



Cisco BroadWorks

Partner Configuration Guide

Spectralink IP-DECT Server Series

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Cisco® Guide

Notification

BroadSoft BroadWorks has been renamed to Cisco BroadWorks. You will begin to see the Cisco name and company logo, along with the new product name on the software, documentation, and packaging. During this transition process, you may see both BroadSoft and Cisco brands and former product names. These products meet the same high standards and quality that both BroadSoft and Cisco are known for in the industry.

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Document Revision History

Version	Reason for Change
1.0	Introduced document Spectralink IP-DECT Server Series validation with Cisco BroadWorks Release 24.0.
1.1	Update Device Management section.

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1 Overview

This guide describes the configuration procedures required for the Spectralink IP-DECT Server Series for interoperability with BroadWorks. This includes these models:

- Spectralink IP-DECT 200
- Spectralink IP-DECT 400
- Spectralink IP-DECT 6500
- VIP-DECT Server One

The IP-DECT Server Series are access devices that use the Session Initiation Protocol (SIP) to communicate with BroadWorks for call control.

This guide describes the specific configuration items that are important for use with BroadWorks. It does not describe the purpose and use of all configuration items on the IP-DECT Server Series. For those details, see the *Spectralink IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide* [1] supplied by Spectralink.

2 Interoperability Status

This section provides the known interoperability status of Spectralink IP-DECT Server Series with Cisco BroadWorks. This includes the version(s) tested, the capabilities supported, and known issues.

Interoperability testing validates that the device interfaces properly with Cisco BroadWorks via the SIP interface. Qualitative aspects of the device or device capabilities not affecting the SIP interface such as display features, performance, and audio qualities are not covered by interoperability testing. Requests for information and/or issues regarding these aspects should be directed to Spectralink.

2.1 Verified Versions

The following table identifies the verified Spectralink IP-DECT Server Series and Cisco BroadWorks versions and the month/year the testing occurred. If the device has undergone more than one test cycle, versions for each test cycle are listed, with the most recent listed first.

Compatible Versions in the following table identify specific Spectralink IP-DECT Server Series versions that the partner has identified as compatible so should interface properly with Cisco BroadWorks. Generally, maintenance releases of the validated version are considered compatible and may not be specifically listed here. For any questions concerning maintenance and compatible releases, contact Spectralink.

NOTE: Interoperability testing is usually performed with the latest generally available (GA) device firmware/software and the latest GA Cisco BroadWorks release and service pack at the time the testing occurs. If there is a need to use a non-verified mix of Cisco BroadWorks and device software versions, customers can mitigate their risk by self-testing the combination themselves using the *Cisco BroadWorks SIP Phone Interoperability Test Plan* [3].

Verified Versions			
Date (mm/yyyy)	Cisco BroadWorks Release	Spectralink IP-DECT Server Series Verified Version	Spectralink IP-DECT Server Series Compatible Versions
09/2023	R24.0	PCS23Aa	Any maintenance revisions of the validated release.

2.2 Interface Capabilities Supported

This section identifies interface capabilities that have been verified through testing as supported by Spectralink IP-DECT Server Series.

The Supported column in the tables in this section identifies the Spectralink IP-DECT Server Series support for each of the items covered in the test plan, with the following designations:

- Yes Test item is supported.
- No Test item is not supported.
- NA Test item is not applicable to the device type.
- NT Test item was not tested.

Caveats and clarifications are identified in the *Comments* column.

2.2.1 SIP Interface Capabilities

The Spectralink IP-DECT Server Series has completed interoperability testing with BroadWorks using the *Cisco BroadWorks SIP Phone Interoperability Test Plan* [3][3]. The results are summarized in the following table.

The Cisco BroadWorks test plan is composed of packages, each covering distinct interoperability areas, such as “Basic” call scenarios and “Redundancy” scenarios. Each package is composed of one or more test items, which in turn are composed of one or more test cases. The test plan exercises the SIP interface between the device and Cisco BroadWorks with the intent to ensure interoperability sufficient to support the Cisco BroadWorks feature set.

