

zoomphone

# Configuration Guide for Spectralink Virtual/200/400/6500 IP- DECT Servers

zoomrooms

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## Revision History

Version	Date	Author	Change
1.0	03/05/2021	Martin Praest, Spectralink	Config guide created
1.1	03/16/2021	Yusuf Ali, Zoom Phone SE	Tech note and Review
1.2	06/25/2021	Mitchell Park, Zoom	Final Approval

## Spectralink IP-DECT Servers and Zoom Software Versions

	Equipment	Software Version
Spectralink	IP-DECT Server / Virtual IP-DECT Servers	PCS 20Dh
Zoom	Zoom Phone	Current

**Note:** Spectralink IP-DECT and Virtual IP-DECT Server are sharing SIP Stack, overall functionality and Configuration. Difference primarily related to scalability and hence this configuration guide is valid for all these devices.

## 1. Overview

This document outlines the configuration best practices for the Spectralink Virtual/200/400/6500 IP-DECT Servers when deployed with Zoom Phone.

The interoperability compliance testing focuses on verifying Calling functionality between Spectralink Virtual/200/400/6500 IP-DECT Servers and Zoom Phone.

The following features are based on interoperability testing supported:

- 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(attend only)
- Call Forwarding
- Call Waiting
- Call Park/Retrieve
- Call Log
- Do Not Disturb (DND)
- Music on Hold (MOH)
- DTMF
- Secure Voice - TLS 1.3 (Minimum 1.2 required)

## 2. Configuration Steps - Zoom Web Portal

This section provides instructions on how to configure 3<sup>rd</sup> Party SIP in Zoom Web Portal (does not include steps for configuring Vendor endpoints specifically – see section 3)

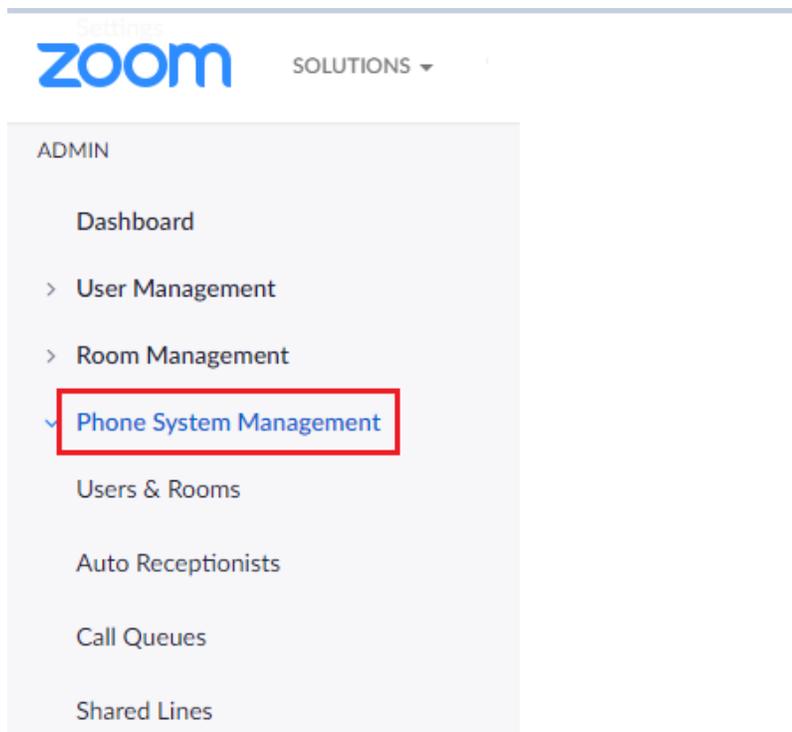
### Prerequisites:

- Zoom Phone account: a valid Zoom Phone subscription is required in order to assign a Spectralink IP-DECT endpoint.
- Zoom approval for provisioning of Spectralink endpoints as Generic SIP devices. Administrators should contact Zoom Account Executive to start an approval process.

### Add Device

Navigate to **Phone Systems Management > Phones & Devices**.

Select **Add Desk Phone** to assign devices to user.



Insert **MAC Address** - use Spectralink IPEI for individual handset – can be found on handset label or in IP-DECT Server Web portal – see section 3.

Choose **Device type** and select **Other**.

Enter the username or email of the phone user into the **Assigned to** field. If you have multiple sites, the phone will belong to the same site as the phone user.

Enter a **Display Name** to identify the phone.

