ShoreTel	spectralink solving every day	**Innovation Network App Note** **IN-15033** **Date: June 2015**
Product: Spectralink IP-DECT Server 400/6500		**System version:** ShoreTel 14.2

Abstract

This application note provides the details on adding the Spectralink IP-DECT Server 400/6500 wireless servers and Spectralink 75-Series, 76-Series and Spectralink Butterfly Series connected DECT phones to the ShoreTel® IP Phone system.

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ShoreTel tests and validates the interoperability of the Member's solution with ShoreTel's published software interfaces. ShoreTel does not test, nor vouch for the Member's development and/or quality assurance process, nor the overall feature functionality of the Member's solution(s). ShoreTel does not test the Member's solution under load or assess the scalability of the Member's solution. It is the responsibility of the Member to ensure their solution is current with ShoreTel's published interfaces.

The ShoreTel Technical Support organization will provide Customers with support of ShoreTel's published software interfaces. This does not imply any support for the Member's solution directly. Customers or reseller partners will need to work directly with the Member to obtain support for their solution.

Overview

This document provides the details on the Spectralink IP-DECT Server 400 and IP-DECT Server 6500 with connected DECT phones and describes how to integrate these DECT wireless servers with the ShoreTel IP Phone system. The document focuses on the configuration procedures needed to set up the Spectralink DECT phones for the ShoreTel system and the configuration needed on the ShoreTel system to support the Spectralink DECT phones.

Features and Benefits

Quality DECT phones provide clear, full duplex, hands-free communications for the connected parties. DECT phones on the ShoreTel IP phone system take advantage of this effective communications path while reaping the benefits of the power and cost effectiveness, through reduced costs of operation and maintenance, of ShoreTel's VoIP system.

Spectralink Overview and Contact

Information regarding the Spectralink IP-DECT Server 400/6500 and DECT Phones can be found through the following contact information:

Spectralink Headquarters
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Boulder, CO 80301
USA

info@spectralink.com

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Phone:
+1 (800) 775-5330
(in North America)
or +1 (303) 441-7500

Spectralink Product Information

Spectralink IP-DECT Server 400

The IP-DECT Server 400 is a complete wireless enterprise solution for the SMB market. Supporting Seamless handover between base stations, extensive radio coverage, messaging to handset, value added applications and scalability from single cell solution(Server and Base station in the same unit) to a multicell configuration with up to 3 IP Base stations and support for up to 30 wireless users.

Spectralink IP-DECT Server 6500

The Spectralink IP-DECT Server 6500 is a complete wireless enterprise solution. Seamless handover between base stations, extensive radio coverage, messaging to handset, value added applications and scalability are just some of the benefits of the IP-DECT Server 6500. The IP-DECT Server 6500 consists of the IP-DECT Server 6500 itself, Media Resources, IP-DECT Base Stations, DECT Repeaters and Handsets. A flexible license option allows you to only pay for extra users when you need it. You pay, you upgrade and you have more mobile users. Up to 256 Base Stations and up to 4096 wireless users can be subscribed to the IP-DECT Server 6500, making it extremely scalable and the ideal choice for fast growing and large businesses.

Spectralink 75-Series

The Spectralink 75-Series handset is an elegant yet robust handset with a large color display and intuitive menu structure. These features make it a valuable tool and preferred choice for mobile workers in administrative working environments across the range of vertical markets.

Spectralink 76-Series

The Spectralink 76-Series is ruggedized and durable in harsh conditions. The handsets are designed to meet the needs of a mobile workforce in industrial and manufacturing environments.

Spectralink Butterfly Series

Spectralink offers a colorful, trendy, and lightweight DECT handsets designed especially for office environments that fulfills your basic wireless telephony needs.

Requirements, Validation and Limitations

The following requirements are necessary to integrate a Spectralink DECT Phone to the ShoreTel IP Phone system as described in this Application Note.

Deployment of Spectralink DECT phones require ShoreTel SIP Phone License(s) (one per Spectralink DECT phone) as well as the either the Extension & Mailbox License OR the Extension Only License.

A license is required for CODEC G.729 on the IP-DECT Servers (Part Number 14075480)

When Spectralink DECT Phones are configured as members of a Workgroup, and a call is placed into the Workgroup, the Spectralink DECT Phones will ring, but if the call is not answered and the originating party is placed into queue for the next available member, the Spectralink DECT Phones stop ringing momentarily. The Spectralink DECT Phones will ring again after the Workgroup parameter "No Answer Number of Rings" value is reached.

Please refer to the ShoreTel Administration Guide, Chapter 18, for more details on supported and unsupported features with SIP Extensions.

Spectralink DECT Phone Requirements

- The Spectralink IP-DECT Server 6500 – the devices should be running the latest firmware (see version support table below).

Version Support

		Spectralink IP-DECT Server 400/6500	Spectralink handsets
		Firmware PCS15	75-Series & 76-Series Firmware PCS15AB Butterfly Series Firmware PCS14MA
ShoreTel Release 19.45.5101.0 & above	14.2	✓	✓

Validation Testing Results Summary

Table 1: Basic Feature Test Cases

ID	Name	Description	Results
1.1	Device initialization with static IP address	Verify successful startup and initialization of the device up to a READY/IDLE state using a static IP address	Pass
1.2	Device reset – idle (for static configurations)	Verify successful re-initialization of device after power loss while device is idle	Pass
1.3	Device initialization with DHCP	Verify successful startup and initialization of the device up to a READY/IDLE state using DHCP	Pass
1.4	Device reset – idle (for dynamic configurations)	Verify successful re-initialization of device after power loss while device is idle	Pass
1.5	Verify Diffserv Code Point support	Verify the ability to set Diffserv Code Point from SIP DUT	Pass
1.6	Verify Date and Time Update support	Verify setting of Date and Time Update on SIP DUT	Pass
1.7	Place call	Verify successful call placement with normal dialing to a variety of terminating phones	Pass
1.8	Receive call	Verify successful reception of calls with normal dialing from a variety of calling phones	Pass
1.9	Place call – re-dial	Verify successful call placement using re-dial to SIP Reference	Pass
1.10	Place call – speed dial	Verify successful call placement using programmed speed dial	Pass
1.11	CODEC support – common (from DUT to ShoreTel Phone, REF-x)	Verify successful call connection and audio path using all supported CODECs (G.711-Ulaw and G.729)	Pass

ID	Name	Description	Results
1.12	CODEC support – common (from DUT to SIP Reference Phone, SIP-Ref)	Verify successful call connection and audio path using all supported CODECs (G.711-Ulaw and G.729)	Pass
1.13	CODEC support – negotiated	Verify successful negotiation between devices configured with different default CODECs (G.711-Ulaw and G.729)	Pass
1.14	Hold from DUT to SIP Reference	Verify successful hold and resume of connected call	Pass
1.15	Hold from DUT to ShoreTel Phone	Verify successful hold and resume of connected call	Pass
1.16	Forward	Verify successful forwarding of incoming calls	Pass
1.17	Forward from SIP DUT	Verify successful forwarding of incoming calls	Pass
1.18	Mute	Verify device's mute function	Pass
1.19	Out-of-band DTMF Transmission	Verify successful transmission of out-of-band digits (RFC2833) for calls placed to and from the DUT with a variety of other devices	Pass Note 1
1.20	Missed call notification	Verify that device notifies the user about missed calls	Pass
1.21	Volume	Verify the device's volume adjustment function	Pass

