

Cisco BroadWorks

Partner Configuration Guide

Avaya J100

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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
1.1	Introduced document for Avaya J129 IP Phone version 1.1.0.0.10 validation with Cisco BroadWorks Release 21.sp1.
1.2	Added Avaya J129 IP Phone configuration details.
1.3	Edited and published document.
1.4	Added Avaya J169 and J179 at software release 2.0.0.0.45 as supported models.
1.5	Edited changes and published document.
1.6	Updated the document for Avaya J100 version 4.0.0.0.18 validation with Cisco BroadWorks Release 22.0. Updated section <u>5 Device Management</u> .
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1.8	Updated the version for CPE kit to 4.0.0.0.18.
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1.10	Updated section 5 Device Management for 4.0.0.0.18.
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1.12	Updated the document for Avaya J100 version 4.0.4.0.10 validation with Cisco BroadWorks Release 22.0.
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1 Overview

This guide describes the configuration procedures required for the Avaya J100 Series IP Phone for interoperability with Cisco BroadWorks. This includes the following models.

- J129
- J139
- J159
- J169
- J179

The J100 is a desktop phone that uses the Session Initiation Protocol (SIP) to communicate with Cisco BroadWorks for call control.

This guide describes the specific configuration items that are important for use with Cisco BroadWorks. It does not describe the purpose and use of all configuration items on the J100. For those details, see the *Installing and Administering Avaya J100 IP Phone in Third-Party Call Control Setup* [1] supplied by Avaya.

2 Interoperability Status

This section provides the known interoperability status of the Avaya J100 IP Phone 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 Avaya.

2.1 Verified Versions

The following table identifies the verified Avaya J100 IP Phone 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 J100 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 Avaya.

Verified Versions					
Date (mm/yyyy)	Cisco BroadWorks Release	J100 Verified Version	J100 Compatible Versions		
04/2020	Release 22.0	4.0.4.0.10	Any maintenance release of validated version.		
03/2019	Release 22.0	4.0.0.0.18	Any maintenance release of validated version.		
04/2017	Release 21.sp1	J129 at 1.1.0.0.10	2.0.0.45.		

2.2 Interface Capabilities Supported

This section identifies interface capabilities that have been verified through testing as supported by Avaya J100 IP Phone.

The *Supported* column in the tables in this section identifies the Avaya J100's 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 Avaya J100 IP Phone has completed interoperability testing with Cisco BroadWorks using the Cisco BroadWorks SIP Phone Interoperability Test Plan [5]. 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 Avaya J100 IP Phone.

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table					
Test Plan Package	Test Plan Package Items	Supported	Comments		
Basic	Call Origination	Yes			
	Call Termination	Yes			
	Session Audit	Yes			
	Session Timer	No			
	Ringback	Yes			
	Forked Dialog	Yes			
	181 Call Being Forwarded	Yes			
	Dial Plan	Yes			
	DTMF – Inband	Yes			
	DTMF – RFC 2833	Yes			
	DTMF – DTMF Relay	No			
	Codec Negotiation	Yes			
	Codec Renegotiation	Yes			
Cisco BroadWorks	Third-Party Call Control – Basic	Yes			
Services	Third-Party Call Control – Advanced	No			
	Voice Message Deposit/Retrieval	Yes			
	Message Waiting Indicator – Unsolicited	Yes			
	Message Waiting Indicator – Solicited	Yes			
	Message Waiting Indicator – Detail	No			
	Voice Portal Outcall	Yes			
	Advanced Alerting – Ringing	Yes			
	Advanced Alerting – Call Waiting	Yes			

