Spectralink IP-DECT Server 200/400/6500 and
Virtual IP-DECT Server One

Microsoft Lync/Skype for Business

Interoperability Guide

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Copyright Notice

Notice

Warranty

The Product Warranty and Software License and Warranty and other support documents are available at http://support.spectralink.com/.

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Contents

Chapter 1: About This Guide

This guide describes how to configure a Spectralink IP-DECT Server200/400/6500 and Spectralink Virtual IP-DECT Server One for connecting to a Lync/Skype for Business Server (SfB Server).

In the following the servers will be referred to as “Spectralink IP-DECT/Virtual IP-DECT Server” or simply as “the servers”.

This guide is intended for qualified technicians and the reader is assumed to have a basic knowledge about the Spectralink IP-DECT/Virtual IP-DECT Server and the Lync/Skype for Business Server. It is also assumed, that you have an installed and functioning Lync/Skype for Business Server and Spectralink IP-DECT/Virtual IP-DECT Server.

The guide is divided into two parts:

- Lync/Skype for Business Server
- Spectralink IP-DECT/Virtual IP-DECT Server

Each part describes the general configuration and the user administration.

Infrastructure Version Requirements

To support the configuration described in this guide:

- Spectralink IP-DECT Server must have firmware version (200 PCS 18B, 400/6500 PCS 17Ba or One PCS 20A_) or newer.
- Spectralink DECT Handsets 7522/7532, 7622/7642 and 7722/7742 must have firmware PCS 17Ha.
- Spectralink DECT Handset 7502 must have firmware PCS 18C.
- Spectralink DECT Handset 7202/7212 and Spectralink Butterfly only have basic functionality.

Note:

The examples in this guide are made with IP-DECT Server firmware PCS 17Ba.

Available Licenses

- Lync/SfB + Security (TLS, SRTP) | IP-DECT Server 200 (part no 14075511)
- Lync/SfB + Security (TLS, SRTP) | IP-DECT Server 400 (part no. 14075510)
- Lync/SfB + Security (TLS, SRTP) | IP-DECT Server 6000/6500 (part no. 14075270)
- Lync/SfB 1 Year | Virtual IP-DECT Server (part no. 14233252)

Related Documentation

All Spectralink documents are available at http://support.spectralink.com/.

Subject	*Documentation*
Lync/Skype for Business Server and Lync/Skype for Business Client	Navigate to the Microsoft documentation site for the latest Microsoft documentation.
Spectralink DECT Handsets	For more information about the handset, refer to the user guide available online at http://support.spectralink.com/products.
Site Survey Function in Handset	For more information about the site survey function in handset, refer to the guide available online at http://support.spectralink.com/products.
Synchronization and Deployment Guide	For more information about synchronization and deployment, refer to the guide available online at http://support.spectralink.com/products.
Spectralink IP-DECT/DECT/ Virtual IPDECT Server	For more information about the server, refer to the guide available online at http://support.spectralink.com/products.
Provisioning	For more information about provisioning, refer to the guide available online at http://support.spectralink.com/products.
Spectralink Technical Bulletins	Available online at http://support.spectralink.com/products.
Release Notes	Document that describes software changes, bug fixes, outstanding issues, and hardware compatibility considerations for new software releases. Available online at http://support.spectralink.com/products.
Spectralink DECT Training material	In order to gain access to the Spectralink training material, you must attend training and become Spectralink Certified Specialist. Please visit http://partneraccess.spectralink.com/training/classroom-training for more information and registration.

Note:

Internal messaging is not possible when using Lync/SfB on a Spectralink IP-DECT/Virtual IP-DECT Server because the handsets only have SIP URIs and no extension number.

The Spectralink IP-DECT/Virtual IP-DECT Server use the extension field (web-based Administration Page> **Users**> **List Users**), to match the number that you want to send a message to (handsets to handset). Since this is not a number, but a name, internal messaging is not possible.

Chapter 2: Feature List

The following features are supported:

	Supported features
Telephony	• Basic Calling • Call Hold • Call Transfer • Call Waiting • Call Forward (all endpoints) • Message Waiting • Music on Hold (MOH) • Call Completed Elsewhere • E911 (75x2, 76x2, 77x2 only) • Private Line (72x2, 75x2, 76x2, 77x2 only) • Conference (Join)
User experience	• Federation • Presence (7522/7532, 76x2, 77x2 only) • Centralized phone book via Active Directory and LDAP • SIP URI Support Phone Book (75x2, 76x2, 77x2 only)
Security	• TLS • SSRTP/ SRTP/ RTP • STUN/TURN/ICE
Management/Administration	• Call Admission Control • Client Inventory • Resiliency • QoE
Voice Quality	• Codecs: G.726 (default), G.711 • Media Bypass
Value added Spectralink features	• Rich APIs for third-party solutions integration • Multi-language (on handsets) • Centralized management and provisioning via DECT server management capability • Plug and play DECT is easy to use and fast to deploy • Real Time Location Services (RTLS)

