Gigaset pro

Third Party Interoperability Testing

ShoreTel

N300IP
Prosumer DECT system

N510 pro
Business class DECT system

N720 pro
MultiCell DECT System

InterOperation & Configuration Notes For
Gigaset pro IP DECT Systems Interworking With The
ShoreTel PBX

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Basic

GERMAN TECHNOLOGY

INSPIRING CONVERSATION

Contents

Change History

Document revision	Date	Authored by	Sections affected	Reason for change
Rev 001	26 March 2013	JL	All	Initial release
Rev 002	16 May 2014	JL	Links	Update outdated hyperlinks to WiKi etc

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1. Overview

1.1. Introduction

This document provides a summary of how the ShoreTel PBX can interoperate with Gigaset pro IP DECT Cordless systems and phones. This is a Gigaset pro "self-certification" document based on own testing with the ShoreTel PBX.

1.2. Session Initiation Protocol

Session Initiation Protocol (SIP) is a simple protocol that facilitates peer-to-peer communication sessions. Users (or, in general, any addressable entities) in a SIP framework are identified by Universal Resource Identifiers (URI). Each such Internet-style address (for example, sip: johndoe@proximitycomms.com) maps into one or more Contacts, each of which typically represents a device or service at which the corresponding user may be reached. The SIP framework is responsible for routing a request for a peer-to-peer session addressed to a given URL to one or more appropriate contacts for that URL. The framework may utilise information about the preferences, presence and location of the user identified by the URL, to determine the most appropriate contacts. The protocol also provides mechanisms to specify the type of session that is requested as well as means to change session parameters.

It is important to understand that SIP is not a standardised protocol but in fact is an IETF RFC (**R**equest **F**or **C**omment). An RFC is a document that describes the specifications for a recommended technology. If the specification is ratified it becomes a standards document. At the time of producing this document SIP still remains a RFC. Not all RFCs become standards; some are designated indefinitely with Informational or Experimental status. Therefore interoperability of two SIP devices is not guaranteed; this is why Gigaset pro has produced this document to explain the configuration and features available when using the Gamma IPDC service and Gigaset PBX.

Full details of the SIP IETF RFC can be found here: http://www.ietf.org/rfc/rfc3261.txt

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2. Testing Configuration

2.1. Architecture Overview

The following is a diagram of the solution architecture showing the components used during the test.

2.2. Requirements

ShoreTel generally uses MGCP signalling protocol for its own devices. However ShoreTel also supplies a SIP license for connectivity of 3rd party manufacturer SIP devices. SIP Extensions require proper licensing and ShoreGear Voice Switch resources.

- SIP Extensions require a SIP Phone License. One SIP Phone License is required for each SIP Extension.

- SIP Extensions require available resources on ShoreGear voice switches, at that site, to accommodate the number of SIP Extensions desired. - Each SIP Extension requires one IP Phone resource and one SIP Proxy resource.

  - o For every 5 SIP Extensions, one analogue port can be allocated to provide support for 5 IP Phones.
  - o For every 100 SIP Extensions, one analogue port can be allocated to provide support for 100 SIP Proxies.

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2.3. Software versions

The following software versions were used during the testing by Gigaset pro

Device	Software version
ShoreTel Version	12.2
ShoreTel Build	17.41.7005.0
Gigaset Version N300IP & N510 pro	42.075
Gigaset Version N720DM pro	70.068

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3. Configuration

3.1.   ShoreTel

Configure Global SIP Settings

A SIP Realm is a domain over which SIP authentication parameters are specified. For digest authentication, each such domain defines a set of usernames and passwords through which access is granted. The Realm parameter in ShoreTel Director configures the name of the realm to which the site devices belong.

A SIP Session Timer determines the SIP session registration period. The ShoreTel default value is 1800 seconds. The Gigaset default value is 180 seconds. Therefore these should be altered to match accordingly (in our tests 3600 was used without any problem).

