Cisco SIP Phone Feature Support Matrix

May 2018

Document Revision History

Version	Reason for Change	Date	Author
1	Introduced document.	March 2018	Wesley Hacker
1.1	Edited and published document.	March 2018	Steven Bunch
1.2	Updated to include 3PCC XSI testing	May 2018	Steven Bunch

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1   Overview

This document provides feature support matrices for SIP phones as validated during interoperability testing with BroadWorks and UC-One Carrier. For each feature in a matrix, there are one or more associated test cases in the BroadWorks and UC-One Carrier interoperability test plans that the phone must pass to demonstrate support for the feature. Supported features are designated by a "✓" in the matrix.

Features are shown in separate matrices for the following categories:

- SIP Basic Features

- SIP Advanced Features

- Device Management Features

- Xsi and IM&P Features

The matrices can be used as a quick reference guide to a phone's capabilities and for comparison to other phones. For detailed capabilities, versions tested, known issues, and configuration, see the phone's associated BroadSoft Partner Configuration Guide available on xchange.broadsoft. If you have trouble with the Xchange link, copy and paste it into a web browser.

The SIP phones identified in this document are also listed in the *BroadSoft Partner Equipment Interoperability Summary* [1]. The interoperability summary provides a complete list of partner equipment that has been formally validated through BroadSoft's interoperability program. To be identified in this document, the phone must be validated against BroadWorks Release 17.sp4 or later and be identified in one of the following interoperability summary document categories:

- Desktop Phone – Advanced Feature

- Desktop Phone – Basic Feature

- Desktop Phone – Video

- Desktop Phone – Hospitality

The following are guidelines for using the matrices:

- The matrix content for a particular phone is based on the most recent interoperability testing, so that it reflects the capabilities of the firmware version tested. If there is more recent firmware, it is possible that capabilities have been added or changed that are not reflected in the matrix.

- The matrices capture support for interface capabilities, where the interface is SIP, Xsi, HTTP, or XMPP. They do not capture phone capabilities or BroadWorks services that do not specifically impact the interfaces or are outside the scope of interoperability testing.

- The capabilities of some phone models within a model series may vary. For example, some models may support video and some may not. The matrices show a feature as supported if at least one model in the series supports the feature. To verify any differences between the models, see the associated Partner Configuration Guide.

- A "✓" in a matrix indicates that the phone supports all or most aspects of the feature. To verify if there are any aspects of the feature that are not supported, see the associated Partner Configuration Guide.

2 SIP Basic Features

This section identifies phone support for SIP features identified as "basic". Basic features are commonly supported by endpoints that are conformant to *RFC 3261* and other RFCs. Support for each feature is verified with test cases in the *BroadSoft SIP Phone Interoperability Test Plan* [2] and the UC-One Carrier SIP Phone Test Cases.

Table 1 lists each of the SIP basic features, identifies the associated test plan sections, and describes the requirement(s) the phone must meet in order to support the feature. *Table 2* provides a matrix of phones-to-features, with a "✓" indicating that the phone supports all or most aspects of the feature. Select the vendor name to link to the vendor's website. Select the model series to link to the associated BroadSoft Partner Configuration Guide available on BroadSoft Xchange. If you have trouble with the Xchange link, copy and paste it into a web browser.

Table 1 Basic SIP Feature Descriptions

Basic SIP Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
Codec Negotiation/Renegotiation	Basic – Codec Negotiation / Renegotiation	Requires support for re-INVITE without SDP, initial SDP with hold media, and SDP renegotiation scenarios.
SIP Authentication	DUT Services – Registration and Authentication	Requires the device to supply SIP authentication credentials for the following SIP requests: REGISTER, INVITE, re-INVITE, UPDATE, and REFER.
Call Waiting	DUT Services – Call Control Services	Requires support for answering a second incoming call while putting the first call on hold and toggling between the two calls.
Call Hold	DUT Services – Call Control Services	Requires support for holding and resuming an active call (conforming to the *RFC 3264* specification).
Call Transfer	DUT Services – Call Control Services	Requires support for attended and blind transfer scenarios using the SIP REFER method.
Three-Way Local Conference	DUT Services – Call Control Services	Requires support for mixing an ad hoc 3-way conference locally.
N-Way Network Conference	DUT Services – Call Control Services	Requires support for integration with BroadWorks for ad hoc 3-way and N-way conferences mixed in the network as specified by *RFC 4579*.
Third-Party Call Control – Basic	BroadWorks Services – Third-Party Call Control	Requires support for click-to-dial and click-to-hold scenarios through INVITE and re-INVITE requests sent by BroadWorks.