Chapter 3: Configuration and Feature Details

Supported features	*Description/Setting*
Basic Calling	Allows user to make and answer calls.
Call Hold	Allows user to put a call on hold.
Call Transfer	Allows user to transfer the active call to some other number.
Call Waiting	Allows user to answer another incoming call when already in an active call. For more information, see **Configuration**> **SIP**> **Call status** and parameter description in the web-based Administration Page of the server.
Call Forward (all endpoints including DECT, PBX and other devices)	Allows the user to: • Call forward unconditional - enable Enable **Call forward unconditional** by dialing this code ***21***, followed by the desired extension ($ = extension) and #. E.g.: ***21*$#** • Call forward to voice mail Enable **Call forward to voice mail** by dialing this code ***21***. • Call forward unconditional - disable Disable **Call forward unconditional** by dialing this code **#21#**. This code also disables Call forward to voice mail. For more information, see Enabling feature codes.
Message Waiting	Allows users to know that they have new or unheard voice mail messages.
Music on Hold (MOH)	The integrated Music on Hold (MOH) feature allows users to place on-net and off-net users on hold with music that is streamed from a streaming source. For more information, see **Configuration**> **SIP**> **Call status** and parameter description in the web-based Administration Page of the server.
Call Completed Elsewhere	Allows calls in a shared line configuration to be completed elsewhere without showing up as a missed call on multiple devices if handled.
E911 (75x2, 76x2, 77x2 only)	E911 allows you to make emergency calls, and the E911 functionality in Lync/SfB indicates the location of the person dialing. **Note**: E911 support is not available in trusted server configuration.
Private Line (72x2, 75x2, 76x2, 77x2 only)	The Private Line feature makes it possible to define a Private Line and assign private numbers to a user at which the user can be reached directly independent of which Presence status is used.
Conference (Join)	Conferencing allows users to meet and hold conferences online using their Lync/Skype for Business Client instead of everyone getting together in the same room.

Chapter 4: Introduction

Setting up a Spectralink IP-DECT/Virtual IP-DECT Server for usage in a Lync/Skype for Business environment requires a number of configuration steps to be performed on the Spectralink IP-DECT/Virtual IP-DECT Server and in some cases also on the Lync/Skype for Business Server.

In order to enable the Lync/Skype for Business support, a Lync/Skype for Business License must be installed on the Spectralink IP-DECT/Virtual IP-DECT Server.

The connection to the Lync/Skype for Business Server is secured by the TLS protocol which requires that a CA certificate used to sign the certificate of the Lync/Skype for Business Server must be installed on the Spectralink IP-DECT/Virtual IP-DECT Server. When the Spectralink IP-DECT/Virtual IP-DECT Server is added to the Lync topology as trusted server, it also requires that a host certificate is installed in order for the Lync/Skype for Business Server to authenticate the connection. Other configurations do not require a host certificate installed, but it is strongly recommended as it also allows a secure and authenticated connection to the Spectralink IP-DECT/Virtual IP-DECT Server's web-based Administration Page. For more information, see Certificate Configuration.

The Spectralink IP-DECT/Virtual IP-DECT Server supports three different methods of user administration, each with a number of configuration requirements and supported features:

- Manual User Entry on Spectralink IP-DECT/Virtual IP-DECT Server
- Trusted Server (Optional - but recommended)
- Handset Login

Manual User Entry on Spectralink IP-DECT/Virtual IP-DECT Server

In Manual Entry mode, all user data and credentials (including passwords) must be entered and maintained by the Spectralink IP-DECT/Virtual IP-DECT Server administrator and the handsets can be used without any further setup. Authentication towards the Lync/Skype for Business Server is done using TLS-DSK with fallback to NTLM. No additional configuration is needed on the Lync/Skype for Business Server.

To use manual user entry on the Spectralink IP-DECT/Virtual IP-DECT Server, the following steps are necessary:

1. Install Lync/Skype for Business License on Spectralink IP-DECT/Virtual IP-DECT Server
2. Configure Spectralink IP-DECT/Virtual IP-DECT Server
3. Install CA certificate on Spectralink IP-DECT/Virtual IP-DECT Server
4. Install Host certificate on Spectralink IP-DECT/Virtual IP-DECT Server (Optional)
5. Create users on Spectralink IP-DECT/Virtual IP-DECT Server

Trusted Server

In Trusted Server mode, the Spectralink IP-DECT/Virtual IP-DECT Server is added to the Lync/Skype for Business topology as a trusted server. Running as a trusted server causes the Spectralink IP-DECT/Virtual IP-DECT Server to authenticate using a Host certificate with a MTLS connection toward the Lync/Skype for Business Server, removing the need for entering user password into the Spectralink IP-DECT/Virtual IP-DECT Server. All other user information must still be entered into the Spectralink IP-DECT/Virtual IP-DECT Server.

Note:

Trusted server is only supported when connecting directly to the Lync/Skype for Business Server frontend, not when connecting through an edge server.

Note:

E911 support is not available in trusted server configuration.

To use trusted server, the following steps are necessary:

1. Install Lync/Skype for Business License on Spectralink IP-DECT/Virtual IP-DECT Server
2. Configure Spectralink IP-DECT/Virtual IP-DECT Server
3. Install CA certificate on Spectralink IP-DECT/Virtual IP-DECT Server
4. Install Host certificate on Spectralink IP-DECT/Virtual IP-DECT Server
5. Create Spectralink IP-DECT/Virtual IP-DECT Server DNS entry
6. Add Spectralink IP-DECT/Virtual IP-DECT Server as trusted server in Lync topology
7. Create users on Spectralink IP-DECT/Virtual IP-DECT Server

Handset Login

In handset login mode, no user data is required to be entered into the server by the Spectralink IP-DECT/Virtual IP-DECT Server administrator, but is rather entered directly on the handset by the user. Authentication towards the Lync/Skype for Business Server is done using TLS-DSK with fallback to NTLM. No additional configuration is needed on the Lync/Skype for Business Server. When using handset login, the user can authenticate either using username and password or, if PIN authentication is enabled on the Lync/Skype for Business Server, with phone extension and PIN.