Note: If these timers do not match, SIP endpoints may occasionally lose their registration.
Note: A system reboot is required during these steps. Plan accordingly.

Realm = SIP domain used
Session Interval = 3600
Refresher = Caller (UAC)

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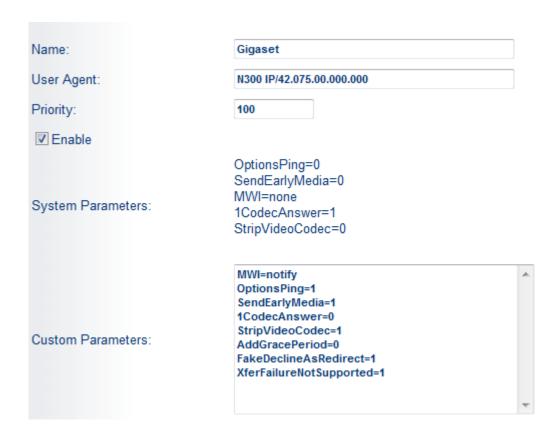**www.Gigaset.com/pro ● Telephone: +44 1244 567900**

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Configure a SIP Device Profile

A SIP device profile is a ShoreTel "property sheet" defined for a specific SIP device. It lists characteristics, features, and settings for that type of device. ShoreTel uses SIP device profiles to properly communicate with, monitor, and service the SIP devices connected to the ShoreTel system. ShoreTel supports predefined and user defined SIP device profiles.

Predefined profiles are provided by ShoreTel to support generic SIP devices, or devices for which a specific profile is not defined. Although predefined profiles cannot be deleted or modified, they can be deactivated or superseded by user defined profiles.

User defined profiles are created through ShoreTel Director and list parameters and settings for specific SIP device models. Custom SIP device profiles provide a useful way for System Administrators to observe and troubleshoot the registration of SIP devices.

Note: User defined SIP device profiles are not supported by ShoreTel TAC.

Name:	Gigaset
User Agent:	N300 IP/42.075.00.000.000
Priority:	100
☑ Enable	
System Parameters:	OptionsPing=0 SendEarlyMedia=0 MWI=none 1CodecAnswer=1 StripVideoCodec=0
Custom Parameters:	MWI=notify OptionsPing=1 SendEarlyMedia=1 1CodecAnswer=0 StripVideoCodec=1 AddGracePeriod=0 FakeDeclineAsRedirect=1 XferFailureNotSupported=1

Created SIP Profile (IP Phones – SIP Profile) – copied '_System', added User Agent 'N300 IP/42.075.00.000.000'

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Configure an Individual User

Individual Users must have a SIP Password set in order to correctly associate with their SIP device configuration.

Determine the ShoreTel Voice Mail Login Extension

Gigaset IP Phones need a method to connect to the ShoreTel Voice Mail system.

To determine the Voice Mail Login Extension used by your ShoreTel system, perform the following steps:

1. In ShoreTel Director, navigate to "Administration > System Directory".
2. Find the name "Voice Mail Login" and note the associated extension.

This extension will be used in the configuration steps on the Gigaset SIP phone.