Basic SIP Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
Third-Party Call Control – Advanced	BroadWorks Services – Third-Party Call Control	Requires support for integrated click-to-dial, click-to-answer, and click-to-hold scenarios through support of answer-after=0 and support of SIP NOTIFY with talk and hold events sent by BroadWorks triggering the device to send *200 OK* or re-INVITE.
Call Decline Policy	BroadWorks Services – Call Decline Policy	Requires support for the ability to decline the call and send a SIP *486 Busy* response.
Calling Line ID	BroadWorks Services – Calling and Connected Line ID	Requires support for handling and displaying of received calling name and number and received anonymous caller ID.
Calling Line ID with Unicode	BroadWorks Services – Calling and Connected Line ID	Requires support for handling and displaying of received calling name and number containing Unicode characters.
Connected Line ID	BroadWorks Services – Calling and Connected Line ID	Requires support for calling party phone display of the called party's connected line ID or anonymous ID received in a SIP *18x* message.
Distinctive Ring	BroadWorks Services – Advanced Alerting	Requires support for distinctive ring tone signaled through the SIP *Alert-Info* header. Includes support for the BroadWorks Priority Alerting and Alternate Numbers services.
Distinctive Call Waiting Tone	BroadWorks Services – Advanced Alerting	Requires support for distinctive call waiting tone signaled through the SIP *Alert-Info* header. Includes support for the BroadWorks Priority Alerting and Alternate Numbers services.
Ring Splash	BroadWorks Services – Advanced Alerting	Requires support for ring splash signaled through the SIP *Alert-Info* header.
Silent Alerting	BroadWorks Services – Advanced Alerting	Requires support for silent ring signaled through the SIP *Alert-Info* header.
Message Waiting Indicator – Unsolicited	BroadWorks Services – Voice Messaging	Requires support for Message Waiting Indicator signaled by unsolicited SIP NOTIFY.
Message Waiting Indicator – Solicited	BroadWorks Services – Voice Messaging	Requires support for Message Waiting Indicator signaled by solicited SIP NOTIFY in which the device sends SIP SUBSCRIBE for the message-summary event.
Message Waiting Indicator – Detailed	BroadWorks Services – Voice Messaging	Requires support for displaying detailed message summary information including message waiting count and saved and urgent status.
Advice of Charge	BroadWorks Services – Advice of Charge	Requires support for handling SIP INFO messages containing current charge data and for displaying the information to the user.
Operator Controlled Emergency Call	DUT Services – Emergency Call	Requires support for North American emergency calling implementation which allows for the emergency operator to identify and communicate with the caller. Includes network hold, ringback, forced disconnect, and howler tone.

Basic SIP Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
P-Access-Network-Info Header	DUT Services – P-Access-Network-Info Header	Requires support for providing the P-Access-Network-Info (PANI) header, per RFC 3455, in REGISTER and INVITE requests.
Session Audit	Basic – Session Audit	Requires support for the BroadWorks Session Audit feature which uses re-INVITE or UPDATE to periodically poll the device during an active call.
Session Timer	Basic – Session Timer	Requires support for SIP Session Timers as specified in *RFC 4028*.
Remote Restart	DUT Services – Miscellaneous Features	Requires support for device restart when a SIP NOTIFY containing check-sync or resync event is received.
Failover/Failback	Redundancy and SBC/ALG	Requires support for failover/failback scenarios for SIP REGISTER, INVITE, BYE, and mid-call requests. Requires support for outbound proxy and failover to alternate outbound proxy address.
Video – Peer-to-Peer	Video – Basic Video Calls	Requires support for basic video calls through BroadWorks to another endpoint. Includes support for holds, transfers, and other call control scenarios with video.
Video – Services	Video – BroadWorks Video Services	Requires support for BroadWorks video services including video Auto Attendant, video Voice Messaging, and video Custom Ringback.
Video – Conference	Video – BroadWorks Video Conference	Requires support for BroadWorks video conference scenarios including ad hoc network-based conferences and Meet-Me conferences.
Video – WebRTC	Video – BroadWorks WebRTC Client	Requires support for calls to/from BroadWorks WebRTC client.
IPV6	IPV6	Requires support for SIP over IPV6.