Note:

Handset login requires handset firmware PCS 17H (7522/7532, 7622/7642, 7722/7742) or PCS 18C (7502). Older or third-party handsets must be manually entered into the Spectralink IP-DECT/Virtual IP-DECT Server.

Note:

PIN authentication is available if enabled on the Lync/Skype for Business Server and requires no settings on the Spectralink IP-DECT/Virtual IP-DECT Server.

To use handset login, the following steps are necessary:

1. Install Lync/Skype for Business License on Spectralink IP-DECT/Virtual IP-DECT Server
2. Configure Spectralink IP-DECT/Virtual IP-DECT Server
3. Install CA certificate on Spectralink IP-DECT/Virtual IP-DECT Server

   For information about creating a Host certificate, see IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide.
4. Install Host certificate on Spectralink IP-DECT/Virtual IP-DECT Server (Optional)

   For information about downloading CA certificate, see IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide.
5. Enable handset login on Spectralink IP-DECT/Virtual IP-DECT Server

For more information, see Configuring handset login.

Certificate Configuration

To establish a secure connection with the Lync/Skype for Business Server, the Spectralink IP-DECT/Virtual IP-DECT Server must be configured to use certificates for TLS connection.

The following task should be completed:

- Generate/import host key
- Generate host certificate signing request
- Sign host certificate
- Import host certificate
- Import CA certificate

For information about downloading CA certificate and creating a Host certificate, see IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide.

Note:

If the certificate of the Lync/Skype for Business Server is signed by a public CA certificate, it is not required to import and install a local CA certificate bundle.

Chapter 5: Microsoft Lync/Skype for Business Server

Below is a description of how to create a DNS entry for the Spectralink IP-DECT/Virtual IP-DECT Server, how to add the Spectralink IP-DECT/Virtual IP-DECT Server as trusted application server, how to assign a PIN to a user, and how to configure handset login.

For information about downloading CA certificate and creating a Host certificate, see IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide.

System Access

To configure the Spectralink IP-DECT/Virtual IP-DECT Server you may need access to the following systems:

- Lync/Skype for Business Server
- Domain Name Service (DNS) Server
- Certificate Authority (CA)

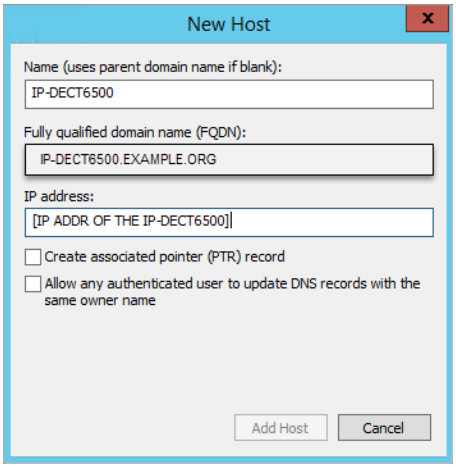
Creating a DNS Entry on the DNS Server

Note:

A DNS Entry is required for trusted server and generally recommended for ease of use and security.

In the following example a Windows 2012 Server is used.

1. Create a hostname for the Spectralink IP-DECT/Virtual IP-DECT Server and Domain DNS Server.
2. Add the **Spectralink IP-DECT Server** as New Host. The FQDN name will be used in the configuration later. For more information, see General Settings.
3. Click **Add Host**.



Adding a Spectralink IP-DECT/Virtual IP-DECT Server as Trusted Application Server

Open Lync Management Shell and enter the 3 commands below. The text marked in bold should be replaced with values from your Lync/SfB typology. If any database errors are displayed when you enter the information, run the Lync Server Management Shell as Administrator.

1. Enter:

   New-CsTrustedApplicationPool -Identity <FQDN of IP-DECT Srv> -Site <SiteID> -RequiresReplication $false -ThrottleAsServer $true -TreatAsAuthenticated $true -Registrar <FQDN of SBA/Lync frontend pool>

2. A warning is displayed. Click Y for Yes.

3. Enter:

   New-CsTrustedApplication -ApplicationId dect -Port 5061 –TrustedApplicationPoolFqdn <FQDN of IP-DECT Srv>

4. Enter:

   Enable-CsTopology

The following Powershell commands help you obtain the information for the commands above:

- To obtain Site ID, enter: Get-CsSite
- To obtain FQDN, enter: Get-CsPool

Note:

- All servers in the Lync domain must be online.
- When using multiple pools, the scripts need to contain all pool names or be run several times to comprise all pools.
- When using multiple IP-DECT/Virtual IP-DECT servers (redundancy), the scripts must be run for each IP-DECT/Virtual IP-DECT server.

Configuration Powershell example Lync/Skype for Business server

1. New-CsTrustedApplicationPool -Identity IP-DECT6500.example.org -Site 1-RequiresReplication $false -ThrottleAsServer $true -TreatAsAuthenticated $true -Registrar.example.org
2. New-CsTrustedApplication -ApplicationId dect -Port 5061 -TrustedApplicationPoolFqdn IP-DECT6500.example.org
3. Enable-CsTopology

Enabling PIN Authentication

To provide PIN authentication to users, the Spectralink IP-DECT/Virtual IP-DECT Server must be able to locate the web service on the Lync/Skype for Business frontend that provisions user certificates. The URL for this web service should be provided to the Spectralink IP-DECT/Virtual IP-DECT Server from the DHCP server in the vendor specific option 43, for the vendor class "MS-UC-Client".

