spectralink

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

RingCentral Office

Interoperability Guide

Contact Information

US Location	Denmark Location	UK Location
+1 800-775-5330	+45 7560 2850	+44 (0) 20 3284 1536
Spectralink Corporation	Spectralink Europe ApS	Spectralink Europe UK
2560 55th Street	Bygholm Soepark 21 E Stuen	329 Bracknell, Doncastle Road
Boulder, CO 80301	8700 Horsens	Bracknell, Berkshire, RG12 8PE
USA	Denmark	United Kingdom
info@spectralink.com	infoemea@spectralink.com	infoemea@spectralink.com

Contents

Chapter 1: About This Guide

This guide describes how to configure a Spectralink IP-DECT Server 200/400/6500 or a Virtual IP-DECT Server One for connecting to RingCentral Office.

In the following the servers will be referred to as "Spectralink IP-DECT Server".

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

The guide is divided into two parts:

- RingCentral Office
- Spectralink IP-DECT Server

Each part describes the general configuration and the user administration.

RingCentral Branded Platforms

In addition to RingCentral Office, this interop guide also applies to the following RingCentral branded solutions:

UCaaS Platforms

- Avaya Cloud Office
- Rainbow Office
- Unify Office

Network Operator Platforms

- AT&T Office@Hand
- BT Cloud Phone
- TELUS Business Connect

Environment Information

- RingCentral Office - www.ringcentral.com

- RingCentral Network Requirements - https://support.ringcentral.com/s/article/9233?language=en_US

- Spectralink IP-DECT Server 200/400/6500 (must have firmware version PCS 20B_ or newer)

- Spectralink Virtual IP-DECT Server One (must have firmware version PCS20Dh or newer)

- Spectralink DECT Handsets 72x2, 75x2, 76x2, 77x2 (must have firmware PCS 20C_ or newer)

- Spectralink network and security requirements - see description of communication ports for the relevant server in the Server Installation and Configuration Guide.

Related Documentation

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

RingCentral Documentation

Subject	Documentation
Assign an existing device to an existing extension	https://support.ringcentral.com/s/article/Provisioning-Assign-an-existing-device-to-an-existing-extension?language=en_US
Manual Provisioning for Third-Party Phones	https://support.ringcentral.com/s/article/Manual-Provisioning-How-to-set-up-desk-phone-with-RingCentral?language=en_US
Get the SIP Settings For Manual Provisioning	https://support.ringcentral.com/s/article/Manual-Provisioning-How-get-SIP-Settings?language=en_US

Spectralink Documentation

Subject	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 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.

Subject	Documentation
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.

Chapter 2: Feature List

The following features are supported:

	Supported features
Telephony	- Make and receive basic calls, local and PSTN - Handset-to-handset calling - Check Voicemail - Speed Dial - Caller ID - Call Hold and Retrieve - Call Transfer (warm, blind) - Three Party Conference - Call Forwarding - Call Waiting - Call Park/Retrieve - Call Log - Do Not Disturb (DND) - Music on Hold (MOH) - DTMF - Secure Voice - TLS 1.2

Chapter 3: Configuration and Feature Details

Supported features	Description/Setting
Make and receive basic calls, local and PSTN	Allows user to make and answer calls.
Handset-to-handset calling	Allows user to make handset-to-handset calls.
Check Voicemail	Check for voice messages (*86).
Speed Dial	Assign a number to one of the speed-dialing keys.
Caller ID	Display Caller ID information for incoming and outgoing calls.
Call Hold and Retrieve	Allows user to place active calls on hold.
Call Transfer (warm, blind)	Allows user to transfer the active call to some other number.
Three Party Conference	Host a conference call with up to two other parties.
Call Forwarding	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 unconditional - disable Disable **Call forward unconditional** by dialing this code **#21#**. For more information, see "Enabling Feature Codes".
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 Park/Retrieve	Allows user to Park calls in the cloud and retrieve them from any phone. To Park an active call, press **##*3** To Retrieve a call, press the star (*) key followed by the parked call's extension.
Call Log	List of missed, answered, and placed calls.
Do Not Disturb (DND)	Allows user to silence incoming calls.
Music on Hold (MOH)	Play music to callers on hold.
DTMF	Supports touch-tone feature codes.
Secure Voice - TLS 1.2	Encrypted call security.

Chapter 4: RingCentral Office

Each individual DECT handset must be assigned to a RingCentral user extension. Spectralink DECT Handsets are configured in RingCentral as a user's existing device.

Note:

These settings can also be applied when using RingCentral branded solutions, such as the ones highlighted in the RingCentral Branded Platforms section.