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Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table					
Test Plan Package	Test Plan Package Items	Supported	Comments		
	Advanced Alerting – Ring Splash	Yes			
	Advanced Alerting – Silent Alerting	Yes			
	Calling Line ID	Yes			
	Calling Line ID with Unicode Characters	Yes			
	Connected Line ID	Yes			
	Connected Line ID with Unicode Characters	Yes			
	Connected Line ID on UPDATE	Yes			
	Connected Line ID on Re-INVITE	Yes			
	Diversion Header	Yes			
	History-Info Header	Yes			
	Advice of Charge	No			
	Meet-Me Conferencing	Yes			
	Meet-Me Conferencing – G722	Yes			
	Meet-Me Conferencing – AMR-WB	No			
	Meet-Me Conferencing – Opus	Yes			
	Collaborate – Audio	Yes			
	Collaborate – Audio – G722	Yes			
	Collaborate – Audio – Opus	Yes			
	Call Decline Policy	Yes			
DUT Services –	Call Waiting	Yes			
Call Control Services	Call Hold	Yes			
	Call Transfer	Yes			
	Three-Way Calling	Yes	Three-way calling before answer is Not tested.		
	Network-Based Conference	Yes	Supports up to three parties.		
DUT Services – Pogistration and	Register Authentication	Yes			
Authentication	Maximum Registration	Yes			
	Minimum Registration	Yes			
	Invite Authentication	Yes			
	Re-Invite/Update Authentication	Yes			
	Refer Authentication	Yes			
	Device Authenticating Cisco BroadWorks	No			
	Emergency Call	No			

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Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table					
Test Plan Package	Test Plan Package Items	Supported	Comments		
DUT Services – Emergency Call	Emergency Call with Ringback	No			
DUT Services – P-Access-Network-	REGISTER with P-Access-Network- Info Header	No			
Info Header	INVITE with P-Access-Network-Info Header	No			
DUT Services –	Do Not Disturb	Yes			
wiscenarieous	Call Forwarding Always	Yes			
	Call Forwarding Always Diversion Inhibitor	No			
	Anonymous Call	No			
	Anonymous Call Block	No			
	Remote Restart Via Notify	Yes			
Advanced Phone	Busy Lamp Field	Yes			
Lamp Field	Call Park Notification	Yes			
Advanced Phone	Do Not Disturb	No			
Key Synchronization,	Do Not Disturb Ring Splash	No			
Private Line	Call Forwarding	No			
	Call Forwarding Always Ring Splash	No			
	Call Forwarding Always Diversion Inhibitor	No			
	Call Center Agent Logon/Logoff	Yes			
	Call Center Agent Unavailable Code	Yes			
	Executive – Call Filtering	No			
	Executive-Assistant – Call Filtering	No			
	Executive-Assistant – Diversion	No			
	Call Recording	No			
	Security Classification	No			
Advanced Phone	Do Not Disturb	No			
Key Synchronization,	Do Not Disturb Ring Splash	No			
Shared Line	Call Forwarding	No			
	Call Forwarding Always Ring Splash	No			
	Call Forwarding Always Diversion Inhibitor	No			
	Security Classification	No			
Advanced Phone Services – Missed Calls Display Synchronization	Missed Calls Display Sync	No			

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Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table					
Test Plan Package	Test Plan Package Items	Supported	Comments		
Advanced Phone	Line-Seize	Yes			
Call Appearance	Call-Info/Lamp Management	Yes			
using Call-Into	Public Hold	Yes			
	Private Hold	Yes			
	Hybrid Key System	No			
	Multiple Call Arrangement	Yes			
	Bridge Active Line	Yes			
	Bridge Active Line – Silent Monitor	No			
	Call Park Notification	No			
Advanced Phone Services – Call Park Notification	Call Park Notification	No			
Advanced Phone	Hold Reminder	Yes			
Services – Call Center	Call Information	Yes			
	Hoteling Event	No			
	Status Event	Yes			
	Disposition Code	Yes			
	Emergency Escalation	Yes			
	Customer Originated Trace	Yes			
Advanced Phone	Pause/Resume	No			
Recording Controls	Start/Stop	No			
	Record Local Conference	No			
	Record Network Conference	No			
Advanced Phone	Basic Call	No			
Recording Video	Record Local Conference	No			
	Record Network Conference	No			
Advanced Phone Services – Security Classification	Security Classification	No			
Advanced Phone	Network-Based Conference Creator	No			
Conference Event	Network-Based Conference Participant	No			
	Meet-Me Conference Participant	No			
Redundancy	DNS SRV Lookup	Yes			
	Register Failover/Failback	Yes			
	Invite Failover/Failback	Yes			
	Bye Failover	Yes			