Please refer to the Microsoft document "Setting Up DHCP for Devices" for further details on configuring the correct DHCP options.

In situations where the DHCP server does not provide the certificate provisioning URL, it must be manually configured in the Spectralink IP-DECT/Virtual IP-DECT Server. Manual configuration in the Spectralink IP-DECT/Virtual IP-DECT Server can also be useful in testing scenarios or when the value supplied from the DHCP server is incorrect. For more information, see Lync/Skype for Business server settings.

Assigning PIN to User

When using PIN authentication the administrator must assign a PIN to the user.

Note:

It is not necessary to assign a PIN to a user if using Trusted Server or if using username and password for authentication.

1. Open Skype for Business Server Management Shell.
2. Enter the following command:

   Set-CsClientPin -Identity john.doe@example.org -Pin 123456

Chapter 6: Spectralink IP-DECT/Virtual IP-DECT Server

Below is a description of how to order and load the Lync/Skype for Business License, import certificates, configure the Spectralink IP-DECT/Virtual IP-DECT Server and how to add users and handsets to the system.

Ordering a License

The Spectralink IP-DECT/Virtual IP-DECT Server requires a Lync/Skype for Business License to connect to a Lync/Skype for Business Server. The license can be ordered through normal Spectralink channels.

Ordering licenses for Spectralink IP-DECT servers

1. Send your Purchase Order (PO) including the software part number and the number of licenses needed to Spectralink Order Management via (EMEA and APAC) emeaom@spectralink.com or (NALA) nalaom@spectralink.com.
2. When your order is processed, Order Management will send you an email including an Authentication Product Key for your software license.
3. To activate your software license, use the License Key Generator available at http://support.spectralink.com/keycode.

Note:

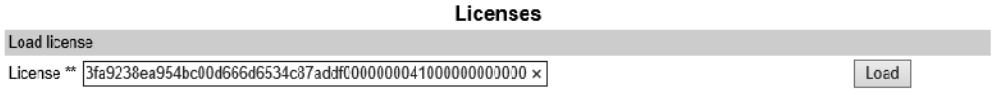
Please note that once a software license is generated this is locked to the specified ARI code, and cannot be changed.

Ordering licenses for Spectralink Virtual IP-DECT Server One

1. Send your Purchase Order (PO) including the Server ID (UUID) and the number of licenses needed to Spectralink Order Management via (EMEA and APAC) emeaom@spectralink.com or (NALA) nalaom@spectralink.com.
2. When your order is processed, Order Management will send you an email including a license key for the relevant software license.

Loading the License from the Web-Based Administration Page

1. Click Administration, and then click License.



2 Copy the provided license key from your email, paste it in the License field, and then click **Load**.

3 Reboot the server to activate the license.

Importing Certificates

It is necessary to import following certificates into the Spectralink IP-DECT/Virtual IP-DECT Server:

- Host certificate
- CA certificate

For more information about certificates, see Certificate Configuration. More info on certificates can be found in *IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide*.

Configuring the Spectralink IP-DECT/Virtual IP-DECT Server

General Settings

1 Click **Configuration**, the **General Configuration** page displays.

2 Under **DNS**, enter the hostname/FQDN in the **Hostname (FQDN)** field. For information about creating the hostname, see Creating a DNS Entry on the DNS Server.

3 Click **Save**.

Lync/Skype for Business server settings

It is necessary to enable Lync/Skype for Business Server support.

1 Click **Configuration**, and then click **Lync**.

2 Enable Lync support.

3 Enable Trusted Server, if using this.

4 In case a Certificate Provisioning URL is not defined automatically or is incorrect, enter the Certificate Provisioning URL.

Note:

The **Certificate Provisioning URL** field is empty, if the DHCP server provides the certificate provisioning URL automatically (see log file).

Certificate Provisioning URLs are typically of the form: https://fe.example.com:443/CertProv/CertProvisioningService.svc

5 Click **Save**, and then reboot the system.

SIP settings

The Spectralink IP-DECT/Virtual IP-DECT Server requires a few SIP settings to be adjusted in order to connect properly to the Lync/Skype for Business Server.

Note:

SIP settings not mentioned below should be left at their default values.

Modifying the SIP settings from the web-based administration page:

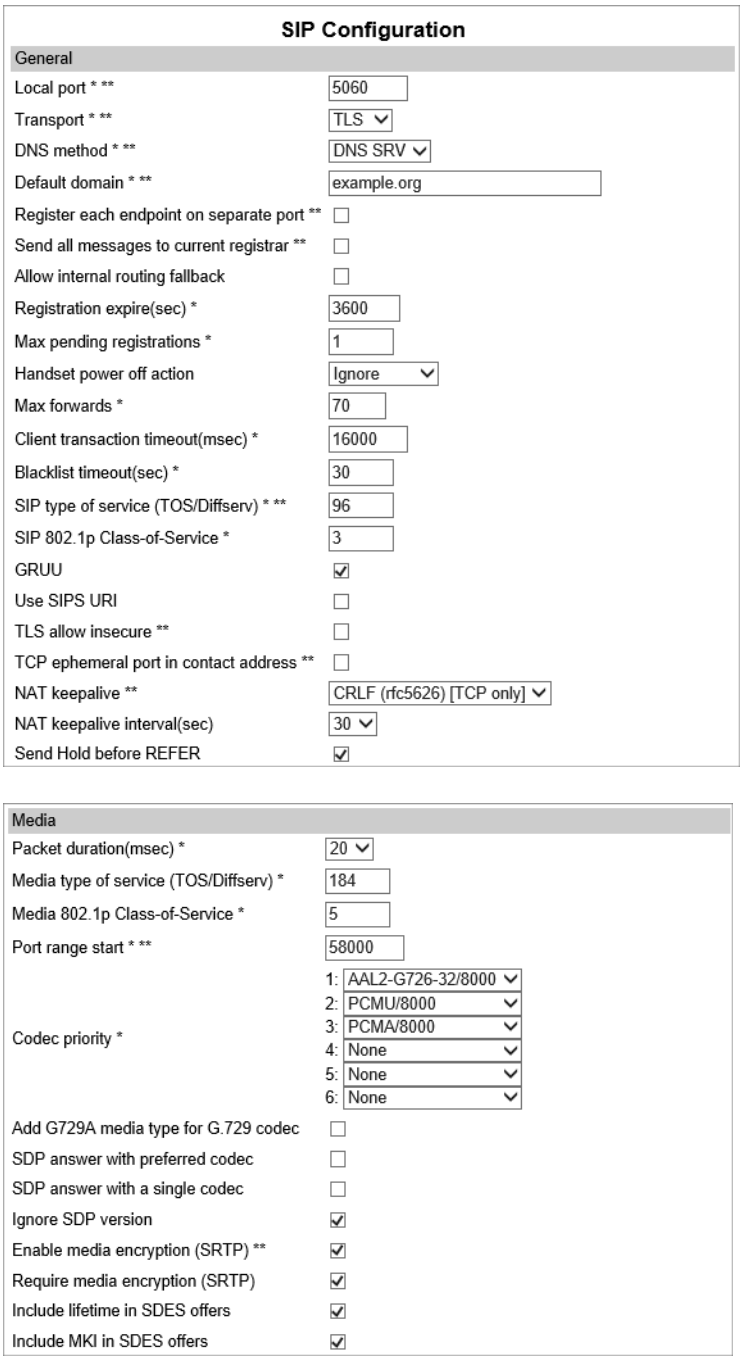
1 Click **Configuration**, and then click **SIP**.

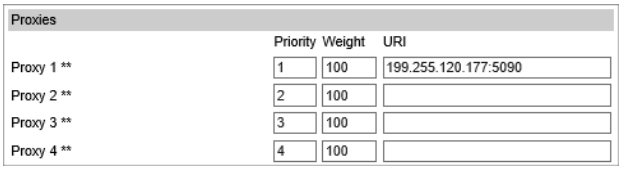
2 Modify the settings below.

Field	*Setting*
SIP Configuration - General	
Transport	TLS
DNS method	Select DNS SRV.
Default domain	Enter the SIP domain name of the Lync/Skype for Business Server. E.g. John.Doe@example.org should be "example.org" . **Note**: SIP domain name refers to the Lync/Skype for Business Server - SIP domain name, not the AD domain name, if they are different.
Allow internal routing fallback	Must be enabled if **Secondary username** is defined. Only logged in users can be internally routed. For more information, see Adding Users and Handsets.
Register each endpoint on separate port	Enable if Spectralink IP-DECT/Virtual IP-DECT Server is located on the external side of the edge server.
GRUU	Enable
Use SIPS URI	Check that this setting is NOT enabled.
SIP Configuration - Media	
Ignore SDP version	Enable
Enable media encryption (SRTP)	Enable SRTP (encrypted RTP) support towards external SIP endpoints.
Require media encryption (SRTP)	Enable

Field	*Setting*
	Note: This setting must match the setting in the Lync/Skype for Business Server.
Include lifetime in SDES offers	Enable
Include MKI in SDES offers	Enable

Example of SIP configuration:





3 Click **Save**, and then reboot the system.

For an example of the configuration XML file from your Spectralink IP-DECT Server, see Appendix A: Example of XML Configuration File.

Enabling feature codes

Some advanced features are accessed by dialing special feature codes from the DECT handsets. To provide access to these advanced features, the feature codes must be enabled.

Enabling feature codes from the web-based administration page

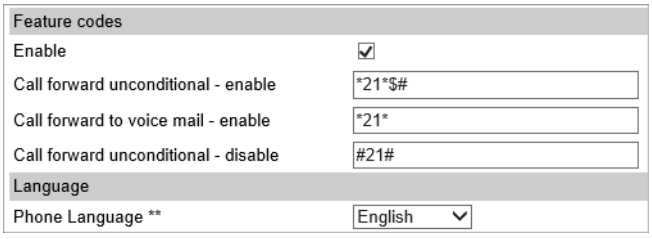
1 Click **Configuration**, and then click **Wireless Server**.