3.2. Gigaset

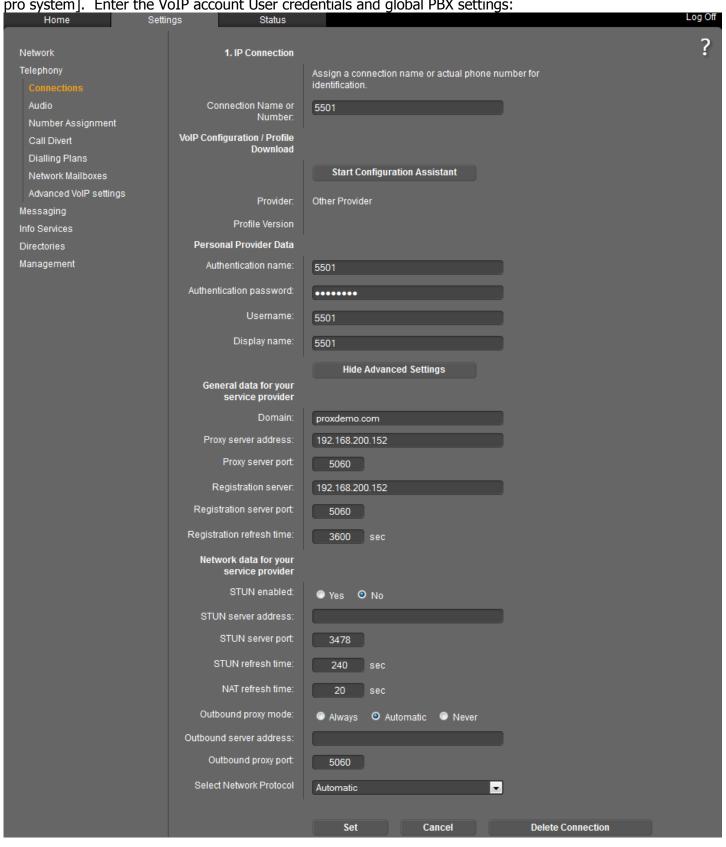The screenshots are those of an N510pro however similar configuration parameters are shared across the Gigaset IP product portfolio.

Under the menu heading **Connections** edit the first VoIP account IP1 [note: up to six VoIP accounts/DECT Users/ShoreTel extensions can be configured on the N300IP and N510pro, whilst up to 100 Users on the N720 pro system]. Enter the VoIP account User credentials and global PBX settings:

Home	Settings	Status		Log Off

Network
Telephony
   Connections
   Audio
   Number Assignment
   Call Divert
   Dialling Plans
   Network Mailboxes
   Advanced VoIP settings
Messaging
Info Services
Directories
Management

1. IP Connection

Assign a connection name or actual phone number for identification.

Connection Name or Number: `5501`

VoIP Configuration / Profile Download

[Start Configuration Assistant]

Provider: Other Provider
Profile Version:

Personal Provider Data

Authentication name: `5501`
Authentication password: `••••••••`
Username: `5501`
Display name: `5501`

[Hide Advanced Settings]

General data for your service provider

Domain: `proxdemo.com`
Proxy server address: `192.168.200.152`
Proxy server port: `5060`
Registration server: `192.168.200.152`
Registration server port: `5060`
Registration refresh time: `3600` sec

Network data for your service provider

STUN enabled: ○ Yes ◉ No
STUN server address:
STUN server port: `3478`
STUN refresh time: `240` sec
NAT refresh time: `20` sec
Outbound proxy mode: ○ Always ◉ Automatic ○ Never
Outbound server address:
Outbound proxy port: `5060`
Select Network Protocol: `Automatic ▾`

[Set]   [Cancel]   [Delete Connection]

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Connection Name = Name to be associated with this connection – default is IP1
Authentication Name = Extension number defined on ShoreTel under individual users
Authentication Password = Password as defined under 'SIP Password' under individual users
User Name = Extension number defined on ShoreTel under individual users
Display Name = Name that will be displayed as the CPND when calls are made from the DECT handset
Domain = SIP Domain / Realm that is configured on the ShoreTel Environment
Proxy Server Address = IP of ShoreTel switch providing SIP Proxy
Proxy Server Port = Default 5060
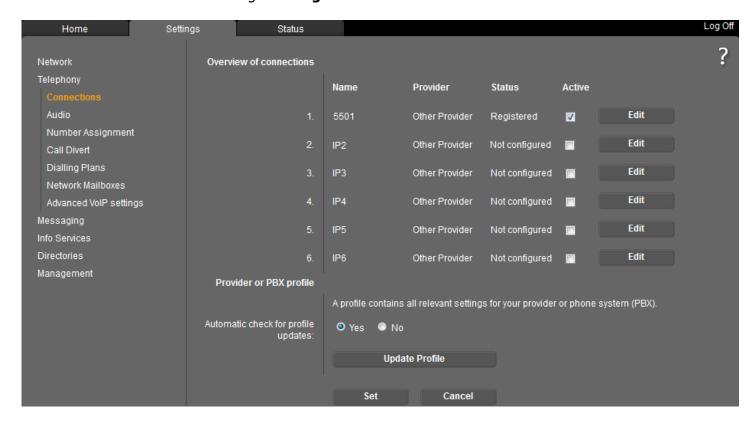**Registration Server Address =** IP of ShoreTel switch providing SIP Proxy
Registration Server Port = Default 5060
Registration Refresh Timer = Must match the timer that has been configured in ShoreTel eg 3600
STUN = Disabled
Outbound Proxy = Not required