Table 2: Extended Feature Test Cases

ID	Name	Description	Notes
3.1	Call waiting	Verify appropriate notification and successful connection of incoming call while busy with another party	Pass
3.2	Park	Verify successful park and retrieval of connected call	Pass Note 2
3.3	Extended forward	Verify extended call forwarding options – busy forwarding, no-answer forwarding	Pass
3.4	Extended forward from SIP DUT	Verify extended call forwarding options – busy forwarding, no-answer forwarding	Pass, use Call Handling Modes
3.5	Transfer – blind	Verify successful blind transfer of connected call	Pass
3.6	Transfer – monitored	Verify successful monitored transfer of connected call	Pass
3.7	Conference – ad hoc	Verify successful ad hoc conference of three parties	Note 3
3.8	Place call – secondary line	Verify successful call placement using secondary line	Not supported
3.9	Receive call – secondary line	Verify successful connection of incoming call on secondary line	Pass
3.10	Callback	Verify successful connection of a call using the missed-call callback feature of the device	Pass

ID	Name	Description	Notes
3.11	Headset	Verify the device's support for external headsets (using headsets supplied by the 3P phone vendor)	Not Tested supported by phones
3.12	Ring selection	Verify the device's ability to change the ring type	Pass
3.13	Caller ID Name and Number	Verify that Caller ID name and number is sent and received from SIP endpoint device	Pass
3.14	SIP Device Generates Busy Tone	Verify that SIP DUT generates busy tone when calling a busy extension	Pass
3.15	POTS Analog Gateway supports the transfer operation by "flashing"	Verify that the POTS Analog Gateway can support the transfer operation by "flashing"	Not Supported
3.16	Verify handling of "911"	Verify dialing "911" on DUT could connect with "911" services	Note 4
3.17	Verify Fax Handling	Verify that fax can be sent and received through DUT	Not Supported
3.18	Auto Attendant Menu	Verify that DUT can initiate calls properly to a ShoreTel Auto Attendant menu and that you can transfer to the desired extension.	Pass
3.19	Auto Attendant Menu "Dial by Name"	Verify that DUT can initiate calls properly to a ShoreTel Auto Attendant menu and that you can transfer to the desired extension using the "Dial by Name" feature.	Pass
3.20	Auto Attendant Menu checking Voice Mail mailbox	Verify that DUT can initiate calls properly to a ShoreTel Auto Attendant menu and that you can transfer to the Voice Mail Login Extension.	Pass
3.21	Initiate call to a Hunt Group	Initiate a call from DUT and verify that calls route to the proper Hunt Group and are answered by an available hunt group member with audio in both directions using G.729 and G.711 codecs.	Pass
3.22	Initiate call to a Workgroup	Initiate a call from DUT and verify that calls route to the proper Workgroup and are answered successfully by an available workgroup agent with audio in both directions using G.729 and G.711 codecs.	Pass
3.23	Hunt Group Member	Verify that incoming calls to a hunt group can be answered properly when DUT is a member of the hunt group.	Pass
3.24	Workgroup Agent	Verify that incoming calls to a workgroup can be answered properly when DUT is an agent of the workgroup.	Pass
3.25	Call Forward – "FindMe"	Verify that calls are forwarded to DUT's "FindMe" destination. Verify that DUT works properly when it's a "FindMe" destination	Pass
3.26	ShoreTel Converged Conferencing Server	Verify that calls are properly forwarded to the ShoreTel Converged Conferencing Server and it properly accepts the access code and you're able to participate in the conference.	Pass
3.27	Bridged Call Appearance (BCA) extension	Verify that DUT can initiate calls properly to a BCA extension and the call is presented to all of the phones that have BCA configured. Verify that the call can be answered, placed on-hold and then transferred.	Pass
3.28	Additional Phones (Simulring)	Verify that calls ring simultaneously on DUT and ShoreTel IP Phone	Pass

Note 1: DTMF tones initiated by the Spectralink DECT handsets work properly with Auto Attendant menus and other automated equipment that require tones. The test plan also tests the phones capability of sending tones and receiving DTMF tones from other devices (i.e. ShorePhones and other SIP endpoints). The Spectralink DECT handsets phones properly send DTMF tones to the other devices and are heard by the remote device, but when the Spectralink DECT handsets receive tones from these devices it does not play the tone to the user. Since we can think of no application that would be affected by this we marked it as a passed test case.

Note 2: You can successfully Park calls to and from the Spectralink DECT handsets. To Park a call from the Spectralink DECT handset you must place the first call on-hold and then dial *11 followed by the extension you wish to Park the call to, do not press the On /OFF Hook key, otherwise the Park attempt will fail. If you Park a call to a Spectralink DECT handset, the call will not appear on the handset, in order to retrieve the Parked call you must initiate a call by dialing *12 followed by the extension where the call was Parked.

Note 3: The Spectralink DECT handsets do not have the DSP resources to support a 3-way conference on the phone itself. They can be participants of a conference call, initiated by ShoreTel IP phones, but cannot initiate one.

Note 4: The Spectralink DECT handsets can generate calls to emergency numbers (911), but we did not test calling an actual emergency services center, calls were made in a controlled environment to verify call placement.

Configuration Overview

The following steps are required to configure the Spectralink DECT handsets to work with the ShoreTel system.

ShoreTel Configuration

This section describes the ShoreTel system configuration to support the Spectralink DECT handsets. The section is divided into general system settings and individual user configurations needed to support the Spectralink DECT handsets.

ShoreTel System Settings - General

The first settings to address within the ShoreTel system are the general system settings. These configurations include the call control, the switch, and the site settings. If these items have already been configured on the system, skip this section and go on to the "ShoreTel System Settings – Individual Users" section below.

Call Control Settings

The Call Control Options within ShoreTel Director may need to be reconfigured. To configure these settings for the ShoreTel system, log into ShoreTel Director and select "**Administration**", "**Call Control**", and then "**Options**" (**Figure 2**).

Figure 2 – Administration Call Control/Options

The "Call Control/Options" screen will then appear (Figure 3).