2 Under **Feature codes**, do the following:

Field	*Setting*
Wireless Server Configuration - Feature codes	
Enable (Optional)	Enable this to make the server react to the feature codes.
Call forward unconditional (all endpoints) - enable (Optional)	Enable **Call forward** unconditional by dialing this code ***21***, followed by the desired extension ($ = extension) and #. E.g.: ***21*$#** **Note**: It is possible to change the code *21* on the server to fit your standard. For more information, see the relevant documentation available at http://support.spectralink.com/products.
Call forward to voice mail – enable (Optional)	Enable Call forward to voice mail by dialing this code ***21***.
Call forward unconditional – disable (Optional)	Disable **Call forward unconditional** by dialing this code **#21#**. This code also disables **Call forward to voice mail**.

Note:

The default feature codes can be modified if relevant.



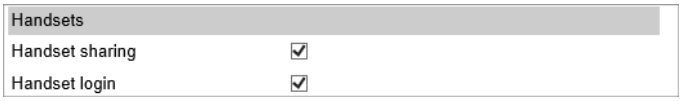
3 Click **Save**.

Configuring handset login

Enable handset login on Spectralink IP-DECT/Virtual IP-DECT Server

1. Ensure that Lync is enabled (**Configuration**> **Lync**)
2. Click **Configuration**, and then click **Wireless Server**.
3. Enter the required information:

Field	*Setting*
Handsets	
Handset sharing	Enable
Handset login	Enable



Enable handset login on Spectralink DECT handset

The handset login feature can be invoked in two ways:

- By utilizing MSF function number 9, either from the handset main menu or by long-pressing the '9' key (not supported by Handset 7502). Long-press must be enabled in the **Settings**> **Advanced**> **Long Key** menu. For more information, see the user guide for the handset model.
- Through the shortcut menu using the Sign in/out shortcut. For more information, see the user guide for the handset model.

When invoking the handset login feature, a menu is presented allowing the user to select signing in with either extension and PIN (if configured) or with username and password. Entering the required credentials will allow the Spectralink IP-DECT/Virtual IP-DECT Server to connect the user to the Lync/Skype for Business Server and the handset will be ready for use.

How to sign in

When accessing the Sign in menu, you can choose between PIN Sign in or Sign in (PIN Sign in is only visible if PIN authentication is available). This is configured on the Lync/Skype for Business Server).

1. When in idle mode, access the Sign in menu by using either Sign in/out shortcut or long-press key 9.
2. If selecting **PIN Sign in**:
   - Enter number and click **OK**.
   - Enter PIN, and click **OK**.
3. If selecting **Sign in**:
   - Enter user and click **OK**.

- Enter password, and click **OK**.

4 The handset is now ready for use.

How to sign out

1 When in idle mode, sign out by using either Sign in/out shortcut or long-press key 9.

2 Select **Sign out** and click **OK**.

Adding Users and Handsets

Each individual DECT handset/user must be added to the Spectralink IP-DECT/Virtual IP-DECT Server and also on to the Lync/Skype for Business Server. This section describes how to add the handsets to the Spectralink IP-DECT/Virtual IP-DECT Server.

Note:

It is not necessary to add users and handsets if using Handset login. See Handset Login.

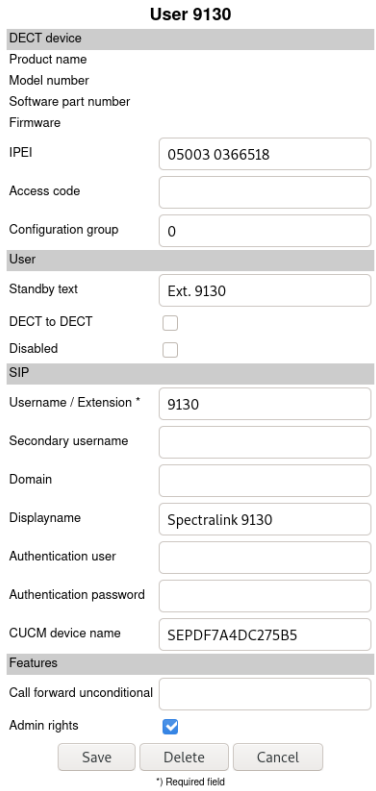
To Add Users to the Spectralink IP-DECT/ Virtual IP-DECT Server from the Web-based administration page

1 Click **Users**, click **List Users**, and then click **New**.

2 Enter the required information:

Field	*Setting*
DECT device	
IPEI (Optional)	If a specific handset is being subscribed for this extension, enter the IPEI number of the actual handset. (The IPEI number is readable from the label on the product). If this is not the case this field can be left empty and it will auto-fill when the handsets subscribe. **Note**: A SIP REGISTER will not be sent before there is an IPEI number present.
Access code (Optional)	Administrators can define a system wide or individual access code as extra wireless security during the subscription process.
Configuration group (Optional)	If using handset configuration, enter the Group ID of the Configuration Group.
User	
Standby text (Optional)	Standby text is a fixed label shown in the top left part of the screen on the DECT handset when in idle state. **Note**: Disallowed characters: <>\" **Note**: This feature is only available if Spectralink DECT handsets are being used. If third-party DECT handsets are being subscribed, this feature is not supported.
Disabled (Optional)	If enabled, the user is disabled.