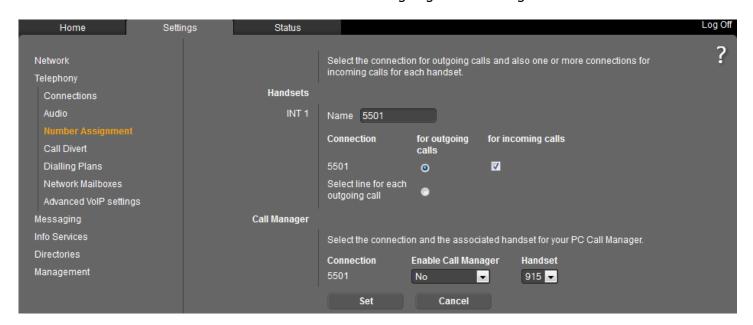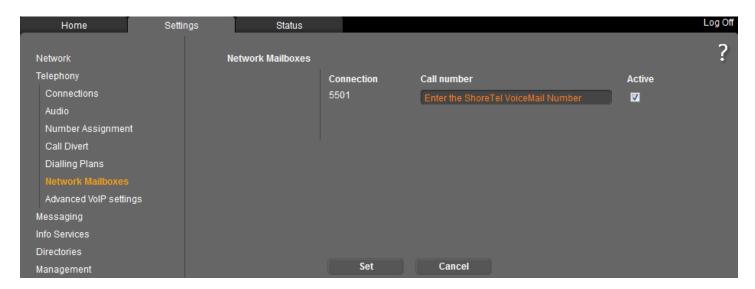Click **Set** and note the Status changes to **Registered**:

Select the **Number Assignment** menu option:
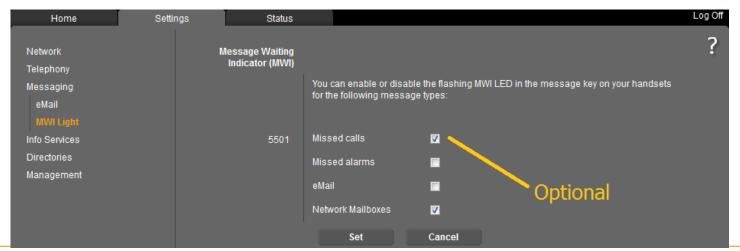Ensure that the "ShoreTel" connection is used for both outgoing and incoming calls.

Home	Settings	Status		Log Off

Network
Telephony
  Connections
  Audio
  Number Assignment
  Call Divert
  Dialling Plans
  Network Mailboxes
  Advanced VoIP settings
Messaging
Info Services
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Management

Select the connection for outgoing calls and also one or more connections for incoming calls for each handset.

Handsets

INT 1   Name 5501

Connection	for outgoing calls	for incoming calls
5501	⦿	☑
Select line for each outgoing call	○	

Call Manager

Select the connection and the associated handset for your PC Call Manager.