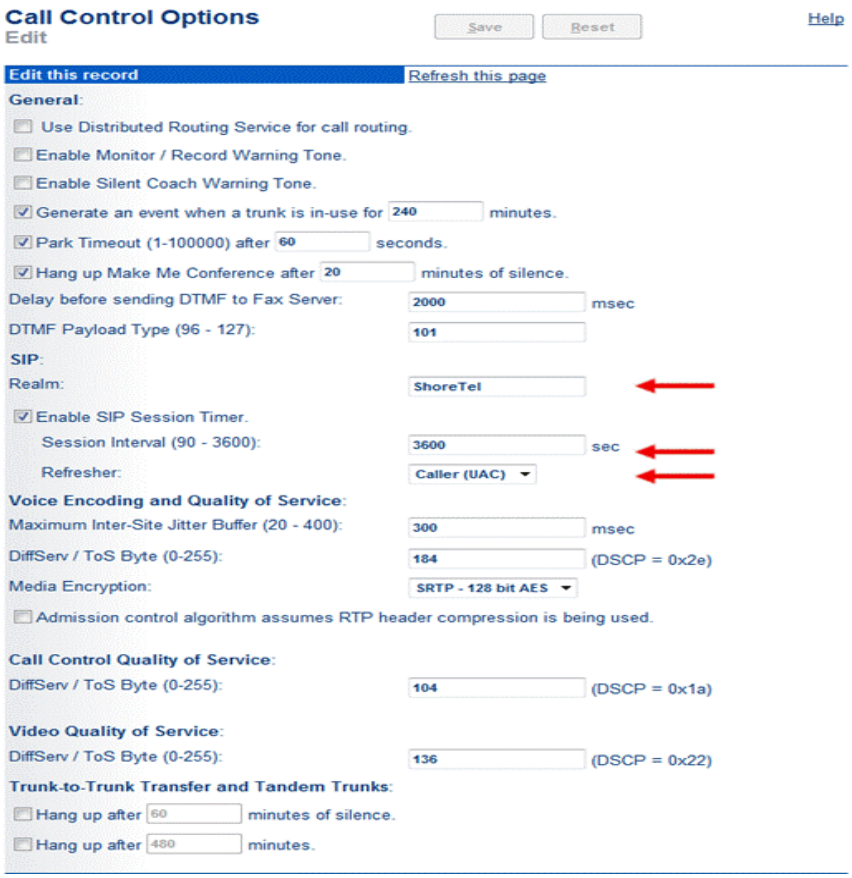


Figure 3 – Call Control/Options Screen

- If this is an upgrade from previous ShoreTel versions, you may see a parameter named "Always Use Port 5004 for RTP." If so, you will need to disable this parameter by un-checking the box and saving the setting. When enabled, SIP extension configuration will fail. It is also important to note that this "one time" setting requires a system restart (all servers first, then ShoreGear switches followed by IP Phones) to take effect. Once the server has been restarted, this configuration parameter will no longer be visible, or may be grayed out. The default for new installations is disabled, thus the parameter is not visible (as shown in Figure 3).
- Realm: The realm is used in authenticating all SIP devices. It is typically a description of the computer or system being accessed. Changing this value will require reboot of switches serving as SIP extensions. It is not necessary to modify this parameter to get the Spectralink solution functional.
- SIP session interval: Session interval value indicates the session (call) "keep alive" period. There is no need to modify the default value of 3600 seconds.

- SIP session refresher: The refresher setting decides if user agent client or user agent server refreshes the session. Again, there is no need to modify the default value of "Caller (UAC)." This allows Spectralink to be in control of the session timer refresh.

Switch Settings - Allocating SIP Proxy Ports

When allocating Ports for SIP extensions, the changes are modified by selecting "**Administration**" ,"**Platform Hardware…"** , then "**Voice Switches/Service Appliances…**", followed by "**Primary**" in ShoreTel Director (**Figure 4**).

Figure 4 – Administration Switches

This action brings up the "Primary Switches" screen. From the "Switches" screen, simply select the name of the switch to configure. The "Edit ShoreGear …Switch" screen will be displayed (**Figure 5**). Within the "Edit ShoreGear …Switch" screen, define one of the "**Port Type**" settings from the available ports to "**100 SIP Proxy**" , as well as sufficient "IP Phone" ports to support the total number of Spectralink DECT phones, then **Save** the change.

Note: If your installation requires more than 100 SIP extensions, configure the "Port Type" as "100 SIP Proxy" as necessary (i.e. two ports configured for "100 SIP Proxy" will provide 200 SIP extensions). Remember, SIP endpoints also utilize IP Phone Ports.

Figure 5 – Edit Switches

If the ShoreGear switch that you have selected has "built-in" capacity (i.e., ShoreGear 50/90/220T1/E1, etc.) for IP phones and SIP trunks, you can also remove 5 ports from the total number available to provide the "100 SIP Proxy" configuration necessary (**Figure 6**).

Note: Every 5 ports you remove from the total available will result in "100 SIP Proxy" ports being made available.

One dedicated ShoreGear 120 switch can act as a proxy for the entire site and support up to 2400 SIP phones.

Figure 6 – ShoreGear Switch Built-in Capacity

Site Settings

The next settings to address are the administration of sites. These settings are modified under the ShoreTel Director by selecting "**Administration**" then "**Sites**" (Figure 7).

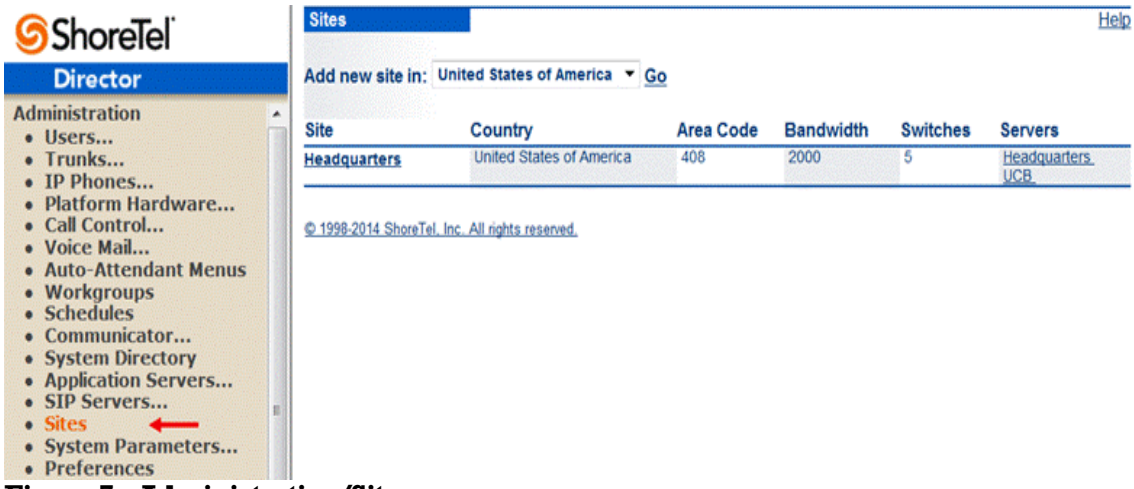


Figure 7 – Administration/Sites

This selection brings up the "Sites" screen. Within the "Sites" screen, select the name of the site to configure. The "Edit Site" screen will then appear. Scroll down to the "**SIP Proxy**" parameters (**Figure 8**).

Figure 8 – Site Screen SIP Proxies

The "Virtual IP Address" parameter is a new configuration parameter beginning with ShoreTel 8. This "Virtual IP Address" is an IP address that can be moved to a different switch during a failure. For each site that supports SIP extensions, one "Virtual IP Address" is defined that will act as the SIP Proxy for the site. This IP address must be unique and static.

The ShoreTel server will assign this "Virtual IP Address" to the ShoreGear that is configured as SIP proxy for the site. Two ShoreGear switches can be configured as SIP proxy servers for redundancy and reliability purposes. If the primary proxy server goes down, the other proxy switch will take over the "Virtual IP Address." Due to this "Virtual IP Address" mechanism, SIP phones will not know if the proxy switch goes off-line.