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Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table					
Test Plan Package	Test Plan Package Items	Supported	Comments		
SBC/ALG - Basic	Register	Yes			
	Outgoing Invite	Yes			
	Incoming Invite	Yes			
SBC/ALG -	Register Failover/Failback	Yes			
Fallover/Fallback	Invite Failover/Failback	Yes			
Video – Basic Video	Call Origination	NA			
Calls	Call Termination	NA			
	Call Hold	NA			
	Call Waiting	NA			
	Call Transfer	NA			
Video – Cisco	Auto Attendant	NA			
Services	Auto Attendant – HD	NA			
	Voice Messaging	NA			
	Voice Messaging – HD	NA			
	Custom Ringback	NA			
Video – Cisco	Network-based Conference	NA			
Conference	Network-based Conference – HD	NA			
	Collaborate – Video	NA			
	Collaborate – Video – HD	NA			
Video – Cisco	Call from WebRTC Client	NA			
WebRTC Client	Call to WebRTC Client	NA			
ТСР	Register	Yes			
	Outgoing Invite	Yes			
	Incoming Invite	Yes			
IPV6	Call Origination	No			
	Call Termination	No			
	Session Audit	No			
	Ringback	No			
	Codec Negotiation/Renegotiation	No			
	Voice Message Deposit/Retrieval	No			
	Call Control	No			
	Registration with Authentication	No			
	Busy Lamp Field	No			
	Redundancy	No			

Cisco BroadWorks SIP Phone Interoperability Test Plan Support Table					
Test Plan Package	Test Plan Package Items	Supported	Comments		
	SBC	No			
	Video	No			
	Dual Stack with Alternate Connectivity	No			

2.2.2 Other Interface Capabilities

The Avaya J100 IP Phone may have implemented support for the following:

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

Support for these interfaces is demonstrated by completing the *Cisco BroadWorks SIP Phone Functional Test Plan* [6]. Support for these interfaces is summarized in the following table.

Interface	Feature	Supported	Comments
Xsi Features –	Authenticate with SIP Credentials	Yes	
Authentication	Authenticate with Cisco BroadWorks User Login Credentials	Yes	
	Authenticate with Cisco BroadWorks User Directory Number	No	
Xsi Features –	Remote Office	No	
Configuration	Cisco BroadWorks Anywhere	Yes	
	Simultaneous Ringing	Yes	
	Caller ID Blocking	No	
	Call Forwarding Always	Yes	
	Call Forwarding Busy	Yes	
	Call Forwarding No Answer	Yes	
	Do Not Disturb	Yes	
Xsi Features –	Enterprise Directory	Yes	
Directories	Enterprise Common Phone List	Yes	
	Group Directory	Yes	
	Group Common Phone List	Yes	
	Personal Phone List	Yes	
	Search All Directories	No	
Xsi Features –	Placed Calls	No	
Call Logs	Received Calls	No	
	Missed Calls	No	

Cisco BroadWorks Xtended Services Interface (Xsi) and BroadCloud IM&P Support Table

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Cisco BroadWorks Xtended Services Interface (Xsi) and BroadCloud IM&P Support Table			
Interface	Feature	Supported	Comments
	All Calls	No	
	Sort by Name	Yes	
Xsi Features –	View Messages	Yes	
	Listen to Audio Message	No	
	Watch Video Message	No	
	Mark Message Read/Unread	Yes	
	Delete Message	Yes	
	Mark All Messages Read/Unread	No	
Xsi Features – Push Notification	Register/Deregister for Push Notifications	Yes	
	Incoming Call via Push Notification	Yes	
	Call Update via Push Notification	Yes	
	Incoming Call via Push Notification; Second Incoming Call	Yes	
	MWI via Push Notification	Yes	
	Ring Splash via Push Notification	Yes	
Xsi Features –	Call Record Mode Get	Yes	
Configurations	Set Record Mode	Yes	
	Set Play Call Recording to Start and Stop Announcement	Yes	
	Set Record Voice Messaging	No	
	Set Pause and Resume Notification	No	
	Set Recording Notification	No	
Xsi Features – Call Recording	Record Mode set to Never	No	
Controls	Record Mode set to Always	Yes	
	Record Mode set to Always with Pause/Resume	Yes	
	Start Recording Mid-Call with Record Mode set to On Demand	No	
	Start Recording During Call Setup with Record Mode set to On Demand	No	
	Perform User Initiated Start with Record Mode set to On Demand	Yes	
	Perform Mid-Call Start Recording after Placing Call on Hold	Yes	
	Perform Mid-Call Change to Call Recording Mode	No	
	Record Local Three-Way Call	No	