NOTE: *DUT* in the following table refers to the *Device Under Test*, which in this case is the Spectralink IP-DECT Server Series.

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
Basic Call	Register with Authentication	Yes	
	Re-Register	Yes	
	Minimum Registration Time	Yes	
	Inbound Call	Yes	
	Outbound Call	Yes	
	Dial Plan	Yes	
	Session Audit	Yes	
	Ringback and Early Media	Yes	
	Inband DTMF over G722	No	Inband DTMF over G722 is not supported.
	Inband DTMF over G711	No	Inband DTMF over G711 is not supported.
	RFC2833 DTMF over G722	No	RFC2833 DTMF over G722 is not supported.
	RFC2833 DTMF over G711	Yes	
	RFC2833 DTMF over G729	Yes	
	Voice Message Deposit	Yes	
	Voice Message Retrieval	Yes	
	Solicited MWI	No	
	Unsolicited MWI	Yes	
	MWI Update During Active Call	Yes	
	Message Waiting Count	Yes	
	Message Waiting Saved and Urgent	Yes	
	Codec Renegotiation and SDP Handling	Yes	
	Calling Name and Number Presented	Yes	
	Calling Name and Number Restricted	Yes	
	Calling Name with Unicode Characters	Yes	
	Connected Line ID Presentation	Yes	
	Connected Line ID Presentation with Unicode Characters	Yes	
Connected Line ID Restriction	Yes		
Connected Line ID Presentation after Call Forward	Yes		
Connected Line ID Restriction after Call Forward	No		

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
	Connected Line ID Presentation on UPDATE	Yes	
	Connected Line ID Presentation on Re-INVITE	Yes	
	Remote Reset	No	This test case requires Device Management capabilities, which are not currently supported.
	Remote Reset with Authentication Challenge	No	This test case requires Device Management capabilities, which are not currently supported.
Call Control	Call Redirect to Phone- Single Redirect	Yes	
	Call Redirect to Phone- Multiple Redirect	Yes	
	Call Forward by Phone- Do Not Disturb	No	
	Call Forward by Phone- Call Forward Always	Yes	
	Call Forward by Phone- Call Forward Always with Diversion Inhibitor	No	
	Local Hold/Resume for Inbound Call	Yes	
	Local Hold/Resume for Outbound Call	Yes	
	Remote Hold/Resume	Yes	
	Remote Hold/Resume with Music On Hold	Yes	
	Call Waiting; Switch between Calls	Yes	
	Blind Call Transfer	Yes	
	Blind Call Transfer Recall	Yes	
	Attended Call Transfer after Answer	Yes	
	Attended Call Transfer before Answer	Yes	
	Local Three-Way Conference	No	
	Network 3-Way Conference	No	
	Network 6-Way Conference	No	
	Ring Splash	No	
	Distinctive Ring Tone via Priority Alert	No	
	Distinctive Call Waiting Tone via Priority Alert	No	
Distinctive Ring Tone via Alternate Numbers	No		

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
	Distinctive Call Waiting Tone via Alternate Numbers	No	
	Silent Ring	No	
	Call Decline	Yes	
	Anonymous Call	Yes	
Video	Inbound Video Call	No	
	Outbound Video Call	No	
	Video Call with Local Hold/Resume	No	
	Video Call with Remote Hold/Resume	No	
	Video Call with Remote Hold/Resume and Video On Hold	No	
	Video Call Waiting	No	
	Video Second Outbound Call	No	
	Video Call Transfer	No	
	Video Call Transferee	No	
	Auto Attendant – SD	No	
	Auto Attendant – HD	No	
	Video Voice Mail Deposit – SD	No	
	Video Voice Mail Retrieve – SD	No	
	Video Voice Mail Deposit – HD	No	
	Video Voice Mail Retrieve – HD	No	
	Video Custom Ringback	No	
	Network Based Video Conference – SD	No	
	Network Based Video Conference – HD	No	
	Collaborate Video – SD	No	
	Collaborate Video – HD	No	
Collaborate Video – Upgrade to Video	No		
UC-One Communicator Desktop Client, Inbound Call	No		
UC-One Communicator Desktop Client, Outbound Call	No		
UC-One Connect Client, Inbound Call	No		
UC-One Connect Client, Outbound Call	No		