Note: If you choose not to define a "Virtual IP Address," you can only define one proxy switch, and there will be no redundancy or failover capabilities. The switches available in the "Proxy Switch 1 / 2" will only be shown if proxy resources have been enabled on the switch.

The "Admission Control Bandwidth" defines the bandwidth available to and from the site. This is important as SIP endpoints may be counted against the site bandwidth. See the ShoreTel Planning and Installation Guide for more information about this.

ShoreTel 14.2 has 11 built-in CODECs by default. These CODECs can be grouped as "Codec Lists" and defined in the Sites page for "Inter-site" and "Intra-site" calls. See ShoreTel's Administration Guide for more information. The default settings will work properly with the Spectralink IP-DECT Wireless Servers.

SIP Profiles

ShoreTel Director's, "IP Phones…" section contains the "SIP Profiles" option. Beginning with ShoreTel 8, the ShoreTel system comes standard with a "_System" and "_ShorePhoneIP8000" SIP profiles (they cannot be deleted - only disabled). By default, the IP-DECT Server 400/6500 utilizes the "_System" profile. In order to optimize the functionality, you will need to add a custom profile. This is accomplished from ShoreTel Director by selecting "**Administration**" followed by "**IP Phones…**", then select "**SIP Profiles**" This action brings up the "SIP Profiles" screen. At the top of the page, below the "SIP Profiles List", select the "**New…**" radio button, as shown in Figure 9.

Figure 9 – SIP Profiles

This action brings up the "Edit SIP Profile" screen, Figure 10.

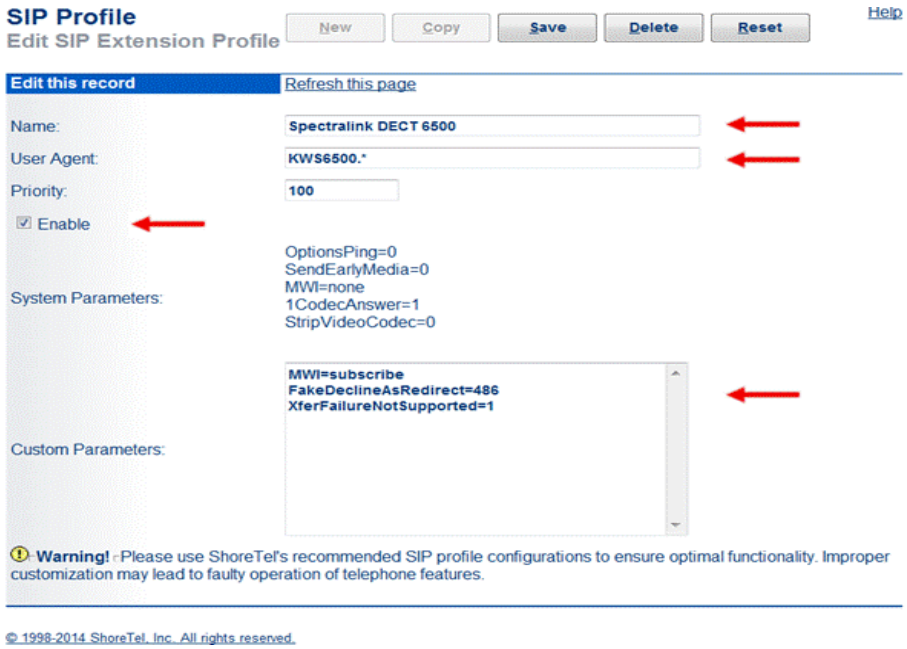


Figure 10 – Edit SIP Profile

Define a "**Name:**" for the entry as you deem appropriate, we recommend that you use a name that describes the SIP endpoint. For the "**User Agent:**" option, enter "KWS6500.*" (without quotes, make sure to include the period followed by the asterisk) for the Spectralink IP-DECT Server 6500; the "**Priority:**" defaults to 100, no change is required. Enable the profile by checking (enabling) the "**Enable**" option. In the "Custom Parameters:" options, add the following entries:

MWI=subscribe
FakeDeclineAsRedirect=486
XferFailureNotSupported=1

Save the changes.

Note: Please do not disable any of the default SIP profiles. In case there are issues with the custom profile defined, disabling the system profiles may cause the Spectralink DECT handsets to not be added to the ShoreTel system. Refer to ShoreTel's Planning and Installation Guide for more information.

Creating SIP Extension

You need to create a user extension for a Spectralink DECT handset on IP-DECT Server 400/6500. This is accomplished from ShoreTel Director by selecting "**Administration**" followed by "**Users…**," then "**Individual Users**" This action will bring up the "Individual Users" screen at the top of the page. To the right of "**Add new user at site**:" select the site you wish to create the user in (from the drop down menu), and select "**Go**" (**Figure 11**).

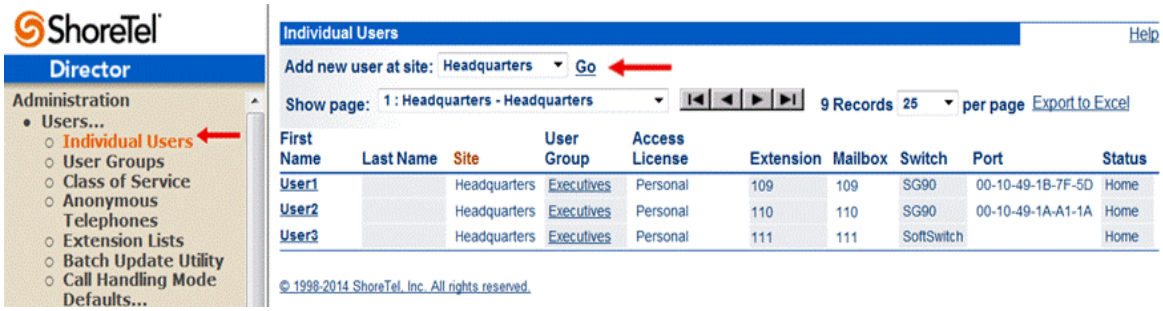


Figure 11 – Individual Users Settings

This action brings up the "Users" "Edit Users" screen (**Figure 12**).