Cisco BroadWorks Xtended Services Interface (Xsi) and BroadCloud IM&P Support Table			
Interface	Feature Supported Comr		Comments
	Record Network Three-Way Call	No	
XMPP Features –	Contacts	No	
Contact/Buddy List	Favorites	No	
	Groups	No	
	Non-XMPP Contacts	No	
	Conferences	No	
XMPP Features –	Login Invisible	No	
Presence	Presence State	No	
	Presence Status	No	
	Contact's Presence State	No	

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 Avaya issue, the issue number is from Avaya's tracking system. If it is a Cisco BroadWorks issue, the issue number is from 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	Part	ner Ve	rsion	
		1.1.0.0.10	4.0.0.0.18	4.0.4.0.10	
SIP96X1-77409	Phone does not display RESTRICTED on the call appearance even after getting "Privacy" header in the 180 ringing Phone displays the dialed number and does not display RESTRICTED. It also does not display the name of the user. It keeps on displaying the dialed number until the far end answers the call. Once call is answered, it displays RESTRICTED on the CA. Workaround: None.			Х	

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Issue Number	Issue Description	Part	ner Ve	ersion	
		1.1.0.0.10	4.0.0.0.18	4.0.4.0.10	
SIP96X1-73031	 AAC – Incoming Call alert on Avaya J100 does not disappear if the call is answered by the Communicator Phone successfully creates voice path with the far end, but then the phone UI does not get refreshed. Workaround: Hold-Resume the call in the communicator. 			Х	
SIP96X1-52686	No response received for session audit INVITE After the phone reboots during a call, the session audit INVITE sent to the phone receives no response. Workaround: None.	х	х	Х	

3 Cisco BroadWorks Configuration

This section identifies the required Cisco BroadWorks device profile type for the Avaya J100 IP Phone as well as any other unique Cisco BroadWorks configuration required for interoperability with the J100.

3.1 Cisco BroadWorks Device Profile Type Configuration

This section identifies the device profile type settings to use when deploying the Avaya J100 IP Phone with Cisco BroadWorks.

Create a device profile type for the Avaya J100 IP Phone with settings as shown in the following example. The settings shown are recommended for use when deploying the Avaya J100 IP Phone with Cisco BroadWorks. For an explanation of the profile parameters, see the *Cisco BroadWorks Device Management Configuration Guide* [2].

Obsole	ete
Standard Options	
Number of Ports: Ounlimited	Limited To
Ringback Tone/Early Media Support: 🔘 RTP - Ses	sion
ORTP - Ear	ly Session
Local Ring	back - No Early Media
Authentication: Enabled 	
ODisabled	
Hold Normalization: O Unspecifie	d Address
○ Inactive	
RFC3264	
Registration Capable Authenticate F	REFER
Static Registration Capable Video Capable	e
E164 Capable Use History In	fo Header
Trusted	
Auto Configuration Sat (90 Auto Configuration Soft Client Requires BroadWorks Call Waiting Tone Advice of Charge Capable Support Emergency Disconnect Control Enable Monitoring Statio Line/Port Ordering	Requires Broad/Works Digit Collection Requires MWI Subscription Support Call Center MIME Type Support Identity In UPDATE and Re-INVITE Support RFC 3398 Support Clent Session Info
Support Call Info Conference Subscription URI	Support Remote Party Info
Support Visual Device Management	Bypass Media Treatment
Support Cause Parameter	Support Calling Party Category In Outbound From Header
Reset Event: OreSync 🖲 check	Sync O Not Supported
Trunk Mode: 💿 User 🔿 Pilot 🔿 f	Proxy
Hold Announcement Method: Inactive Band 	width Attributes
Unscreened Presentation Identity Policy:	le Presentation Identity preened Presentation Identity
Ouns	creened Presentation Identity With Profile Domain
Web Broad Conferentian UBL Estension	

Figure 1 Device Identity/Profile Type

3.2 Cisco BroadWorks Configuration Steps

There are no additional Cisco BroadWorks configurations required.