Field	*Setting*
	Note: A disabled user cannot make calls from the handset.
DECT to DECT (Optional)	If enabled, the user will only be able to call, and be called from, other users that are subscribed to the same IP-DECT server; the user cannot communicate externally.
SIP	
Username/Extension	Enter SIP username. E.g. **Jane.Doe** **Note**: Allowed characters: a-z, A-Z, 0-9, -_.!~*'()&=+$,;?/
Secondary username (Optional)	If defined, the Secondary username can be used to make voice calls in case the connection to the SIP PBX is lost. The Secondary username must be globally unique. **Note**: Allowed characters: a-z, A-Z, 0-9, -_.!~*' ()&=+$,;?/ In some PBXs there is a mapping between username and number (e.g. Username = hz2539jk, Number = 1234). If the connection to the SIP PBX is lost, then it is possible to make the mapping internally by defining a Secondary username. **Note**: The feature MUST be used with SIP setting **Allow internal routing fallback** enabled. For more information, see SIP settings.
Domain (Optional)	Enter the domain part of a SIP URI. **Note**: Allowed characters: a-z, A-Z, 0-9, .- **Note**: If not configured, the default domain entered under SIP configuration will be used.
Display name (Optional)	The name of the user can be entered here. **Note**: Disallowed characters: <>\"
Authentication user	Enter the user ID of the Lync/SfB end user. E.g. **Jane.Doe** Enter the RingCentral Authorization ID provided with the SIP Settings for the extension. **Note**: Disallowed characters: <>\"
Authentication password	Enter the digest credential of the Lync/SfB end user. Enter the RingCentral Password provided with the SIP Settings for the extension. **Note**: Disallowed characters: <>\" **Note**: A password is not necessary when using Trusted server.
Features	
Call forward unconditional	A Call Forward Unconditional can be added/removed via the web-based Administration Page. **Note**: Allowed characters: a-z, A-Z, 0-9, -_.!~*' ()&=+$,;?/
Admin rights (Optional)	If enabled, the user becomes an admin rights user with the ability to replace a broken handset.



3 Click **Save**.

4 When the users have been added to the Spectralink IP-DECT/Virtual IP-DECT Server, the handsets must be DECT subscribed in order to be able to communicate with the Spectralink IP-DECT/Virtual IP-DECT Server. For more information, see the user guide for the handset model.

Chapter 7: Presence Description

Presence is the ability to detect another user's availability. Using Skype for Business, users can display their Presence status, e.g. **Available**, **Away**, **Do Not Disturb**, or **Offline** – to let others know their availability.

The availability can be set in the Skype for Business Client and by using the **Presence** feature in the Spectralink DECT Handset. Also, the Presence status is displayed in both the client and the handset display. When in a call, the status In a call is displayed in the client, when ending the call, this status changes to e.g. Available. Other users availability are visible in the Skype for Business but not in the Spectralink DECT Handset, here only the handset user's availability is displayed.

Note:

Skype for Business makes it possible to define a Private Line and assign private numbers to a user at which the user can be reached directly independent of which Presence status is used. Normal incoming calls do not come through if presence is set to **Do Not Disturb**, incoming private line calls do come through. Private line calls do not follow **Do Not Disturb** settings. The private line numbers do not appear in the phone book directories.

 appears when incoming private line call arrives.

 appears when in a private line call.

Normal handset functionality, such as e.g. **Call Forward**, does not work when receiving a private line call.

Contact your system administrator for more information.

Note:

The **Presence** feature is not available on Spectralink Handset 72x2, Spectralink Handset 7502 and Spectralink Handset Butterfly.

Presence Feature in Handset Menu

From the Presence menu, you can set the following status about your presence:

- Available
- Busy
- Do Not Disturb
- Be Right Back
- Appear Away

The selected status is shown with an icon in the handset display.

The same Presence status is shown in the Lync/Skype for Business Client.

Presence on Lync/SfB Client when Handset is Idle

The images below show how the Presence status is indicated on a Lync/Skype for Business Client, when a Spectralink DECT Handsets is idle.

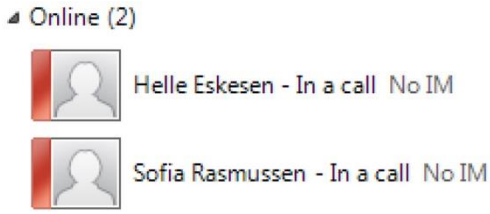
Spectralink Handset	*Presence status on Lync/SfB Client*
	

Note:

The users in this example only have a Spectralink DECT Handset and are not logged on with a Lync/Skype for Business Client. Therefore, **Voice Only** is displayed.

Presence on Lync/SfB Client when Handset is in a Call

The images below show how the Presence status is indicated on a Lync/Skype for Business Client, when a Spectralink DECT Handset is in a call.

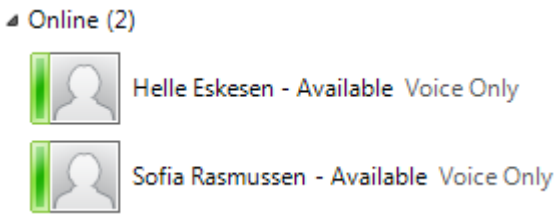
Spectralink Handset	*Presence status on Lync/SfB Client*
	

Note:

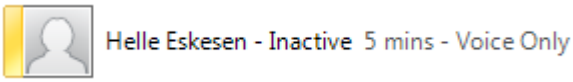
The users in the example only have a Spectralink DECT Handset and are not logged on with a Lync/Skype for Business Client. Because the Spectralink DECT Handset does not accept Instant Messages from the Lync/Skype for Business Client, **No IM** appears.