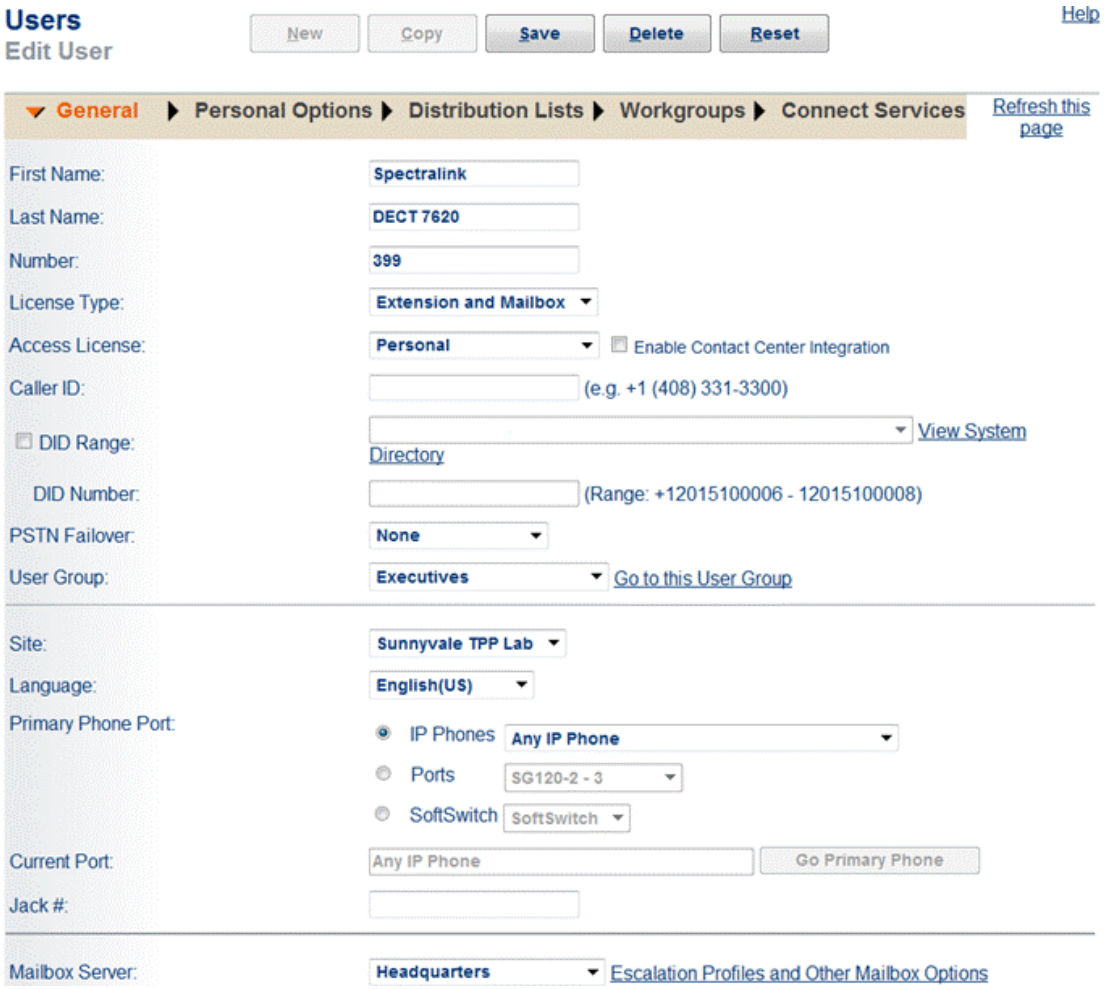


Figure 12 – Adding/Editing Users

Define the "**First Name**" and "**Last Name**" as you deem appropriate. ShoreTel Director will auto-assign the next available "**Number**" (i.e., extension), but you can modify it to any available extension. Define the "**License Type**" and "**Access Type**" as needed; in this example we chose "Extension and Mailbox" although it's not necessary to have a mailbox, and "Professional" for "Access License". Define the proper "**User Group**" and set the "**Primary Phone Port**" to "Any IP Phone", the Primary Phone Port will automatically update once the Spectralink DECT phone registers to the ShoreTel system.

Note: If you configured the "License Type" for "Extension-Only," you cannot select "Any IP Phone" but instead must set the "Primary Phone Port" for the "SoftSwitch" selection. Save your changes, then scroll down to the "SIP Password:" section (**Figure 13**).

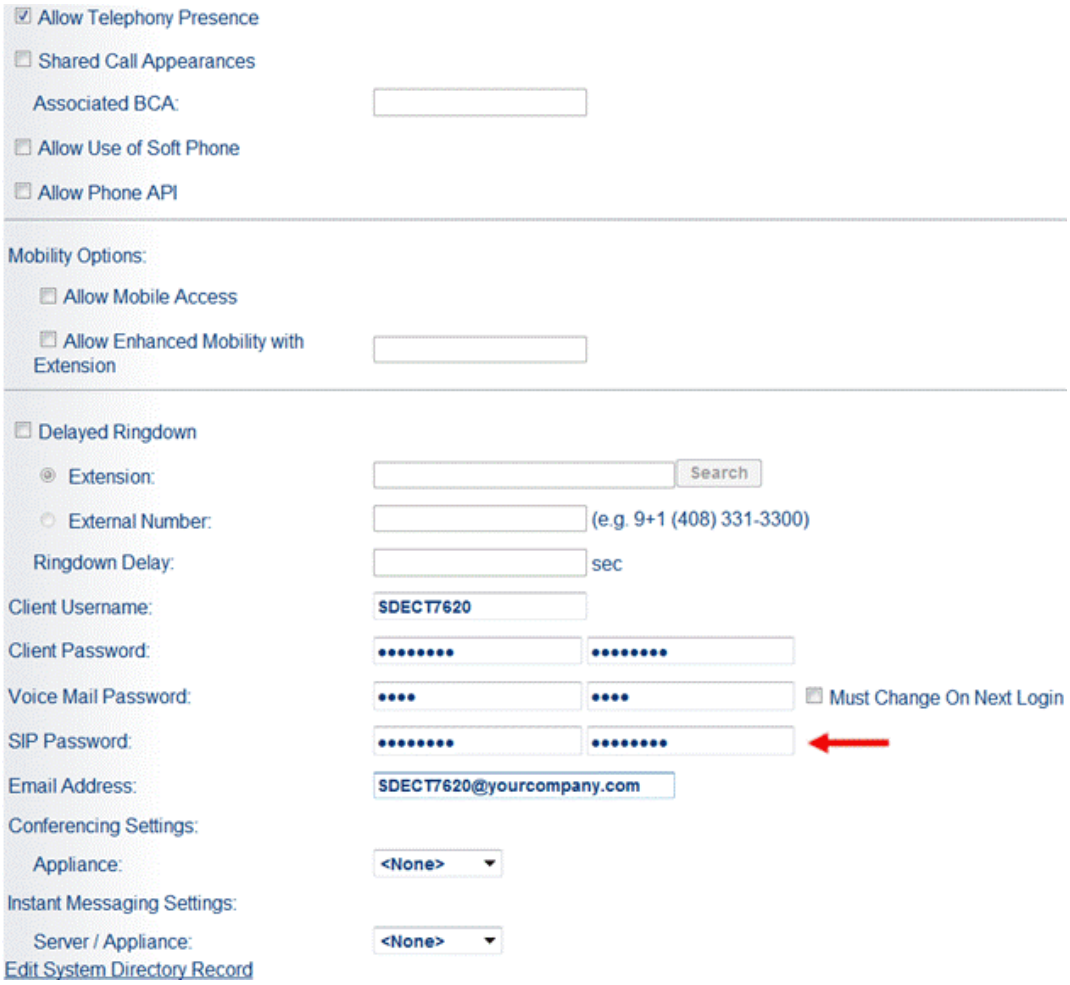


Figure 13 – Individual User SIP Settings

There is no default "SIP Password", it is masked with the appearance that there is, but don't be confused to think that there's a default password. You can modify it to any value you wish, but be certain to note what you changed it to, as you will need it when configuring the Spectralink DECT handsets and Spectralink IP-DECT Server 400/6500 parameters. Save your changes.

Spectralink Configuration

This section describes the Spectralink IP-DECT Server and phone(s) configuration parameters needed to support integration with ShoreTel.