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4 J100 IP Phone Configuration

This section describes the configuration settings required for the J100 integration with Cisco BroadWorks, primarily focusing on the SIP interface configuration. The J100 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 *Installing and Administering Avaya J100 IP Phone in Third-Party Call Control Setup* [1] for J100.

4.1 Configuration Method

Avaya J100 IP Phone can be configured using the 46xxsettings file. The phone can access the settings file via HTTP and HTTPS.

Configuration Files

Avaya J100 Configuration Files	Level	Description
J100Supgrade.txt	System	Contains the device firmware load.
46xxsettings.txt	System	Contains configurable parameters that apply to all devices in a given deployment.
<macaddress>.txt</macaddress>	Subscriber	Contains configurable parameters that apply to an individual device in a deployment.

4.2 System Level Configuration

This section describes system-wide configuration items in the 46xxsettings.txt file that are generally required for each Avaya J100 IP Phone to work with Cisco BroadWorks. Subscriber-specific settings are described in the next section. For parameter description, see the *Installing and Administering Avaya J100 IP Phone in Third-Party Call Control Setup* [1] for J100.

4.2.1 Configure Network Settings

Step	Command
Step 1	SET ENABLE_UDP_TRANSPORT 1
Step 2	SET DNSSRVR "8.8.8.8"
Step 3	SET DOMAIN ""
Step 4	SET SNTPSRVR pool.ntp.org
Step 5	SET SNTP_SYNC_INTERVAL 144000

4.2.2 Configure SIP Interface Settings

Step	Command
Step 1	SET SIPDOMAIN "as.tekvizion.com"
Step 2	SET SIP_CONTROLLER_LIST "as.tekvizion.com:5060;transport=udp" or SET SIP_CONTROLLER_LIST "sbc1.as.tekvizion.com:5060;transport=udp"

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Step	Command
Step 3	SET ENABLE_G711A 1
Step 4	SET ENABLE_G711U 1
Step 5	SET ENABLE_G722 1
Step 6	SET ENABLE_G726 0
Step 7	SET G726_PAYLOAD_TYPE 110
Step 8	SET ENABLE_G729 1
Step 9	SET ENABLE_OPUS 0
Step 10	SET SEND_DTMF_TYPE 2
Step 11	SET DTMF_PAYLOAD_TYPE 120
Step 12	SET 100REL_SUPPORT 1
Step 13	SET PLAY_TONE_UNTIL_RTP 1
Step 14	SET SYMMETRIC_RTP 1
Step 15	SET REGISTERWAIT 1200
Step 16	SET WAIT_FOR_UNREGISTRATION_TIMER 32
Step 17	SET WAIT_FOR_INVITE_RESPONSE_TIMEOUT 60
Step 18	SET FAILED_SESSION_REMOVAL_TIMER 30
Step 19	SET TCP_KEEP_ALIVE_STATUS 1
Step 20	SET TCP_KEEP_ALIVE_TIME 60
Step 21	SET TCP_KEEP_ALIVE_INTERVAL 10
Step 22	SET SIP_TIMER_T1 500
Step 23	SET SIP_TIMER_T2 4000
Step 24	SET SIP_TIMER_T4 5000
Step 25	SET ENABLE_SIP_USER_ID 1
Step 26	SET SIMULTANEOUS_REGISTRATIONS 1
Step 27	SET LOCALLY_ENFORCE_PRIVACY_HEADER 1
Step 28	SET ENABLE_STRICT_USER_VALIDATION 0
Step 29	SET 3PCC_SERVER_MODE 1
Step 30	SET XSI_URL "http://199.182.125.8"

4.2.3 Configure Service Settings

Step	Command
Step 1	SET DIALPLAN [23]xxxx 91xxxxxxxxx 9[2-9]xxxxxxxx 7xxx
Step 2	SET NO_DIGITS_TIMEOUT 20
Step 3	SET INTER_DIGIT_TIMEOUT 5
Step 4	SET CALLFWDSTAT 7