Overview of Presence Status in the Lync/SfB Client

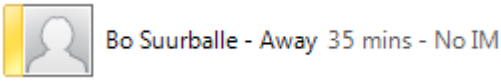
The handset's presence status is set to Available for 5 minutes after it has been used.



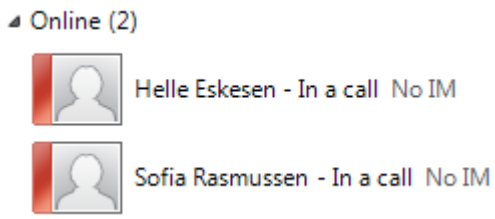
After 5 minutes, the handset status changes to Inactive if the handset is not used.



After 10 minutes, the handset status changes to Away if the handset is not used.



When a Spectralink DECT Handset is in use the presence status is In a call.


Online (2)
Helle Eskesen - In a call No IM
Sofia Rasmussen - In a call No IM

Appendix A: Example of XML Configuration File

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<config>
<application>
    <enable_rpc>true</enable_rpc>
    <internal_messaging>true</internal_messaging>
</application>
<dect>
    <auth_call>true</auth_call>
    <handset_login>true</handset_login>
    <handset_sharing>true</handset_sharing>
    <send_date_time>true</send_date_time>
    <subscription_allowed>true</subscription_allowed>
</dect>
<feature_codes>
    <call_forward>
        <voicemail>
            <enable>*21*</enable>
        </voicemail>
    </call_forward>
</feature_codes>
<language>en</language>
<log>
    <syslog>
        <facility>16</facility>
        <level>info</level>
        <port>514</port>
        <scope_of_settings>all</scope_of_settings>
    </syslog>
</log>
<network>
    <bootproto>static</bootproto>
    <dns1>172.29.129.54</dns1>
    <dns2>172.29.129.47</dns2>
    <domain>example.org</domain>
    <gateway>172.29.192.1</gateway>
    <hostname>ip-dect.example.org</hostname>
    <ipaddr>172.29.198.6</ipaddr>
    <ipv6>
        <method>disabled</method>
    </ipv6>
    <netmask>255.255.240.0</netmask>
    <ntp>172.29.129.47</ntp>
    <timezone>CET-1CEST-2,M3.5.0/02:00:00,M10.5.0/03:00:00</timezone>
</network>
<rfp>
    <media>
        <port>57000</port>
    </media>
    <ptp>
```

```
            <tos>184</tos>
            <transport>l2</transport>
        </ptp>
    </rfp>
    <security>
        <allow_http>false</allow_http>
        <allow_new_media_resource>true</allow_new_media_resource>
        <allow_new_rfp>true</allow_new_rfp>
        <password_timestamp>1496219863</password_timestamp>
        <username>admin</username>
    </security>
    <sip>
        <callwaiting>true</callwaiting>
        <client_transaction_timeout>16000</client_transaction_timeout>
        <dect_detach_action>deregister</dect_detach_action>
        <defaultdomain>example.org</defaultdomain>
        <dnsmethod>dnssrv</dnsmethod>
        <dtmf>
            <duration>270</duration>
            <info>false</info>
            <rtp>true</rtp>
            <rtp_payload_type>96</rtp_payload_type>
        </dtmf>
        <gruu>true</gruu>
        <handset_login>true</handset_login>
        <localport>5060</localport>
        <lync>
            <enable>true</enable>
            <trusted>false</trusted>
        </lync>
        <maxforwards>70</maxforwards>
        <media>
            <codecs>64,1,2,0,0,0</codecs>
            <port>58000</port>
            <ptime>20</ptime>
            <sdp_answer_single>false</sdp_answer_single>
            <sdp_answer_with_preferred>false</sdp_answer_with_preferred>
            <sdp_ignore_version>true</sdp_ignore_version>
            <srtp>
                <enable>true</enable>
                <lifetime>true</lifetime>
                <mki>true</mki>
                <required>true</required>
            </srtp>
            <tos>184</tos>
            <vlan_cos>5</vlan_cos>
        </media>
        <music_on_hold>true</music_on_hold>
        <mwi>
            <enable>true</enable>
            <expire>3600</expire>
            <subscribe>false</subscribe>
        </mwi>
        <onholdtone>false</onholdtone>
        <pound_dials_overlap>false</pound_dials_overlap>
```

```
    <proxy>
       <port>0</port>
       <port2>0</port2>
       <port3>0</port3>
       <port4>0</port4>
       <priority>1</priority>
       <priority2>2</priority2>
       <priority3>3</priority3>
       <priority4>4</priority4>
       <weight>100</weight>
       <weight2>100</weight2>
       <weight3>100</weight3>
       <weight4>100</weight4>
    </proxy>
    <registration_expire>3600</registration_expire>
    <send_to_current_registrar>false</send_to_current_registrar>
    <separate_endpoint_ports>false</separate_endpoint_ports>
    <showstatustext>true</showstatustext>
    <tcp_contact_ephemeral_port>false</tcp_contact_ephemeral_port>
    <tls_allow_insecure>false</tls_allow_insecure>
    <tos>104</tos>
    <transport>tls</transport>
    <use_sips_uri>false</use_sips_uri>
    <vlan_cos>3</vlan_cos>
</sip>
<snmp>
    <community>public</community>
    <enable>false</enable>
</snmp>
<upnp>
    <broadcast>false</broadcast>
    <enable>true</enable>
</upnp>
</config>
```

****END OF DOCUMENT****