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
Failover/Failback	REGISTER Failover	Yes	
	REGISTER Failback	No	
	REGISTER Failover; Increase Retries	No	
	REGISTER Failover on 503	Yes	
	INVITE Failover	No	
	INVITE Failback	No	
	INVITE Failover; Increase Retries	No	
	INVITE Failover on 503	Yes	
	Mid-Call Failure- INVITE Failure	No	
	Mid-Call Failure- Bye Failure	Yes	
Advanced Phone Service: Missed Call Display Synchronization	Missed Call Display Synchronization on Primary Line	Yes	
	Missed Call Display Synchronization on Alternate Line	Yes	
Advanced Phone Service: Call Park Notification	Subscribe for Call Park Notification	No	
	Parked Call Indicator	No	
	Retrieve Parked Call for Monitored User	No	
Advanced Phone Service: Busy Lamp Field	Subscribe for BLF	No	
	Add Monitored User	No	
	Remove Monitored User	No	
	Add Monitored User with Long Name	No	
	Add Monitored User with Unicode Characters in Name	No	
	Monitor up to 20 Users	No	
	Monitor User with Outgoing Call	No	
	Monitor User with Incoming Call	No	
	Monitor User with Two Incoming Calls	No	
	Monitor User with Parked Call	No	
	Call to Idle Monitored User	No	
	Call to Active Monitored User	No	
	Directed Call Pickup for Idle Monitored User with Incoming Call	No	
	Directed Call Pickup for Active Monitored User with Incoming Call	No	

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
	Retrieve Parked Call for Monitored User	No	
Advanced Phone Service: Shared Call Appearance	Line-Seize and Make Call	No	
	Cancel Line-Seize	No	
	Refresh Line-Seize	No	
	Attempt Line-Seize on Active Line	No	
	Subscribe for Call-Info	No	
	Refresh Call-Info Subscription	No	
	Outbound Call	No	
	Inbound Call	No	
	Public Hold	No	
	Private Hold	No	
	Make Call on Active Line	No	
	Receive Call on Active Line	No	
	Hybrid Key System- Incoming Calls	No	
	Hybrid Key System- Outgoing Calls	No	
	Hybrid Key System- Mixed Incoming/Outgoing Calls	No	
	Hybrid Key System- Public Hold	No	
	Barge-In on Active Line	No	
	Hold/Retrieve Active Bridge	No	
	Barge-In Silent on Active Line	No	
	Parked Call Indicator	No	
Parked Call Retrieve	No		
Advanced Phone Service: Feature Synchronization, Private Line	Initial SUBSCRIBE	No	
	Re-SUBSCRIBE	No	
	Activate Do Not Disturb from Phone	No	
	De-Activate Do Not Disturb from Cisco BroadWorks	No	
	Do Not Disturb Ring Splash	No	
	Activate Do Not Disturb from Phone, Multi-Line Phone	No	
	Call Forwarding No Answer	No	
	Call Forwarding Busy	No	
	Call Forwarding Always	No	
Call Center- Agent Logon from Phone	No		

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
	Call Center- Agent Logoff from Cisco BroadWorks	No	
	Call Center- Unavailable Code from Phone	No	
	Unavailable Code from Cisco BroadWorks	No	
	Executive and Executive-Assistant	No	
	Call Recording	No	
Advanced Phone Service: Feature Synchronization, Shared Line	SUBSCRIBE	No	
	Do Not Disturb	No	
	Call Forwarding No Answer	No	
	Call Forwarding Busy	No	
	Call Forwarding Always	No	
	Call Center- Agent Logon from Primary Line	No	
	Call Center- Agent Logoff from Alternate Line	No	
	Call Center- Unavailable Code from Primary Line	No	
	Call Center- Unavailable Code from Alternate Line	No	
	Call Recording	No	
Advanced Phone Service: Call Center	Hold Reminder	No	
	Call Information	No	
	Hoteling	No	
	Status	No	
	Disposition Code	No	
	Emergency Escalation	No	
	Customer Originated Trace	No	
Advanced Phone Service: Call Recording	Call Recording Controls	No	
	Call Recording Video	No	
Advanced Phone Service: Conference Event	Conference Creator	No	
	Conference Participant	No	
TLS/SRTP	Register With Authentication	Yes	
	Inbound Call	Yes	
	Inbound Call Disconnected before Answer	Yes	
	Outbound Call	Yes	