Table 2 Basic SIP Feature Matrix

Vendor	Model Series (Link to PCG)	Codec Negotiation/Renegotiation	SIP Authentication	Call Waiting	Call Hold	Call Transfer	Three-Way Local Conference	N-Way Network-Based Conference	Third Party Call Control – Basic	Third Party Call Control – Advanced	Call Decline Policy	Calling Line ID	Calling Line ID with Unicode	Connected Line ID	Distinctive Ring	Distinctive Call Waiting Tone	Ring Splash	Silent Alerting	Message Waiting Indicator – Unsolicited	Message Waiting Indicator – Solicited	Message Waiting Indicator – Detailed	Advice of Charge	Operator Controlled Emergency Call	P-Access-Network-Info Header	Session Audit	Session Timer	Remote Restart	Failover/Failback	Video – Peer-to-Peer	Video – Services	Video – Conference	Video0 – WebRTC	IPV6
Cisco	CP-68xx-3PCC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						✓		✓	✓					✓
Cisco	CP-78xx-3PCC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						✓		✓	✓					✓
Cisco	CP-88xx-3PCC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						✓		✓	✓	✓	✓	✓	✓	✓
Cisco	SPA-5xx	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓						✓		✓	✓					

3   SIP Advanced Features

This section identifies phone support for SIP features identified as "advanced". Advanced features require integration with BroadWorks and UC-One Carrier to deliver additional capabilities over SIP. Support for each feature is verified with test cases in the *BroadSoft SIP Phone Interoperability Test Plan* [2] and the UC-One Carrier SIP Phone Test Cases.

Table 3 lists each of the SIP advanced features, identifies the associated test plan sections, and describes the requirement(s) the phone must meet to support the feature. *Table 4* provides a matrix of phones-to-features, with a "✓" indicating the phone supports all or most aspects of the feature. Select the vendor name to link to the vendor's website. Select the model series to link to the associated BroadSoft Partner Configuration Guide available on xchange.broadsoft. If you have trouble with the Xchange link, copy and paste it into a web browser.

Table 3 Advanced SIP Feature Descriptions

Advanced SIP Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
Busy Lamp Field	Advanced Phone Services – Busy Lamp Field	Requires support for Busy Lamp Field implementation via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks Busy Lamp Field Interface Specification* [6].
Feature Key Sync – Do Not Disturb	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Do Not Disturb service setting between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Feature Key Sync – Call Forward	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Call Forward Always, Call Forward No Answer, and Call Forward Busy services settings between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Feature Key Sync – Agent Logon/Logoff	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Call Center Agent Logon/Logoff service setting between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Feature Key Sync – Agent Unavailable Code	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Call Center Agent Unavailable Code service setting between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].

Advanced SIP Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
Feature Key Sync – Executive	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Executive call filtering service setting between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Feature Key Sync – Executive Assistant	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Executive Assistant service settings between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Feature Key Sync – Call Recording	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Call Recording mode service setting between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Feature Key Sync – Security Classification	Advanced Phone Services – Feature Key Synchronization, Private Line	Requires support for synchronization of the Security Classification service settings between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Feature Key Sync – Shared Line	Advanced Phone Services – Feature Key Synchronization, Shared Line	Requires support for feature key synchronization of the supported services on a shared line as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Missed Calls Display Sync	Advanced Phone Services – Missed Calls Display Synchronization	Requires support for synchronization of Missed Calls between the phone's call logs and the BroadWorks call logs via support for *Call completed elsewhere* reason code in the SIP CANCEL request as specified in *RFC 3326*.
Call Park Notification	Advanced Phone Services – Call Park Notification	Requires support for visual indication of a parked call via SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Shared Call Appearance (SCA)	Advanced Phone Services – Shared Call Appearance	Requires support for Shared Call Appearance Line-Seize and Call-Info events as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
SCA – Private Hold	Advanced Phone Services – Shared Call Appearance	Requires support for privately holding a call on a shared line via implementation of the *Call-Info* header with *appearance-state=held-private* as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5]. A privately held call cannot be retrieved at another shared line.