Installing Spectralink IP-DECT Server400/6500

The Spectralink IP-DECT Server 6500 is suitable for mounting in a 19" Rack or on a wall.

Mount the two wings with the included screws as shown in above picture. If you are mounting it on a wall, twist the brackets 90° degrees. Then mount the server in a 19" Rack cabinet or upwards on a wall.

For the IP-DECT Server 400 or the IP-DECT Base stations , mount the IP-DECT Server 400 / Base station on the wall, using the anchors and screws provided (when you place the IP-DECT Server 400/ Base station on the screws, ensure that the screws do not touch the printed circuit board)

Figure 13 – IP-DECT Server 400 / Base station Wall mounting

Then connect the network PoE Eth LAN cable into the corresponding RJ45 plug on the IP-DECT Server 400 / Base station. For IP-DECT Server 6500 only(optional on IP-DECT Server 400 / Base station): Power up the unit with a local power supply using the power input on the unit.
Finally, make sure that the IP-DECT Base station and/or IP-DECT Server 400/6500 is powering up, by watching the front LED. Expect approx 15 – 20 seconds before any LED activity.

Enter Administration Page on IP-DECT Server 400/6500

The web based Administration Page is accessed through a standard web browser. To access the web page, use the information below.

	Initial System Access IP-DECT Server400/6500
Static IP Address	192.168.0.1
Network Mask	255.255.255.0
User Name	admin
Password	admin

Open a web browser. In the browsers Address bar, type http://192.168.0.1, and then press <ENTER>. Type in the Username and Password from the table above in the dialog and click on the OK button - The Spectralink IP-DECT 6500 Administration Page will appear.

NOTE: The default User Name of the system is **admin** and the default Password is **admin**. It is strongly recommended that you change the Password.

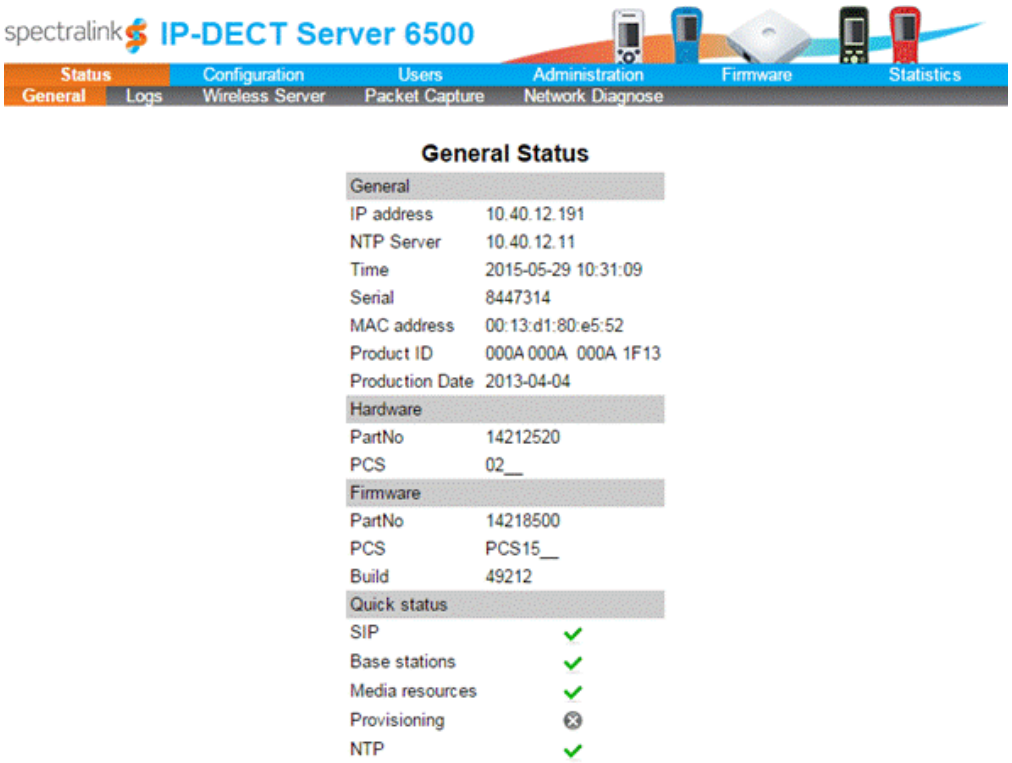


Figure 14 – Main page of the IP-DECT Server400/6500 Administration Page

IP-DECT Server 400/6500 IP Setup

For setting up the IP settings, click on Configuration - >General Tab" and enter the settings in the corresponding fields (you may get this information from your IT – administrator)