Choose **Unsupported** in **Provisioning Template**

Click **Provision**.

## SIP Account Details

Important – you will now see **SIP Account** details required to configure Spectralink IP-DECT Server and DECT Endpoint for the individual user.

Download the **CA Certificate**

### Provisioning

MAC Address 11- [REDACTED]

Device Type Other

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You will need to enable TLS1.2 for SIP registration and enable SRTP for secure calling on your IP phone. Please refer to your manufacturer's instructions for these processes.

You'll need following information for manual provisioning. For Algo/CyberData Paging/Intercom devices, see [Zoom Phone Supported Devices](#) to view the configuration guide.

SIP Account 1:

1. SIP Domain: 51597310.zoom.us
2. Outbound Proxy: us01sipam0h.zoom.us:5091
3. User Name: 3066458 [REDACTED]
4. Authorization ID: 288 [REDACTED]
5. Password: vlt [REDACTED]

Also, download [CA certificate](#) and import to trust list on your IP phone.

**Note:** Please note that Zoom support team will not be able to troubleshoot or configure IP phones that are provisioned in this manner. Some Zoom Phone features may not work on manually provisioned phones. It may vary depending on your desk phone model.

Close

### 3. Configuration Steps – Spectralink IP-DECT

This section provides instructions on how to configure Spectralink IP-DECT Server and DECT Endpoints

#### Prerequisites:

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

- 1 Make sure to have followed the required steps in section 2 above or log in as an Administrator to your Zoom Online Account and retrieve the following:
  - SIP Domain
  - Outbound proxy
  - Download available CA certificate for devices
  - User credentials per device you wish to configure
    - User Name
    - Password
    - Authorization ID

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 Zoom Phone 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 (optional module for more increased voice channels on 6500/Virtual IP-DECT Server) 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 Zoom Phone.

**Note:**

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

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

- 2 Click **Configuration**, and then click **SIP**.
- 3 Modify the settings below.

Field	Setting
SIP Configuration - General	
Local port	Enter the Zoom SIP Domain Port. E.g.: 5060
Transport	TLS
Default domain	Zoom SIP Domain without the port number: 51597310.zoom.us
Allow internal routing fallback	Must be enabled if <b>Secondary username</b> is defined.
SIP Configuration - Proxies	
Proxies	Set Proxy 1 to the Zoom Outbound Proxy IP Address E.g.: us01sipam0h.zoom.us:5091

Example of SIP configuration:

Transport \*\* TLS ▾

Default domain \*\*\* 51597310.zoom.us

NAT keepalive \*\* CRLF (rfc5626) [TCP only] ▾

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Proxies

	Priority	Weight	URI
Proxy 1 **	1	100	us01sipam0h.zoom.us:5091
Proxy 2 **	2	100	
Proxy 3 **	3	100	
Proxy 4 **	4	100	

Codec priority \*

1:	PCMU/8000	▾
2:	PCMA/8000	▾
3:	None	▾
4:	None	▾
5:	None	▾
6:	None	▾

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

- Under **Feature Codes**, do the following:

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

Feature codes	
Enable	<input type="checkbox"/>
Call forward unconditional - enable	<input type="text" value="*21*\$#"/>
Call forward unconditional - disable	<input type="text" value="#21#"/>

2. Click **Save**.

## Security settings

Import CA Certificate

1. Click **Configuration**, and then click **Certificates**
2. Install Certificate downloaded from Zoom Phone Portal



3. Verify that CA Certificate is successfully installed

The screenshot shows the 'CA Certificates' table with the following data:

Common Name	Organization	SHA1 fingerprint
zoom.us	Zoom Video Communications	69:1e:78:48:a2:5e:f7:fa:12:e4:ca:23:8c:b3:e6:2d:12:a9:c3:ff

Additional interface elements include: 'Show All entries', 'Clear List', 'Restore Default List', 'Choose file', 'No file chosen', 'Import List', 'Export List', and a search bar.