Assign an Existing Device to an Existing Extension

To add an existing device to an existing user, do the following:

1   Log in as an Administrator to your RingCentral Online Account.

2   Under Admin Portal, click **Users**, click **User List**, click **Users With Extensions** and select the desired User. In this example, we will use John Smith.

  ○   Expand the user's **Phones & Number** section, click **Phones**, and then click **Add Phone**.

  ○   An **Add User Phones** page appears.

3   Select either **Domestic** or **International**.

4 Select **Other Phones**, click **Existing Phone**, and then click **Add**.

You can now see information about added devices and order summary.

5 Assign a phone number to the device:

- ○ If you already have an existing number, click **Existing Number** to add it to the device.

- ○ If you want to add a new number to the device, click **New Number**, and then select the desired number.

6 Specify the Emergency Address for the device.

7 Follow the steps to complete the process. Click **Done** when finished.

When complete, the new Existing Device is displayed under the selected user account.

Continue setting up new user phones if needed.

Get the RingCentral SIP Settings to Provision Spectralink DECT Handset

Before configuring the Spectralink IP-DECT Server, get the RingCentral SIP settings for each handset. The SIP settings are configured on the Spectralink IP-DECT Server allowing handsets to register with RingCentral Office. Once the handset is registered, its able to make and receive calls.

To get the SIP settings for each device, do the following:

1 Log in as an Administrator to your RingCentral Online Account.

2 Go to **Users** > **Users With Extensions**, and select the desired user.

  ○ Expand the user's **Phones & Number** section, click **Phones**, and then click **Edit**.
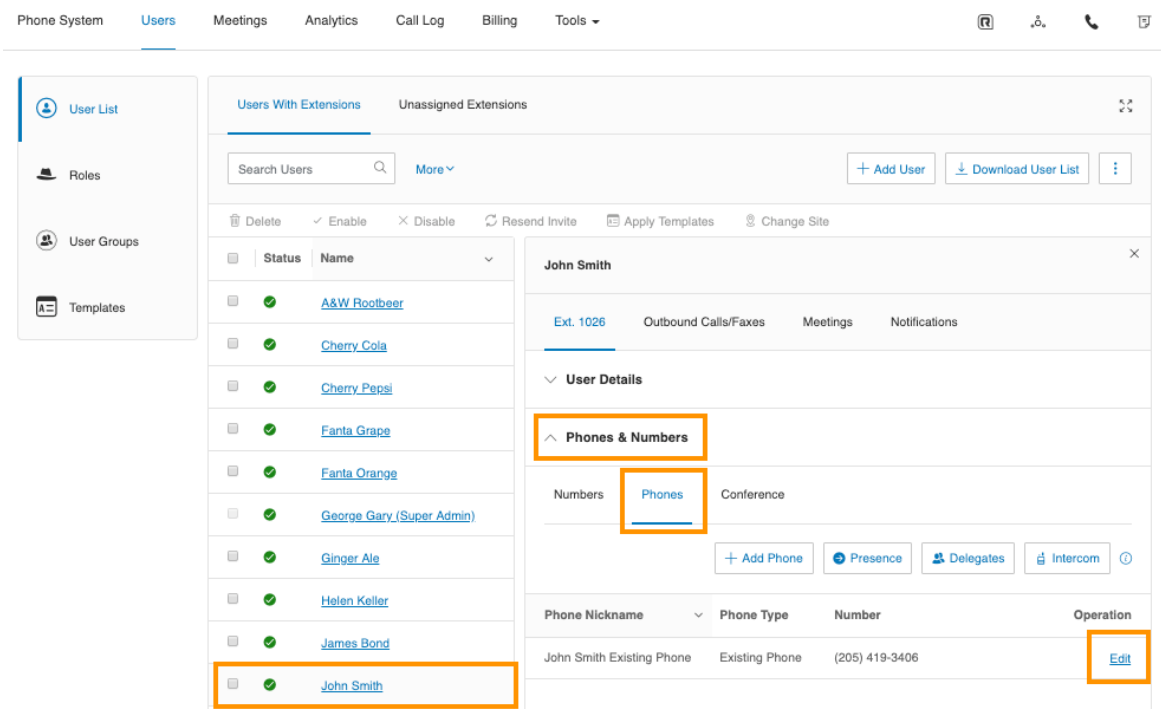
An **Existing Phone** page appears.