Advanced SIP Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
SCA – Public Hold	Advanced Phone Services – Shared Call Appearance	Requires support for publicly holding a call on a shared line as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5]. A publicly held call can be retrieved at another shared line.
SCA – Hybrid Key System	Advanced Phone Services – Shared Call Appearance	Requires support for hybrid key system emulation via Shared Call Appearance. This requires support for Shared Call Appearance Line-Seize and Call-Info events as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5]; three or more line keys on the phone, capability for assigning multiple line keys to a single registering line on the phone, and the capability to limit each line key to a single call appearance or provide the configurability to roll a new call over to the next free line key.
SCA – Multiple Call Arrangement	Advanced Phone Services – Shared Call Appearance	Requires support the Multiple Call Arrangement service which allows the phone to seize a line with an active call in order to make or receive another call. This requires support for Shared Call Appearance Line-Seize events as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5] and the capability to allow a line-seize attempt on a shared line in use by another endpoint.
SCA – Bridging	Advanced Phone Services – Shared Call Appearance	Requires support for barging in to a call active on another Shared Call Appearance via implementation of SCA Bridging as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
SCA – Bridging, Silent Monitor	Advanced Phone Services – Shared Call Appearance	Requires support for barging in silently (party barging in cannot be heard) to a call active on another Shared Call Appearance via implementation of SCA Bridging as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
SCA – Call Park Notification	Advanced Phone Services – Shared Call Appearance	Requires support for visual indication of a parked call a shared line via Call-Info SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Call Center – Hold Reminder	Advanced Phone Services – Call Center	Requires support for receiving a hold reminder ring splash INVITE sent to a Call Center agent and not identifying the call as a missed call by observation of *ring splash* in the *Reason* header of the CANCEL request.
Call Center – Call Information	Advanced Phone Services – Call Center	Requires support for Call Center call information (call center name, wait time, number of calls in queue, and longest wait time) delivered in a MIME body of the SIP INVITE and displayed on the phone.
Call Center – Hoteling Event	Advanced Phone Services – Call Center	Requires support for Hoteling Guest login/logout synchronization between the phone and BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Call Center – Status Event	Advanced Phone Services – Call Center	Requires support for receive and display of Call Center status information (call centers joined, and empty, normal, or threshold exceeded status for each) from BroadWorks via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].

Advanced SIP Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
Call Center – Disposition Code	Advanced Phone Services – Call Center	Requires support for sending a call Disposition Code during a call via SIP INFO and at wrap-up via SIP INVITE.
Call Center – Emergency Escalation	Advanced Phone Services – Call Center	Requires support for sending an escalation to supervisor request during a call via SIP INFO.
Call Center – Customer Originated Trace	Advanced Phone Services – Call Center	Requires support for sending a customer-originated trace request during a call via SIP INFO and after a call via SIP INVITE.
Call Recording Controls	Advanced Phone Services – Call Recording	Requires support for use of the *recordpref* SDP attribute for start, stop, pause, and resume call recording control from the phone as specified in the *BroadWorks Call Recording Interface Guide* [8].
Call Recording – Video	Advanced Phone Services – Call Recording	Requires support for SDP attributes to enable call recording for video in addition to audio as specified in the *BroadWorks Call Recording Interface Guide* [8]
Security Classification	Advanced Phone Services – Security Classification	Requires support for sending the *Recv-Info* header to indicate support for security classification. Requires support for receiving the security classification level via SIP INFO and displaying the level on the phone. Both requirements are specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].
Conference Event	Advanced Phone Services – Conference Event	Requires support for conference controls including listing and dropping participants via SIP SUBSCRIBE/NOTIFY mechanism as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5].

Table 4 Advanced SIP Feature Matrix

Vendor	Model Series (Link to PCG)	Advanced SIP Feature Support																														
		Busy Lamp Field	Feature Key Sync – Do Not Disturb	Feature Key Sync – Call Forward	Feature Key Sync – Agent Logon/Logoff	Feature Key Sync – Agent Unavailable	Feature Key Sync – Executive	Feature Key Sync – Executive Assistant	Feature Key Sync – Call Recording	Feature Key Sync – Security Classification	Feature Key Sync – Shared Line	Missed Calls Display Sync	Call Park Notification	Shared Call Appearance (SCA)	SCA – Private Hold	SCA – Public Hold	SCA – Hybrid Key System	SCA – Multiple Call Arrangement	SCA – Bridging	SCA – Bridging, Silent Monitor	SCA – Call Park Notification	Call Center – Hold Reminder	Call Center – Call Information	Call Center – Hoteling Event	Call Center – Status Event	Call Center – Disposition Code	Call Center – Emergency Escalation	Call Center – Customer Originated Trace	Call Recording Controls	Call Recording – Video	Security Classification	Conference Event
Cisco	CP-68xx-3PCC	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Cisco	CP-78xx-3PCC	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Cisco	CP-88xx-3PCC	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Cisco	SPA-5xx	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓								