Connection	Enable Call Manager	Handset
5501	No ▾	915 ▾

Set   Cancel

Select the **Network Mailboxes** menu option:
Enter the ShoreTel network voicemail access number.

Home	Settings	Status		Log Off

Network
Telephony
  Connections
  Audio
  Number Assignment
  Call Divert
  Dialling Plans
  Network Mailboxes
  Advanced VoIP settings
Messaging
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Network Mailboxes

Connection	Call number	Active
5501	Enter the ShoreTel VoiceMail Number	☑

Set   Cancel

Select the **Messaging > MWI Light** menu option:
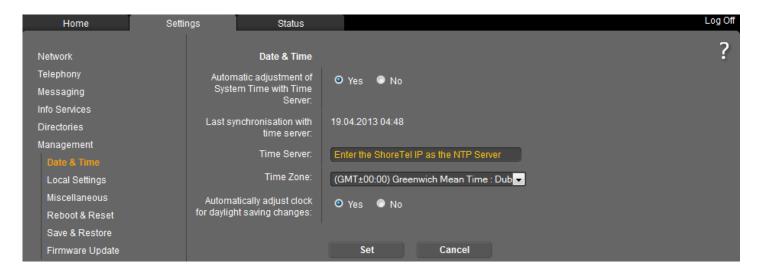Ensure the Network Mailboxes is checked. Missed call notification is optional.

Home	Settings	Status		Log Off

Network
Telephony
Messaging
  eMail
  MWI Light
Info Services
Directories
Management

Message Waiting Indicator (MWI)

You can enable or disable the flashing MWI LED in the message key on your handsets for the following message types:

5501		
Missed calls	☑	
Missed alarms	☐	
eMail	☐	
Network Mailboxes	☑	

Optional

Set   Cancel

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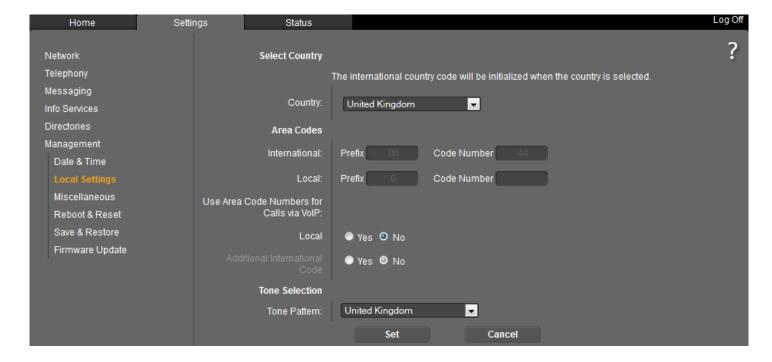Gigaset
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Select the **Date & Time** menu option:
Ensure that the ShoreTel IP address is used for as the NTP server.

Select the **Local Settings** menu option:
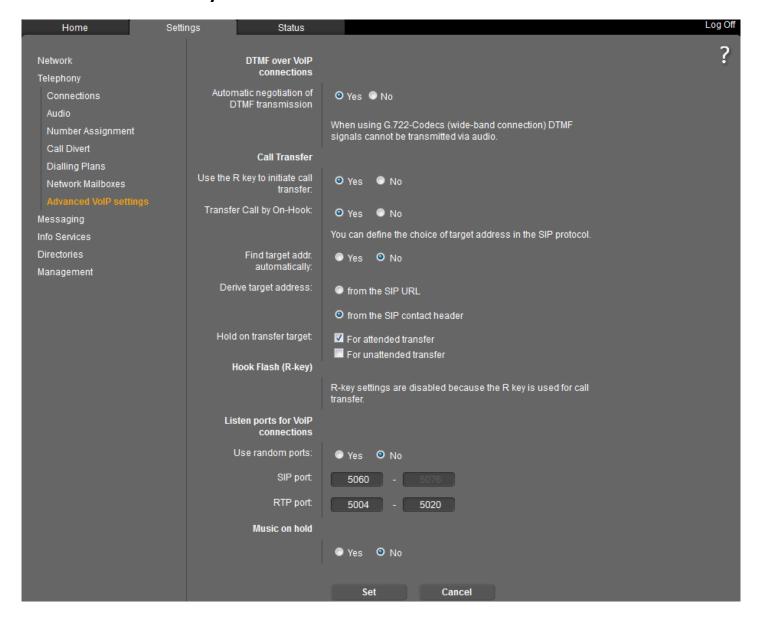Ensure that the UK Tone scheme is selected.