3 On the **Existing Phone** page, click **Setup & Provisioning**.
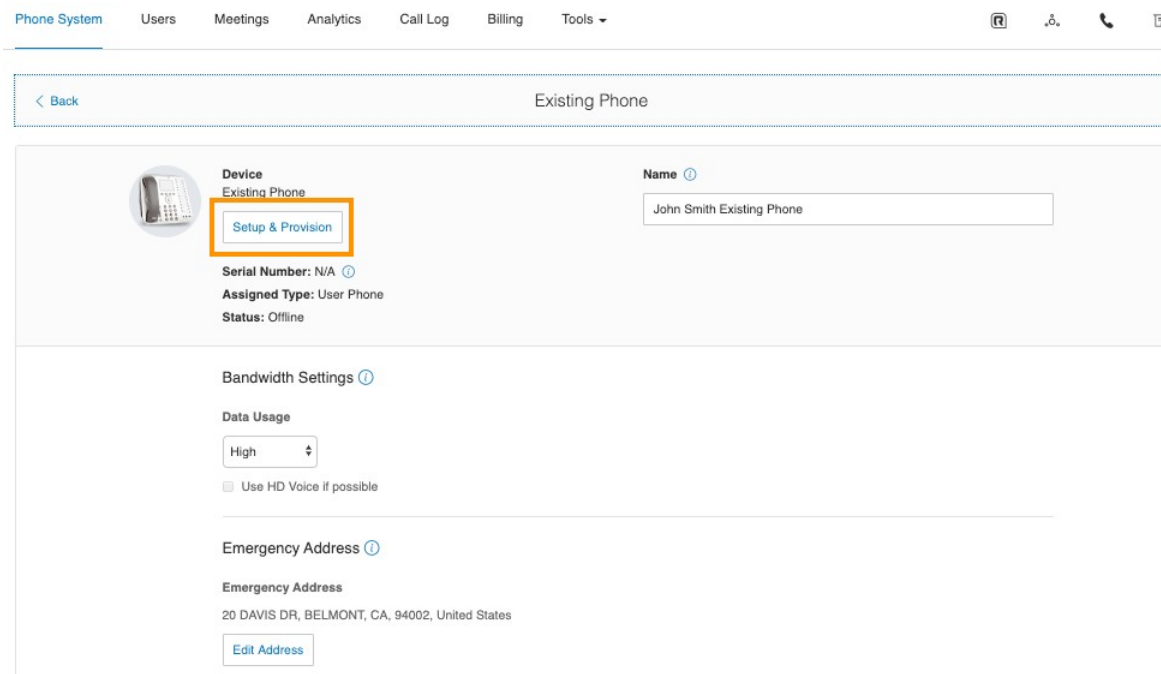
A **Setup & Provisioning** page appears.

4 On the **Setup & Provisioning** page, select **Other Phones**, and then click **Select** to select the **Existing Phone** to get the provisioning details which will be used to setup the Spectralink device.

5 Select the relevant outbound proxy from the list based on the location of the device.

○ Copy and paste the information about **SIP Domain**, **Outbound Proxy**, **User Name**, **Password**, and **Authorization ID** into a text notepad.

This information is used to configure the user in the Spectralink IP-DECT Server.

6   Click **Done**.

7   Repeat steps 1-6 for each user who will use a Spectralink DECT Handset.

Chapter 5: Spectralink IP-DECT Server

Below is a description of how to configure the Spectralink IP-DECT Server and how to add users and handsets to the system.

> **Note:**
>
> It is assumed that you have installed and configured the Spectralink IP-DECT Server solution including deployment and administration of base stations before continuing the configuration described below.
>
> You can access the web-based Administration Page of the Spectralink IP-DECT Server through a standard web browser by entering the IP address discovered by UPnP, along with the username and password.
>
> - Default username of the system is: **admin**
> - Default password of the system is: **admin**
>
> For configuration required to integrate Spectralink IP-DECT Server 200/400/6500 or Virtual IP-DECT Server One with RingCentral Office you will need information about IPEI of the handset and ARI of the server:
>
> You can identify the unique ARI number on the server in the following ways:
>
> - Spectralink IP-DECT Server 6500: See label on the bottom of the server.
> - Spectralink IP-DECT Server 200/400: See label on the rear side of the server.
> - Spectralink IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One: From the web-based **Administration Page** > **Status** > **Wireless Server**.
>
> You can identify the unique IPEI number on a handset in two ways:
>
> - From the handset: **Menu** > **Status** > **General**
> - From label by removing the battery cover and battery

Configuring the Spectralink IP-DECT Server

Basic Network Settings

Basic network settings can be obtained the following ways:

- From a DHCP server

  Using DHCP the device requests and obtains an available IP address from a DHCP server. The device also obtains other parameters such as the default gateway, subnet mask, DNS server, Time server and other IP parameters from the DHCP server.

- Entered manually through web-based **Administration Page** > **Configuration** > **General** > **General Configuration** page.

  Using manual network configuration, the IP-addresses and other networking parameters are entered manually through the web-based Administration Page.