4 Device Management Features

This section identifies phone support for BroadWorks UC-One Carrier Device Management features. Support for each feature is verified with test cases in the *BroadSoft Device Management Test Plan* [3] and the UC-One Carrier SIP Phone Test Cases.

Table 5 lists each of the Device Management features, identifies the associated test plan sections, and describes the requirement(s) the phone must meet to support each feature.

Table 6 provides a matrix of phones-to-features, with a "✓" indicating that the phone supports all or most aspects of the feature. Select the vendor name to link to the vendor's website. Select the model series to link to the associated BroadSoft Partner Configuration Guide available on xchange.broadsoft. If the phone has implemented Device Management support, a CPE kit specific to the phone model series can be downloaded from BroadSoft Xchange here. If you have trouble with the Xchange link, copy and paste it into a web browser.

Table 5 Device Management Feature Descriptions

Device Management Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
HTTP Download	HTTP File Download	Requires support for device configuration file download from the BroadWorks Device Management server via HTTP.
HTTPS Download	HTTPS File Download	Requires support for device configuration file from BroadWorks Device Management server download via HTTPS.
HTTPS Download	HTTPS File Download with Client Authentication	Requires support for HTTPS download using a secure method of authentication in which the server authenticates the client using the client's public key certificate (PKC).
HTTP Upload	HTTP File Upload	Requires support for device debug file upload to the BroadWorks Device Management server via HTTPS.
Time Zone Mapping	Device Inspection	Requires support for time zone identifier mapping between the device and BroadWorks.
Language Mapping	Device Inspection	Requires support for language identifier mapping between the device and BroadWorks.
Flexible Seating – Via Portal	Flexible Seating	Requires support for the BroadWorks Flexible Seating feature mode in which the guest association to a host is performed through the BroadWorks web or voice portal.
Flexible Seating – Via Phone	Flexible Seating	Requires support for the BroadWorks Flexible Seating feature mode in which the guest association to a host is performed through the BroadWorks web or voice portal. Requires support for Hoteling Event as specified in the *BroadWorks SIP Access Side Extensions Interface Specification Guide* [5]. Requires support for Device Management Flexible Seating tags.
No Touch – Using DHCP Options	No Touch Provisioning	Requires support for using a DHCP options field, typically 43 or 66 to obtain the provisioning URI.

Device Management Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
No Touch – BroadWorks Device Management Redirect	No Touch Provisioning	Requires support for requesting a default configuration file via BroadWorks Device Management and redirecting to a model-specific URL identified in the default configuration file.
No Touch – Vendor-Hosted Redirect Server	No Touch Provisioning	Requires support for requesting a default configuration file via vendor-hosted redirect server and redirecting to the BroadWorks Device Management URL identified in the default configuration file.

Table 6 Device Management Feature Matrix

Device Management Feature Matrix													
Vendor	**Model Series (Link to PCG)**	**Device Management Feature Support**											
		HTTP Download	HTTPS Download	HTTPS Download with Client Authentication	HTTP Upload	Time Zone Mapping	Language Mapping	Flexible Seating – via Portal	Flexible Seating – via Phone	No Touch – Using DHCP Options	No Touch – BroadWorks DM Redirect	No Touch – Vendor-Hosted Redirect Server
Cisco	CP-68xx-3PCC	✓	✓			✓	✓	✓		✓		✓
Cisco	CP-78xx-3PCC	✓	✓			✓	✓	✓		✓		✓
Cisco	CP-88xx-3PCC	✓	✓			✓	✓	✓		✓		✓
Cisco	SPA-5xx	✓				✓	✓			✓		✓

5 Xsi and IM&P Features

This section identifies phone support for Xsi and IM&P capabilities. Support for each feature is verified with test cases in the *BroadSoft SIP Phone Functional Test Plan* [4].