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Select the **Advanced VoIP Settings** menu option:
Ensure that **Transfer Call By On-Hook** is selected

INFO NOTE: All of the above settings can be Auto Provisioned into the Gigaset Device using plain XML via appropriate Redirection methods, thereby achieving a Zero-Touch experience with a new device for the End User.

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3.3. Correct procedure for initiating Call Transfers from a Gigaset DECT handset:

During an established call, proceed as follows:

1. Press either the **R** key (Recall/Hookflash-telecoms terminology!) or the soft key **Ext.Call** (as indicated in the display during the call) to place the call on hold. Either will have the effect of signalling to the PBX to place the call on hold.

2. Enter the telephone number of the User you wish to call and wait for ringing.

3. At this stage you can either:
   - Un-supervised Transfer - hang up to transfer the call unannounced
   - Supervised Transfer - wait for the other party to answer, then consult/announce the call and hang up. Or it could be that the other party doesn't wish to speak with the Caller in which case select the displayed option to **END ACTIVE CALL** and you will be connected to the Caller once again.

Call Transfer Method:
For transferring calls when connected to an advanced PBX trunk (SIP REFER signalling protocol).

Uses:
- On-site IP-PBX
- Hosted IP-PBX
- IP Centrex

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4. Test Results

Issues deemed to require a resolution are displayed in BLUE

Feature	Success	Comments
Call – initiate	✓	
Call – accept	✓	
On hook dialling	✓	
Broadcast – initiate	-	Untested
Broadcast – audible	-	Untested
Redial	✓	From received and missed calls in redial list
Caller ID – outgoing	✓	Outgoing Caller ID relies upon ShoreTel Director
Caller ID – incoming	✓	Incoming Caller ID displays on the phone
Redirect to Voice Mail	✓	PBX User controlled in event of busy/no answer etc
Call Waiting	✓	
Hold/Unhold	✓	
Transfer – consultative	✓	See correct method for call transfer in previous section
Transfer – unattended	✓	See correct method for call transfer in previous section
Park/Unpark	✘	Tried 'Star Codes' with no success - Park: *11 + Ext / Unpark: *12 + Ext
3-Party Conference As Attendee	✓	Can be conferenced in from a ShoreTel handset providing Conference Resources are configured on ShoreGear switch – minimum of 4
3-Party Conference Initiate	✓	Can conference in a ShoreTel handset providing Conference Resources are configured on ShoreGear switch – minimum of 4
Voice Mailbox access	✓	To login to mailbox and listen to messages press & hold digit 1 (easiest). Or if preferred press the Envelope button.
VM new message indicator & counter	✓	Envelope appears in left of screen with quantity of new messages together with flashing MWI Envelope button/icon`
Call Workgroup	Partial	Call is placed to Group but no RingBack is heard on the Gigaset handset. It is understood why this occurs. This is not a unique problem to Gigaset but all other tested SIP devices operating behind the ShoreTel 3rd party SIP License. Manufacturer made aware of this.
Call Hunt Group		
HG/WG Agent	Partial	Cannot login or logout of queue but can receive calls
DTMF signalling	✓	

[Highlights only – full test plan results available upon request]

Further configuration details can be found in the product specific Admin Guides which are available for download in the Gigaset pro WiKi.

Comments or questions in relation to this document should be addressed to the originator:

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