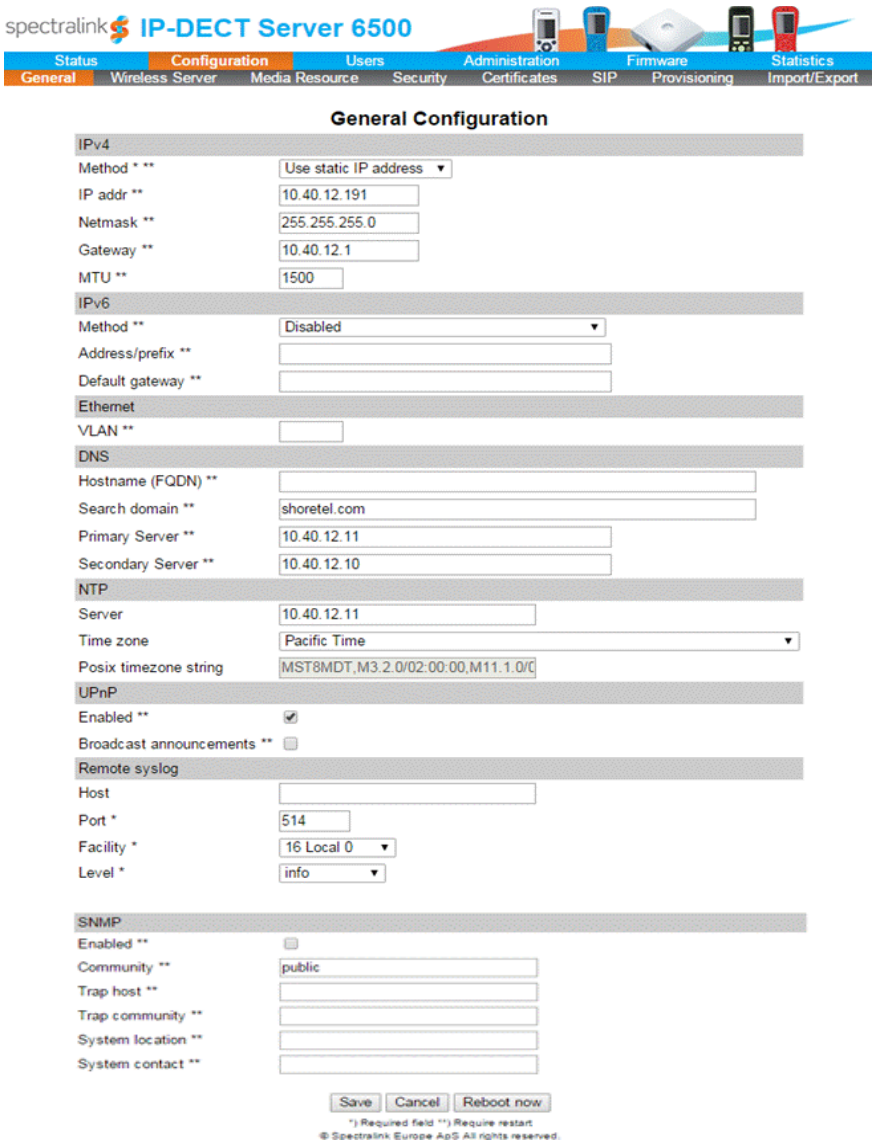


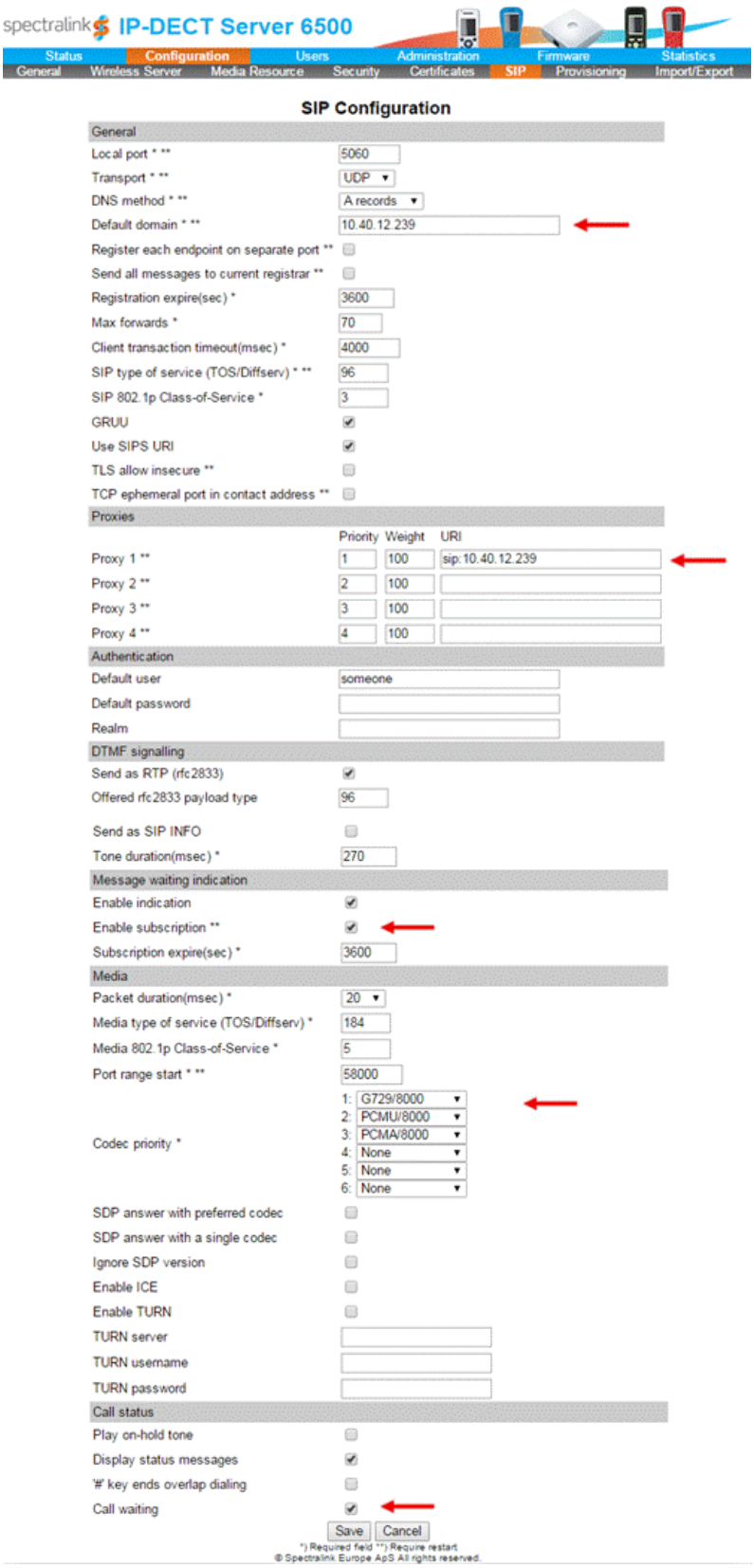
Figure 15 – General Configuration page for IP-DECT Server 400/6500

Enter administration page and IP setup of IP-DECT Base Station (IP-DECT Server400/6500 only)

Access the administration page with the same credentials as for IP-DECT Server400/6500. The IP-DECT Base Station can be further IP configured following the procedure described above – with static IP address or, by means of DHCP (recommended). Since the IP-DECT Server 400/6500 is configured using a static IP address, it is possible to assign options to the DHCP server making it easy to configure all base stations in the setup. The General configuration shown in Figure 15 displays the minimum settings required for validation with the ShoreTel system.

IP-DECT Server 400/6500 System Settings – SIP Configuration

The first settings to address within the IP-DECT systems in order to successfully communicate with ShoreTel system are the SIP settings. Therefore, open the Configuration section - "SIP" tab.


spectralink IP-DECT Server 6500
Status
Configuration
Users
Administration
Firmware
Statistics
General
Wireless Server
Media Resource
Security
Certificates
SIP
Provisioning
Import/Export
SIP Configuration
General
Local port * **
5060
Transport * **
UDP
DNS method * **
A records
Default domain * **
10.40.12.239
Register each endpoint on separate port **
Send all messages to current registrar **
Registration expire(sec) *
3600
Max forwards *
70
Client transaction timeout(msec) *
4000
SIP type of service (TOS/Diffserv) * **
96
SIP 802.1p Class-of-Service *
3
GRUU
Use SIPS URI
TLS allow insecure **
TCP ephemeral port in contact address **
Proxies
Priority
Weight
URI
Proxy 1 **
1
100
sip:10.40.12.239
Proxy 2 **
2
100
Proxy 3 **
3
100
Proxy 4 **
4
100
Authentication
Default user
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Packet duration(msec) *
20
Media type of service (TOS/Diffserv) *
184
Media 802.1p Class-of-Service *
5
Port range start * **
58000
Codec priority *
1: G729/8000
2: PCMU/8000
3: PCMA/8000
4: None
5: None
6: None
SDP answer with preferred codec
SDP answer with a single codec
Ignore SDP version
Enable ICE
Enable TURN
TURN server
TURN username
TURN password
Call status
Play on-hold tone
Display status messages
'#' key ends overlap dialing
Call waiting
Save
Cancel
*) Required field **) Require restart
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Figure 16–400/6500 SIP Configuration page

The only fields that are required to update from the default parameters are the **Default domain, Proxy 1, Enable Subscription** and **Call waiting**. In the **Default domain** field enter the IP Address of the ShoreTel SIP Proxy switch. The ShoreTel SIP Proxy IP Address is also required in the **Proxy 1** field, example: sip:10.40.12.239 . Make sure the **Enable subscription** and **Call waiting** parameters are checked.

Note: A license is required for CODEC G.729 on the IP-DECT Servers (Part Number 14075480)

In order to have the message waiting indication functionality, **Enable indication** must be checked.