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
	Outbound Call Disconnected before Answer	Yes	
	Session Audit of Call from the DUT	Yes	
	Session Audit of Call to the DUT	Yes	
	Custom Ringback	No	
	Voice Message Deposit	Yes	
	Voice Message Retrieval	Yes	
	Codec Renegotiation with Attended Transfer	Yes	
	Local Hold/Resume	Yes	
	Remote Hold/Resume	Yes	
	Attended Call Transfer	Yes	
	Local Three-Way Conference	No	
	Network Three-Way Conference	No	
	Video	No	
	BLF Subscribe	No	
	Feature Synchronization Subscribe	No	
	IPV6	Register With Authentication	Yes
Inbound Call		Yes	
Outbound Call		Yes	
Session Audit		Yes	
Custom Ringback		Yes	
Voice Message Deposit/Retrieval		Yes	
Codec Renegotiation with Attended Transfer		Yes	
Initial Answer with Hold SDP		Yes	
Call Control		Yes	Local Three-Way Conference and Network Three-Way Conference not supported.
Video		No	
BLF Subscribe		No	
Feature Synchronization Subscribe	No		

2.2.2 Other Interface Capabilities

This section identifies whether the Spectralink IP-DECT Server Series has implemented support for the following:

- Cisco BroadWorks Xtended Services Interface (XSI)

- Extensible Messaging and Presence Protocol (XMPP) (Cisco BroadCloud/Cisco BroadWorks Collaborate Instant Messaging and Presence [IM&P])

Extensible Messaging and Presence Protocol (XMPP) is not currently supported.

2.3 Known Issues

This section lists the known interoperability issues between Cisco BroadWorks and specific partner release(s). Issues identified during interoperability testing and known issues identified in the field are listed.

The following table provides a description of each issue and, where possible, identifies a workaround. The verified partner device versions are listed with an “X” indicating that the issue occurs in the specific release. The issues identified are device deficiencies or bugs and are typically not Cisco BroadWorks release dependent.

The Issue Number is a tracking number for the issue. If it is an issue, the issue number is from 's tracking system. If it is a Cisco BroadWorks issue, the issue number is from Cisco's (formerly BroadSoft's) tracking system.

For more information on any issues related to the particular partner device release, see the partner release notes.

Issue Number	Issue Description	Partner Version			
		PCS23Aa			
	No issues identified.				

3 Cisco BroadWorks Configuration

This section identifies the required Cisco BroadWorks device profile type for the Spectralink IP-DECT Server Series as well as any other unique Cisco BroadWorks configuration required for interoperability with the Spectralink IP-DECT Server Series.

3.1 Cisco BroadWorks Device Profile Type Configuration

This section identifies the device profile type settings to use when deploying the Spectralink IP-DECT Server Series with Cisco BroadWorks.

Create a device profile type for the Spectralink IP-DECT Server Series with settings as shown in the following example. A separate device profile type should be created for each Spectralink IP-DECT Server Series model. The settings shown are recommended for use when deploying the Spectralink IP-DECT Server Series with Cisco BroadWorks. For an explanation of the profile parameters, see the *Cisco BroadWorks Device Management Configuration Guide* [2].

The device profile type shown below provides the *Number of Ports* (number of SIP lines) setting for Spectralink IP-DECT Server Series. For other Spectralink IP-DECT Server Series devices, create a new device profile type and set the *Number of Ports* to match the available number of SIP lines per model according to the following table.