Table 7 lists each of the Device Management features, identifies the associated test plan sections, and describes the requirement(s) the phone must meet in order to support each feature. *Table 8* provides a matrix of phones-to-features, with a "✓" indicating that the phone supports all or most aspects of the feature. Select the vendor name to link to the vendor's website. Select the model series to link to the associated BroadSoft Partner Configuration Guide available on BroadSoft Xchange. If you have trouble with the Xchange link, copy and paste it into a web browser.

Table 7 Xsi and IM&P Feature Descriptions

<table>
<tr><th colspan="3">Xsi and IM&P Feature Descriptions</th></tr>
<tr><th>Feature</th><th>Test Plan Section</th><th>Requirements Description</th></tr>
<tr><td>Xsi Authentication – SIP Credentials</td><td>Xsi Authentication</td><td>Requires support for using SIP credentials to authenticate the Xsi login. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Authentication – User Credentials</td><td>Xsi Authentication</td><td>Requires support for using user login credentials to authenticate the Xsi login. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Authentication – Directory Number</td><td>Xsi Authentication</td><td>Requires support for using the user's phone number and voice portal passcode to authenticate the Xsi login. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Services – Remote Office</td><td>Xsi Services</td><td>Requires support for setting, retrieving, and displaying the BroadWorks user's Remote Office service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Services – BroadWorks Anywhere</td><td>Xsi Services</td><td>Requires support for setting, retrieving, and displaying the BroadWorks user's BroadWorks Anywhere service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Services – Simultaneous Ring</td><td>Xsi Services</td><td>Requires support for setting, retrieving, and displaying the BroadWorks user's Simultaneous Ring service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Services – Caller ID Blocking</td><td>Xsi Services</td><td>Requires support for setting, retrieving, and displaying the BroadWorks user's Caller ID Blocking service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Services – Call Forwarding Always</td><td>Xsi Services</td><td>Requires support for setting, retrieving, and displaying the BroadWorks user's Call Forwarding Always service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
<tr><td>Xsi Services – Call Forwarding Busy</td><td>Xsi Services</td><td>Requires support for setting, retrieving, and displaying the BroadWorks user's Call Forwarding Busy service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].</td></tr>
</table>

Xsi and IM&P Feature Descriptions		
Feature	**Test Plan Section**	**Requirements Description**
Xsi Services – Call Forwarding No Answer	Xsi Services	Requires support for setting, retrieving, and displaying the BroadWorks user's Call Forwarding No Answer service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Services – Do Not Disturb	Xsi Services	Requires support for setting, retrieving, and displaying the BroadWorks user's Do Not Disturb service settings via Xsi. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Directories – Enterprise	Xsi Directories	Requires Xsi support for retrieving, displaying, searching, and dialing from the BroadWorks user's enterprise name and number phone directory. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Directories – Group	Xsi Directories	Requires Xsi support for retrieving, displaying, searching, and dialing from the BroadWorks user's group name and number phone directory. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Directories – Personal	Xsi Directories	Requires Xsi support for retrieving, displaying, searching, and dialing from the BroadWorks user's personal name and number phone directory. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Call Logs – Placed Calls	Xsi Call Logs	Requires Xsi support for retrieving, displaying, and dialing from the BroadWorks user's placed call logs. The call log display includes called party name and number as well as the date/time of the call. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Call Logs – Received Calls	Xsi Call Logs	Requires Xsi support for retrieving, displaying, and dialing from the BroadWorks user's received call logs. The call log display includes calling party name and number as well as the date/time of the call. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Call Logs – Missed Calls	Xsi Call Logs	Requires Xsi support for retrieving, displaying, and dialing from the BroadWorks user's missed call logs. The call log display includes calling party name and number as well as the date/time of the call. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Visual Voice Mail – List Messages	Xsi Visual Voice Mail	Requires Xsi support for retrieving and displaying the BroadWorks user's voice messages. Displayed message content includes from, timestamp, duration, and read status. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Visual Voice Mail – Audio Message	Xsi Visual Voice Mail	Requires Xsi support for selecting, downloading, and playing the BroadWorks user's audio voice messages. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Visual Voice Mail – Video Message	Xsi Visual Voice Mail	Requires Xsi support for selecting, downloading, and playing the BroadWorks user's video voice messages. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Visual Voice Mail – Mark Message Read	Xsi Visual Voice Mail	Requires Xsi support for marking a BroadWorks user's voice message as read. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].