Register each endpoint on separate port and **Send all messages to current registrar** may remain unchecked, unless signal tracing will be performed.

If **Play on-hold tone** is enabled, when the DECT handset is placed on-hold, the phone will generate its own ringback signal.

The Spectralink IP-DECT Server 400/6500 will route all outgoing SIP signaling to the ShoreTel SIP Proxy switch, e.g. SIP registrations and outgoing calls.

IP-DECT Server 400/6500 System Settings – User Configuration

To create a new user for the IP-DECT Server 400/6500, access the **Users** section, **List Users** and press the **New** button.

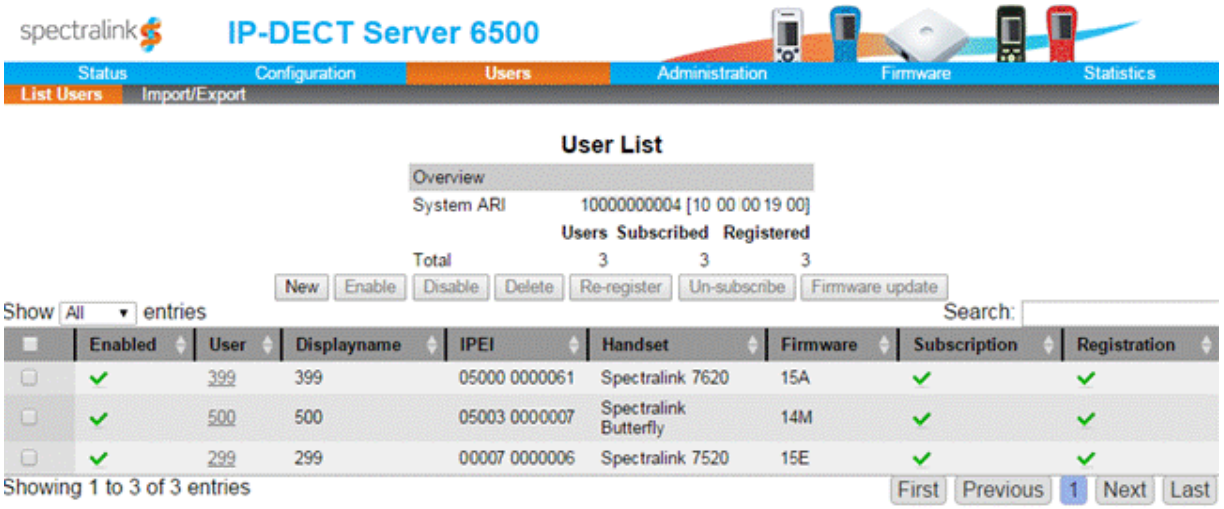

Figure 17 – IP-DECT Server 400/6500 User List page

You can see the phone's subscription to the IP-DECT Server status and the SIP registration status.

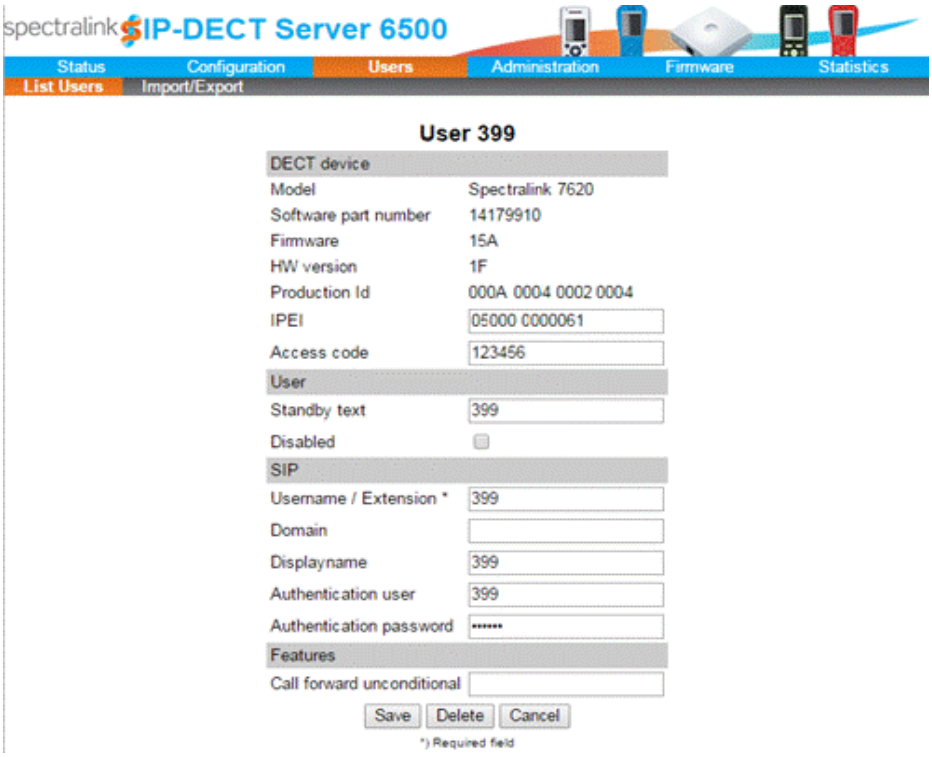

Figure 18 – IP-DECT Server400/6500 Create user page

To create a new user for the IP-DECT Server400/6500, you have to provide at least the following information: the phone's **IPEI** number, **Username/Extension** (ShoreTel user's extension number created within ShoreTel Director), **Authentication user** (we configured the ShoreTel user's extension number) and **Authentication password** (ShoreTel user's SIP Password created within ShoreTel Director) . Then, by pressing the **Save** button, the user is created.

Note: The IPEI number of each handset is found either on a label, which is placed behind the battery, or on the packaging label. To show the serial number on the handset display (75/76/77/Butterfly Handset), press Menu,select Status and then select General information to display the IPEI number. Press exit to exit the menu.

Spectralink IP-DECT Server 400/6500 DECT subscription

Key button functions :"MENU" - Goes to menu structure or exits the menu structure, "REDIAL" - Menu: left, Cursor left; "BOOK" - Menu: right, Cursor right ; "MUTE" - Confirmation ("YES") or jump to next level in the menu.

Spectralink 75-Series/76-Series/Butterfly handsets

For creating a subscription on the handset you need to press the below sequence on the DECT handset: Menu (left soft key); Settings (navigate up once) – Select (left soft key) ; Advanced (navigate up once) – Select (left soft key) ; Login (navigate up twice) – Select (left soft key) ; Create login (navigate down three times) – Select (left soft key)

Check that the handset display shows "Searching" in the top. If there is more than one DECT system in range, a list with all DECT ARI codes will be created. Select the correct ARI for your system (scroll up/down with the navigation button), and press Select (left soft key).

Voice mail

For accessing the Voice Mail, the DECT users must dial the default Voice Mail login extension. For easing up the Voice Mail accessing, the DECT user can define a speed dial to the Voice Mail login extension. For doing that, read the appropriate DECT handset user guide.

Spectralink Troubleshooting

For troubleshooting of the DECT Phones and Systems please visit http://support.spectralink.com

Spectralink Technical Support

For technical support please visit http://support.spectralink.com/contact-support

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