Model	Number of Lines
IP-DECT 200	12
IP-DECT 400	60
IP-DECT 6500	4096
VIP-DECT Server One	16000

Identity/Device Profile Type Modify

Modify an existing identity/device profile type.

OK Apply Delete Export Cancel

Identity/Device Profile Type: Spectralink - IP-DECT Server 400
 Signaling Address Type: Intelligent Proxy Addressing
 Obsolete

Standard Options

Number of Ports: Unlimited Limited To

Ringback Tone/Early Media Support: RTP - Session
 RTP - Early Session
 Local Ringback - No Early Media

Authentication: Enabled
 Disabled

Hold Normalization: Unspecified Address
 Inactive
 RFC3264

Registration Capable Authenticate REFER
 Static Registration Capable Video Capable
 E164 Capable Use History Info Header
 Trusted

Advanced Options

Route Advance Forwarding Override
 Wireless Integration Conference Device
 PBX Integration Mobility Manager Device
 Add P-Called-Party-ID Music On Hold Device
 Auto Configuration Soft Client Requires BroadWorks Digit Collection
 Requires BroadWorks Call Waiting Tone Requires MWI Subscription
 Advice of Charge Capable Support Call Center MIME Type
 Support Emergency Disconnect Control Support Identity In UPDATE and Re-INVITE
 Enable Monitoring Support RFC 3398
 Static Line/Port Ordering Support Client Session Info
 Support Call Info Conference Subscription URI Support Remote Party Info
 Support Visual Device Management Redirect Link Bypass Media Treatment
 Support Cause Parameter Support Calling Party Category In Outbound From Header
 Verstat In PAI Header Verstat In From Header

Reset Event: reSync checkSync Not Supported
 Trunk Mode: User Pilot Proxy
 Hold Announcement Method: Inactive Bandwidth Attributes
 Device Category: Generic Hosted Client App Trunking Local Gateway

Unscreened Presentation Identity Policy: Profile Presentation Identity
 Unscreened Presentation Identity
 Unscreened Presentation Identity With Profile Domain

Web Based Configuration URL Extension:

Device Configuration Options: Not Supported Device Management Legacy

Figure 1 Device Identity/Profile Type

3.2 Cisco BroadWorks Configuration Steps

No additional BroadWorks configurations are required.

4 IP-DECT Server Series Configuration

This section describes the configuration settings required for the Spectralink IP-DECT Server Series integration with Cisco BroadWorks, primarily focusing on the SIP interface configuration. The Spectralink IP-DECT Server Series configuration settings identified in this section have been derived and verified through interoperability testing with Cisco BroadWorks. For configuration details not covered in this section, see the Spectralink IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide [1] for Spectralink.

4.1 Configuration Method

The IP DECT Server Series can be configured through its embedded Web Interface. The IP DECT Server Series can use DHCP to obtain an IP address, can also be configured manually through the embedded Web Interface.

Browse to the web interface of the IP-DECT Server, <http://<IP-DECT-ip>> and log in. The default credentials are “admin/admin”.

4.2 System Level Configuration

This section describes system-wide configuration items that are generally required for each IP-DECT Server Series to work with BroadWorks. Subscriber-specific settings are described in the next section.

4.2.1 Configure Network Settings

If static IPv4 and (or) IPv6 is going to be used on the device, go to *Configuration* → *General* (Figure 2 Network Settings) and fill out the next fields:

IPv4

- Method: Method used to assign an IPv4 address. Choice of either dhcp or static assigned.
- IP addr: IPv4 address. Not required if DHCP assigned.
- Netmask: IPv4 address. Not required if DHCP assigned.
- Gateway: IPv4 address. Not required if DHCP assigned.

IPv6

- Method: Specifies the method used to obtain an IPv6 configuration. Values:
 - “slaac” Use router advertisements to obtain an IPv6 address.
 - “dhcp” Use DHCPv6 to obtain an IPv6 address.
 - “static” Configure IPv6 address and gateway manually.
 - “disabled” Disable IPv6 support (default).
- Address/prefix: Specify a static IPv6 address including the prefix length.
Values: <IPv6 address>/prefix.
Example: 3000::2/64.
Not required if automatically assigned.