4. Reboot the System

Enable TLS

1. Click **Configuration**, and then click **Security**
2. Enable Legacy TLS

The screenshot shows the 'Security' settings form with the following options:

- Enable legacy TLS \*\*
- Allow remote logging
- Remove user passwords from exported data

Buttons: Save, Cancel

Footnote: \*) Required field \*\*) Require restart

3. Click Save and Reboot DECT Server
4. Validate successful SIP Connection on main page of DECT Server

**General Status**

General	
IP address	192.168.4.76
NTP Server	192.168.4.1
Time	2020-10-22 10:00:24
Serial	9506384
MAC address	00:13:d1:91:0e:50
Product ID	0027 A2C6 68C9 8F0D
Production Date	2019-02-20
Hardware	
PartNo	14218700
PCS	10A_
Firmware	
PartNo	14218500
PCS	PCS20Bb
Build	91142
Quick status	
SIP	✓
Provisioning	✗
NTP	✓

**Adding Users and Handsets**

Each individual DECT handset/user must be added to the Spectralink IP-DECT Server and also on to the Zoom Phone. 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
<b>DECT device</b>	
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. <b>Note:</b> 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. <b>Note:</b> 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.
<b>User</b>	
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

Field	Setting
	<p><b>Note:</b> Disallowed characters: &lt;&gt;\"</p> <p><b>Note:</b> 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.</p>
Disabled (Optional)	<p>If enabled, the user is disabled. Ensure that this is not enabled.</p> <p><b>Note:</b> A disabled user cannot make calls from the handset.</p>
DECT to DECT (Optional)	<p>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.</p>
<b>SIP</b>	
Username/Extension	<p>Enter the Zoom Username provided with the SIP Settings for the extension.</p> <p><b>Note:</b> Allowed characters: a-z, A-Z, 0-9, -_!~*()&amp;=+\$,;?/</p>
Secondary username (Optional)	<p>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.</p> <p><b>Note:</b> Allowed characters: a-z, A-Z, 0-9, -_!~*()&amp;=+\$,;?/</p> <p>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.</p>
Domain (Optional)	<p>Enter the domain part of a SIP URI.</p> <p><b>Note:</b> Allowed characters: a-z, A-Z, 0-9, .-</p> <p><b>Note:</b> If not configured, the default domain entered under SIP configuration will be used.</p>
Display name (Optional)	<p>The name of the user can be entered here (or the same as entered as Standby Text).</p> <p>E.g.: Ext 101, John Smith</p> <p><b>Note:</b> Disallowed characters: &lt;&gt;\"</p>
Authentication user	<p>Enter the Zoom Authorization ID provided with the SIP Settings for the extension.</p> <p><b>Note:</b> Disallowed characters: &lt;&gt;\"</p>
Authentication password	<p>Enter the Zoom Password provided with the SIP Settings for the extension.</p> <p><b>Note:</b> Disallowed characters: &lt;&gt;\"</p>
<b>Features</b>	
Call forward unconditional	<p>A Call Forward Unconditional can be added/removed via the web-based Administration Page.</p> <p><b>Note:</b> Allowed characters: a-z, A-Z, 0-9, -_!~*()&amp;=+\$,;?/</p>
Admin rights (Optional)	<p>If enabled, the user becomes an admin rights user with the ability to replace a broken handset.</p>

**User**

**DECT device**

Product name

Model number

Software part number

Firmware

IPEI

Access code

Configuration group

**User**

Standby text

Disabled

**SIP**

Username / Extension \*

Secondary username

Domain

Displayname

Authentication user

Authentication password

**Features**

Call forward unconditional

Admin rights

\* Required field

- 3 Required fields are
  - a. Username / Extension
  - b. Authentication User
  - c. Authentication Password
- 4 IPEI and DECT device details will be automatically transferred when handset is subscribed to the DECT Server.
- 5 Click **Save**.
- 6 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.

Subscribing handsets to the DECT server

- 1 Enable Subscription in DECT Server under Configuration > Wireless Server

DECT

Subscription allowed

Automatically disable subscription allowed

- 2 Turn on DECT Handset
- 3 User will on start screen be requested for
  - a. User name = Authentication user
  - b. Password = Authentication Password

You will see IPEI updated once DECT Phone is registered

how All entries

Now Enable Disable Delete Re-register Un-subscribe Firmware update Handset Configuration

Search:

Enabled	User	Display name	IPEI	Handset	Firmware	Subscription	Registration	Latest activity
<input checked="" type="checkbox"/>	29600701354580830700	Company Name, Ext	05003 0840075	Spectralink 7622	20B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

howing 1 to 1 of 1 entries

First Previous 1 Next Last

#### 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 Zoom Phone; typically the same number of users configured with Existing Devices.

#### 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

## 4. Conclusion

This document covers all the necessary configuration aspects of Spectralink IP-DECT portfolio & Zoom Phone, thereby confirming Spectralink IP-DECT Server compliance & compatibility with Zoom eco-system for achieving successful interoperability.