Recommended Network Configuration

When configuring a Spectralink IP-DECT Server solution, Spectralink recommends doing it the following way:

- Spectralink IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One using a static IP address

  This is to avoid sudden change of the IP address which would temporarily affect all base stations and thus the entire installation.

- Spectralink DECT Media Resources using a static IP address

  Like with the servers, this is to avoid sudden change of the IP address.

- Spectralink IP-DECT Base Stations using DHCP

  This makes it easy to manage many base stations without having to keep track of many IP addresses.

> **Note:**
>
> When the base stations are set up to DHCP, you can use UPnP to discover all the Wireless devices on the local network. In Windows Explorer the devices will appear under **Network** and **Other Devices** as "<device name>-<Serial number> " (e.g. KWS6500-8442621, MR6500-84532341).

> **Note:**
>
> Spectralink IP-DECT Base Stations, Spectralink DECT Media Resources can be managed from the web-based Administration Page of the Spectralink IP-DECT Server.

If the Spectralink IP-DECT Server 6500 solution is configured as recommended above, it is possible to assign options to the DHCP server making it extremely easy to configure all media resources and base stations. If the Spectralink IP-DECT Server is configured using DHCP, it is necessary to assign a reservation for the device on the DHCP server.

SIP Settings

The Spectralink IP-DECT Server requires a few SIP settings to be adjusted in order to connect properly to the RingCentral Office.

> **Note:**
>
> SIP settings not mentioned below should be left at their default values.

To modify the SIP settings from the web-based Administration Page:

1   Get the IP address for the RingCentral Outbound Proxy URL by using a PING command via PC terminal (Mac) or Command (Windows).

For example, if the RingCentral Outbound Proxy is "sip20.ringcentral.com:5090", the corresponding IP address is 199.255.120.177:5090. The IP address will be entered as Proxy 1 in step 3.

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

3   Modify the settings below.

Field	Setting
SIP Configuration - General	
Local port	Enter the RingCentral SIP Domain Port. E.g.: 5060
Transport	UDP
Default domain	RingCentral SIP Domain without the port number: sip.ringcentral.com
Allow internal routing fallback	Must be enabled if **Secondary username** is defined.
SIP Configuration - Proxies	
Proxies	Set Proxy 1 to the RingCentral Outbound Proxy IP Address determined in Step 1. E.g.: 199.255.120.177:5090

Example of SIP configuration:

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

Enabling Feature Codes

The advanced feature, **Call forward unconditional**, is accessed by dialing special feature codes from the DECT handsets. To provide access to the **Call forward unconditional** feature, the feature codes must be enabled.

To Enable Feature Codes from the Web-Based Administration Page

1 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 (DECT endpoints only) - 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 unconditional – disable (Optional)	Disable **Call forward unconditional** by dialing this code **#21#**.

2 Click **Save**.

Adding Users and Handsets

Each individual DECT handset/user must be added to the Spectralink IP-DECT Server and also on to the RingCentral Office. This section describes how to add the handsets to the Spectralink IP-DECT Server.

To Add Users to the Spectralink 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. **Note**: Some third-party phones may need an Access code to register to the Spectralink IPDECT/DECT/Virtual IP-DECT Server.
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. E.g.: Ext 101, John Smith **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. Ensure that this is not enabled. **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 the RingCentral Username provided with the SIP Settings for the extension. **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.
Domain (Optional)	Enter the domain part of a SIP URI. **Note**: Allowed characters: a-z, A-Z, 0-9, .-

Field	Setting
	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 (or the same as entered as Standby Text).
	E.g.: Ext 101, John Smith
	Note: Disallowed characters: <>\"
Authentication user	Enter the RingCentral Authorization ID provided with the SIP Settings for the extension.
	Note: Disallowed characters: <>\"
Authentication password	Enter the RingCentral Password provided with the SIP Settings for the extension.
	Note: Disallowed characters: <>\"
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 Server, the handsets must be DECT subscribed in order to be able to communicate with the Spectralink IP-DECT Server. Please refer to the relevant handset documentation for this.

Note:

You can subscribe up to 12 handsets for Spectralink IP-DECT Server 200, up to 60 handsets for Spectralink IP-DECT Server 400, or up to 4000 handsets for both Spectralink IP-DECT Server 6500 and Virtual IP-DECT Server One to register to RingCentral Office; typically the same number of users configured with Existing Devices, see "Get the RingCentral SIP Settings to Provision Spectralink DECT Handset".

Note:

To check if your phone is online after manual provisioning, go to Admin Portal > **Phone System** > **Phones & Devices** > **User Phones**. Your phone is online when you see a Green Check User-added image next to it.