- Default gateway: Specify a static IPv6 gateway.
Values: <IPv6 address>.
Example: 3000::1.
Not required if automatically assigned.

General Configuration

IPv4

Method ** Use static IP address ▾

IP addr ** 192.168.254.1

Netmask ** 255.255.255.0

Gateway ** 192.168.254.1

MTU **

IPv6

Method ** Static ▾

Address/prefix ** 2001:db8:cafe::1/64

Default gateway ** 2001:db8:cafe::1

NAT traversal

IP addr

Ethernet

VLAN **

DNS

Hostname (FQDN) **

Search domain

Primary Server

Secondary Server

NTP

Server

Time zone GMT-6 ▾

Posix timezone string GMT+6

UPnP

Enabled

Broadcast announcements

Remote syslog

Host

Port * 514

Facility * 16 Local 0 ▾

Level * info ▾

Scope all ▾

SNMP

Enabled

Community public

Trap host

Trap community

System location

System contact

AMIE

Enabled

Region IE ▾

Server

Authentication Token *

Proxy

Figure 2. Network Settings

4.2.2 Configure SIP Interface Settings

To configure SIP on the device, go to *Configuration* → *SIP* (Figure 3. SIP Configuration 1 and Figure 4 SIP Configuration 2); the fields not mentioned are kept with their default value.

General

- Transport: Set the transport protocol to UDP (Default), TCP or TLS.
- DNS Method: Set the DNS method used to resolve the SIP server.
Values:
“A records”: (Default) Use DNS A records only.
“DNS SRV”: (Recommended for Broadworks) Use DNS SRV records and A records.
- Default Domain: Set the IP DECT Server Series SIP server to the Fully Qualified Domain Name (FQDN) of the BroadWorks Application Server cluster. The domain must match the domain configured for the BroadWorks subscriber’s line/port domain.
- Allow wildcard certificate: Enable.
- Register each endpoint on separate port: Enable.
- Send Hold before REFER: Enable.
- Send BYE with REFER: Enable.
- Convert SIP URI to phone number: Enable.

Proxies

Set the Outbound Proxy to the Session Border Controller (SBC) if one is deployed between the IP DECT Server Series and BroadWorks.
If there are redundant SBCs, set it to the FQDN for the SBC cluster.

DTMF Signaling

- Send as RTP (rfc2833): Enable.
- Offered rfc2833 payload type: 101.
- Tone duration(msec): 270.

Message waiting indication

- Enable indication: (Optional) If voicemail feature is available, this option must be enabled.
- Enable subscription: (Optional) If subscription to notifications from voicemail feature is available, this option must be enabled.

Media

- Codec priority: Add codecs will be supported with the service.
- Enable media encryption (SRTP): Enable if TLS will be used as transport.
- Require media encryption (SRTP): Enable if TLS will be used as transport.

SIP Configuration

General

Local port *

Transport *

DNS method *

Default domain *

Allow wildcard certificate

Register each endpoint on separate port

Send all messages to current registrar

Allow internal routing fallback

Registration expire(sec) *

Max pending registrations *

Handset power off action

Max forwards *

Client transaction timeout(msec) *

Blacklist timeout(sec) *

SIP type of service (TOS/Diffserv) *

SIP 802.1p Class-of-Service *

GRUU

Use SIPS URI

TLS allow insecure

TCP ephemeral port in contact address

NAT keepalive

NAT keepalive interval(sec)

Send Hold before REFER

Send BYE with REFER

Convert SIP URI to phone number

Alert-Info header

Internal ringtones incoming calls

Auto answer incoming calls

Proxies

	Priority	Weight	URI
Proxy 1	<input type="text" value="1"/>	<input type="text" value="100"/>	<input type="text" value="http://www.telnic.com"/>
Proxy 2	<input type="text" value="2"/>	<input type="text" value="100"/>	<input type="text"/>
Proxy 3	<input type="text" value="3"/>	<input type="text" value="100"/>	<input type="text"/>
Proxy 4	<input type="text" value="4"/>	<input type="text" value="100"/>	<input type="text"/>

