Compression Exclusive

Local Network Coder Framesize [ms] Silence Compression

Enable T.38 Enable SRTP No DTMF Detection MOH Mode

7. Click OK.

| Configuration | General | Interfaces | SIP | GK | Routes | CDR0 | CDR1 | Calls | admin | Help |
|----------------|---------|------------|-----|----|--------|------|------|-------|-------|------|
| General | | | | | | | | | | |
| IP | | | | | | | | | | |
| ETH0 | | | | | | | | | | |
| LDAP | | | | | | | | | | |
| TEL1 | | | | | | | | | | |
| TEL2 | | | | | | | | | | |
| TEL3 | | | | | | | | | | |
| TEL4 | | | | | | | | | | |
| TEL5 | | | | | | | | | | |
| TEL6 | | | | | | | | | | |
| TEL7 | | | | | | | | | | |
| TEL8 | | | | | | | | | | |
| Administration | | | | | | | | | | |
| Gateway | | | | | | | | | | |


| Interface | CGPN-In | CDPN-In | CGPN-Out | CDPN-Out | State | Alias | Registration |
|-----------|---------|---------|----------|----------|-------|---------|----------------|
| TEL1 | SIP4420 | + | | | Up | :4420 → | 135.64.181.220 |
| TEL2 | SIP4421 | + | | | Up | | |
| TEL3 | SIP4422 | + | | | Up | | |
| TEL4 | SIP4423 | + | | | Up | | |
| TEL5 | SIP4424 | + | | | Up | | |
| TEL6 | SIP4425 | + | | | Up | | |
| TEL7 | SIP4426 | + | | | Up | | |
| TEL8 | SIP4427 | + | | | Up | | |
| TEST | | + | | | | | |
| TONE | | + | | | | | |
| HTTP | | + | | | | | |
| ECHO | | + | | | | | |

8. Select Routes.

| Configuration | General | Interfaces | SIP | GK | Routes | CDR0 | CDR1 | Calls | admin | Help |
|---------------|---------|------------|-----|----|--------|------|------|-------|-------|------|
| General | | | | | | | | | | |
| IP | | | | | | | | | | |
| ETH0 | | | | | | | | | | |

| From | To | Counter | CGPN | Maps |
|------|----|---------|------|------|
| | | | | |

9. Two new routes are needed, one for dialing from the phone attached to the TEL port and one for incoming calls to the SIP account registered with the TEL port.

10. Click on the top-left  icon. For the source select the checkbox for the TEL port just configured. For the destination use the drop down list to select the matching RAB entry. Ensure that Force enblock is selected. This applies a 4 second timeout for dialing before the number dialed is sent to the destination.

Description Disable

TEL1 SIP4420 → RAB1 SIP4420 Cause(DISC)

RAB1 SIP4420

TEL2

RAB2

TEL3

RAB3

TEL4

RAB4

TEL5

RAB5 GW1

TEL6 GW2

RAB6 GW3

TEL7 GW4

RAB7 GW5

TEL8 GW6

RAB8

TEST

TONE

HTTP

ECHO

SIP1

SIP2

SIP3

SIP4

Add UUI

Final Route

Final Map

No Reroute on wrong No

Verify CGPN

Interworking(QSIG,SIP)

Rerouting as Deflection

Routing on Diverting No


Force enblock

Add #

Disable Echo Canceler

Call Counter max

OK Cancel Apply Help

11. Click OK. Click on the  next to the newly added route. This time selecting the check box for the same RAB entry and in the drop-down list selecting the TEL entry. Click OK.

12. The Routes form should show the routes just added. The b indicates the Force enblock setting of the outgoing dialing from the phone attached to the TEL1 port.

| Configuration | General | Interfaces | SIP | GK | Routes | CDR0 | CDR1 | Calls | admin | Help | | | | | | | | | | | | | | | |
|--|--|------------|------|------|--------|------|------|-------|-------|------|------|----|---------|------|------|--|--|---|--|---|--|--|--|--|---|
| General | | | | | | | | | | | | | | | | | | | | | | | | | |
| IP | | | | | | | | | | | | | | | | | | | | | | | | | |
| ETH0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| LDAP | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>From</th> <th>To</th> <th>Counter</th> <th>CGPN</th> <th>Maps</th> </tr> </thead> <tbody> <tr> <td> TEL1:SIP4420</td> <td> RAB1:SIP4420</td> <td>b</td> <td></td> <td>→</td> </tr> <tr> <td> RAB1:SIP4420</td> <td> TEL1:SIP4420</td> <td></td> <td></td> <td>→</td> </tr> </tbody> </table> | | | | | | | | | | | From | To | Counter | CGPN | Maps |  TEL1:SIP4420 |  RAB1:SIP4420 | b | | → |  RAB1:SIP4420 |  TEL1:SIP4420 | | | → |
| From | To | Counter | CGPN | Maps | | | | | | | | | | | | | | | | | | | | | |
|  TEL1:SIP4420 |  RAB1:SIP4420 | b | | → | | | | | | | | | | | | | | | | | | | | | |
|  RAB1:SIP4420 |  TEL1:SIP4420 | | | → | | | | | | | | | | | | | | | | | | | | | |

13. To edit an existing route click on the  arrow just before the To column.

- B. If installed using extension and user auto-creation, check the settings of the IP Office SIP extension and user created by the SIP devices registration.
- C. Make test calls from and to the SIP device.
- D. If not installing any further SIP devices, Disable Auto-Create Extn/User if it is enabled.

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