Xsi and IM&P Feature Descriptions

Feature	Test Plan Section	Requirements Description
Xsi Visual Voice Mail – Delete Message	Xsi Visual Voice Mail	Requires Xsi support for deleting a BroadWorks user's voice message. For more information, see the *BroadWorks Xtended Services Interface – Interface Specification* [9].
Xsi Push Notification	Xsi Push Notification	Requires Xsi support for integration with BroadWorks for push notifications received from Apple Push Notification Service (APNS) and Google Cloud Messaging (GCM) for incoming call, ring splash, call update, and message waiting indicator.
IM&P Buddy List – Contacts	IM&P Buddy List	Requires XMPP support for retrieving, displaying, and dialing buddy list contacts.
IM&P Buddy List – Favorites	IM&P Buddy List	Requires XMPP support for retrieving, displaying, and dialing buddy list contacts.
IM&P Buddy List – Groups	IM&P Buddy List	Requires XMPP support for retrieving, displaying, and dialing buddy list groups and the contacts within the groups.
IM&P Buddy List – Conferences	IM&P Buddy List	Requires XMPP support for retrieving, displaying, and dialing buddy list conferences.
IM&P Presence – Login Invisible	IM&P Presence	Requires XMPP support for logging in without publishing presence state (login invisible).
IM&P Presence – Presence State	IM&P Presence	Requires XMPP support for displaying the user's presence state (examples: Available and Busy).
IM&P Presence – Presence Status	IM&P Presence	Requires XMPP support for displaying the user's presence status (example: working from home).
IM&P Presence – Contact's Presence State	IM&P Presence	Requires XMPP support for displaying each contact's presence state.

Table 8 Xsi and IM&P Feature Matrix

Vendor	Model Series (Link to PCG)	Xsi Auth — SIP Credentials	Xsi Auth — User Credentials	Xsi Auth — Directory Number	Xsi Svc — Remote Office	Xsi Svc — BroadWorks Anywhere	Xsi Svc — Simultaneous Ring	Xsi Svc — Caller ID Blocking	Xsi Svc — Call Forwarding Always	Xsi Svc — Call Forwarding Busy	Xsi Svc — Call Forwarding No Answer	Xsi Svc — Do Not Disturb	Xsi Dir — Enterprise	Xsi Dir — Group	Xsi Dir — Personal	Xsi Call Logs — Placed Calls	Xsi Call Logs — Received Calls	Xsi Call Logs — Missed Calls	Xsi VVM — List Messages	Xsi VVM — Audio Message	Xsi VVM — Video Message	Xsi VVM — Mark Message Read	Xsi VVM — Delete Message	Xsi Push Notification	IM&P Buddy List — Contacts	IM&P Buddy List — Favorites	IM&P Buddy List — Groups	IM&P Buddy List — Conferences	IM&P Presence — Login Invisible	IM&P Presence — Presence State	IM&P Presence — Presence Status	IM&P Presence — Contact's Presence State
Cisco	CP-68xx-3PCC												✔	✔	✔	✔	✔	✔														
Cisco	CP-78xx-3PCC												✔	✔	✔	✔	✔	✔														
Cisco	CP-88xx-3PCC												✔	✔	✔	✔	✔	✔														
Cisco	SPA-5xxG																															

Acronyms and Abbreviations

ALG	Application Layer Gateway
APNS	Apple Push Notification Service
CPE	Customer Premises Equipment
DHCP	Dynamic Host Configuration Protocol
DM	Device Management
DUT	Device Under Test
GCM	Google Cloud Messaging
HTTPS	Hypertext Transfer Protocol Secure Sockets
IM&P	Instant Messaging and Presence
PANI	P-Access-Network-Info
PCG	Partner Configuration Guide
PKC	Public Key Certificate
RFC	Request for Comments
SBC	Session Border Controller
SCA	Shared Call Appearance
SDP	Session Description Protocol
SIP	Session Initiation Protocol
UC	Unified Communications
WebRTC	Web Real-Time Communication
XMPP	Extensible Messaging and Presence Protocol
Xsi	Xtended Services Interface

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