Figure 3. SIP Configuration 1

Authentication	
Default user	<input type="text"/>
Default password	<input type="text"/>
Realm	<input type="text"/>
DTMF signalling	
Send as RTP (rfc2833)	<input checked="" type="checkbox"/>
Offered rfc2833 payload type	<input type="text" value="101"/>
Send as SIP INFO	<input type="checkbox"/>
Tone duration(msec) *	<input type="text" value="270"/>
Message waiting indication	
Enable indication	<input checked="" type="checkbox"/>
Enable subscription	<input type="checkbox"/>
Subscription expire(sec) *	<input type="text" value="3600"/>
Media	
Packet duration(msec) *	<input type="text" value="20"/> ▾
Media type of service (TOS/Diffserv) *	<input type="text" value="184"/>
Media 802.1p Class-of-Service *	<input type="text" value="5"/>
Port range start *	<input type="text" value="58000"/>
Codec priority *	1: <input type="text" value="G729/8000"/> ▾
	2: <input type="text" value="PCMU/8000"/> ▾
	3: <input type="text" value="PCMA/8000"/> ▾
	4: <input type="text" value="None"/> ▾
	5: <input type="text" value="None"/> ▾
	6: <input type="text" value="None"/> ▾
Add G729A media type for G.729 codec	<input type="checkbox"/>
SDP answer with preferred codec	<input type="checkbox"/>
SDP answer with a single codec	<input type="checkbox"/>
Ignore SDP version	<input type="checkbox"/>
Enable media encryption (SRTP)	<input type="checkbox"/>
Require media encryption (SRTP)	<input type="checkbox"/>
Include lifetime in SDES offers	<input type="checkbox"/>
Include MKI in SDES offers	<input type="checkbox"/>
Enable ICE	<input type="checkbox"/>
Enable TURN	<input type="checkbox"/>
TURN server	<input type="text"/>
TURN username	<input type="text"/>
TURN password	<input type="text"/>
Call status	
Play on-hold tone	<input checked="" type="checkbox"/>
Provide Music-on-Hold	<input type="checkbox"/>
Display status messages	<input type="checkbox"/>
# key ends overlap dialing	<input type="checkbox"/>
Call waiting	<input checked="" type="checkbox"/>
Allow automatic offhook	<input type="checkbox"/>

Figure 4. SIP Configuration 2.

4.3 Subscriber Level Configuration

This section identifies the device-specific parameters, including registration and authentication. These settings must be unique across devices to be matched with the settings for a Cisco BroadWorks SIP trunk or subscriber. SIP Registration requires that a unique address of record (AoR) be provisioned on Cisco BroadWorks and the device.

To configure a user's subscription on the device, we go to *Users* → *List Users* (Figure 5. User List) and select "New".

User List			
Overview			
System ARI			10046555770
	SIP users	Subscribed	Registered
Total	4	3	1
<input type="button" value="New"/> <input type="button" value="Enable"/> <input type="button" value="Disable"/> <input type="button" value="Delete"/> <input type="button" value="Re-register"/> <input type="button" value="Un-subscribe"/> <input type="button" value="Firmware update"/>			

Figure 5 User List.

In the "New User" page, the fields must be filled out as described (Figure 6. New User).

DECT device

- IPEI: The IPEI number from the handset assigned to this user. *

*Before adding a new user, a headset must be subscribed to IP-DECT Server through the headset's IPEI Number (International Portable Equipment Identifier). For those details, see the *Spectralink IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide [1]* supplied by Spectralink.

SIP

- Username/Extension: The register user ID must correspond with the line/port setting on BroadWorks.
- Displayname: The name to be displayed (caller ID) at other SIP devices, for example, User 1 in User 1<1234566@somecompany.com.
- Authentication user / Authentication password: If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.

Note that the password can be saved as hashed value as well.

User

DECT device

Product name

Model number

Software part number

Firmware

IPEI

Access code

User

Standby text

DECT to DECT

Disabled

Phone Language Default ▼

SIP

Username / Extension *

Secondary username

Domain

Displayname

Authentication user

Authentication password

Features

Call forward unconditional

Admin rights

Figure 6. New User

4.4 SIP Advanced Feature Configuration

SIP Advance Feature Configuration is not supported

4.5 Xtended Services Interface (XSI) Feature Configuration

XSI Services Interface Feature is not supported.

4.6 Instant Message and Presence Configuration

Instant Message and Presence is not supported.

5 Device Management

The Cisco BroadWorks Device Management feature provides the capability to automate generation of device configuration files to support mass deployment of devices.

The Spectralink IP-DECT Server Device Management capabilities were not tested for this release.

5.1 Device Management Capabilities Supported

The Cisco BroadWorks test plan is composed of packages, each covering distinct interoperability areas. Each package is composed of one or more test items, which in turn, are composed of one or more test cases. The test plan exercises the Device Management interface between the device and Cisco BroadWorks with the intent to ensure interoperability.

The *Supported* column in the following table identifies the Spectralink IP-DECT Server Series's support for each of the items covered in the test plan packages, with the following designations:

- Yes Test item is supported.
- No Test item is not supported.
- NA Test item is not applicable.
- NT Test item was not tested.

Caveats and clarifications are identified in the *Comments* column.

NOTE: *DUT* in the following table refers to the *Device Under Test*, which in this case is the Spectralink IP-DECT Server Series.

Cisco BroadWorks Device Management Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
HTTP File Download	HTTP Download Using XSP IP Address	NT	
	HTTP Download Using XSP FQDN	NT	
	HTTP Download Using XSP Cluster FQDN	NT	
	HTTP Download with Double Slash	NT	
HTTPS File Download	HTTPS Download Using XSP FQDN	NT	
	HTTPS Download Using XSP Cluster FQDN	NT	
HTTPS File Download with Client Authentication	HTTPS Download with Client Authentication Using XSP FQDN	NT	
	HTTPS Download with Client Authentication Using XSP Cluster FQDN	NT	

Time Zone Mapping	Inspect Time Zone Setting	NT	
Language Mapping	Inspect Language Setting	NT	
File Inspection	Inspect System Config File	NT	
	Inspect Device-Specific Config File	NT	
	Inspect Other Config Files	NT	
	Inspect Static Files	NT	
Device Inspection	Inspect SIP Settings	NT	
	Inspect Line Settings	NT	
	Inspect Service Settings	NT	
HTTP File Upload	HTTP Upload Using XSP IP Address	NT	
	HTTP Upload Using XSP FQDN	NT	
	HTTP Upload Using XSP Cluster FQDN	NT	
Call Processing Sanity Tests	Register with Authentication	NT	
	Call Origination	NT	
	Call Termination	NT	
	Remote Restart	NT	
	Shared Line Origination	NT	
	Shared Line Termination	NT	
	Shared Line Status	NT	
	Busy Lamp Field	NT	
	Network-Based Conference	NT	
Flexible Seating	Association via Voice Portal	NT	
	Association via Phone	NT	
No Touch Provisioning	Provision via DHCP Options Field	NT	
	No Touch Provision via DM redirect	NT	
	No Touch Provision via Vendor redirect	NT	

5.2 Device Management Configuration

The Spectralink IP-DECT Server Device Management capabilities were not tested for this release.

References

- [1] Spectralink, Inc. 2014. Spectralink IP-DECT Server 200/400/6500 and Virtual IP-DECT Server One Installation and Configuration Guide at support.spectralink.com.
- [2] Cisco Systems, Inc. 2018. *Cisco BroadWorks Redundancy Guide, Release 23.0*. Available from Cisco at <https://solutionpartner.cisco.com/site/index.gsp>.
- [3] Cisco Systems, Inc. 2018. *Cisco BroadWorks SIP Phone Interoperability Test Plan, Release 24.0*. Available from Cisco at <https://solutionpartner.cisco.com/site/index.gsp>.