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Step	Command
Step 5	SET CALLFWDDELAY 1
Step 6	SET ENABLE_DND 1
Step 7	SET ENABLE_DND_PRIORITY_OVER_CFU_CFB 0
Step 8	SET ENABLE_AUTO_ANSWER_SUPPORT 1
Step 9	SET AUTO_ANSWER_MUTE_ENABLE 1
Step 10	SET HOLD_REMINDER_TIMER 0
Step 11	SET CONFERENCE_FACTORY_URI <u>"conference@as.tekvizion.com"</u>
Step 12	SET SIPCONFERENCECONTINUE 0
Step 13	SET PSTN_VM_NUM "*62"
Step 14	SET SUBSCRIBE_LIST_NON_AVAYA "message-summary"
Step 15	SET RINGTONESTYLE 0

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.

Step	Command
Step 1	SET FORCE_SIP_USERNAME "7415"
Step 2	SET FORCE_SIP_PASSWORD "2222"
Step 3	SET FORCE_SIP_EXTENSION "741515"
Step 4	SET COUNTRY USA
Step 5	SET SYSTEM_LANGUAGE Mlf_J100_English.xml
Step 6	SET LANGUAGES "Mlf_J100_CanadianFrench.xml,Mlf_J100_LatinAmericanSpanish.xml,Ml f_J100_German.xml"
Step 7	SET DAYLIGHT_SAVING_SETTING_MODE 2
Step 8	SET DSTOFFSET 1
Step 9	SET DSTSTART 2SunMar2L
Step 10	SET DSTSTOP 1SunNov2L
Step 11	SET GMTOFFSET 0:00
Step 12	SET PROVIDE_SHARED_LINE_CONFIG 1
Step 13	SET XSI URL "http:// 199.182.125.8"

4.4 SIP Advanced Feature Configuration

This section provides configuration instructions for advanced SIP features supported by the phone including but not limited to Shared Call Appearance, Busy Lamp Field, Feature Key Synchronization, Call Center, Emergency Call, Advice of Charge, Call Recording, and Security Classification.

4.4.1 Shared Call Appearance Configuration

Step	Command
Step 1	SET SCA1_ENABLED 1
Step 2	SET SCA1_MAX_CALL_APPEARANCES 3
Step 3	SET SCA1_SIPUSERID 2404987391_1
Step 4	SET SCA1_USERNAME 2404987391
Step 5	SET SCA1_PASSWORD 123456
Step 6	SET PRIMARY_LINE_BARGE_IN_ENABLED 1

4.4.2 Busy Lamp Field Configuration

This section provides configuration instructions for configuration of Busy Lamp Field (BLF).

Avaya J100 Series IP Phones must be able to connect to the XSI_URL. This allows the phone to automatically configure the phone for BLF support. The Avaya J100 Series IP Phones automatically get the BLF URI via Xsi and apply the configuration to the phone. By default, the J100 Phone also automatically assigns a BLF key on the phone screen for each user identified from the BLF NOTIFY.

Step	Command	Description
Subscriber	Configuration File (%BWMACADDRESS%.	ixt)
Step 1	SET ALLOW_BLF_LIST_CHANGE 0	 (Optional) When Xsi is enabled, the J100 user can add/remove BLF monitored users from the Phone screen and BLF resource list. The administrator is able to restrict such operations using this parameter. 0 – User is not allowed to add or delete BLF monitored users. 1 – User is only allowed to delete BLF monitored users. 2 – User is only allowed to add BLF monitored users. 3 – User is allowed to add or delete BLF monitored users.

If the Avaya J100 Series IP Phones is not connected to the XSI_URL the user needs to provide the following settings in the configuration files.

Step	Command	Description
Step 1	SET BLF_LIST_URI "sip:priya- blf-test@as.tekvizion.com"	BLF URI to which phone will send SUBSCRIBE message to get the BLF lines and feature status.

Step	Command	Description
Step 2	set CALL_PICKUP_FAC *12	BLF call pickup Feature Access Code.
Step 3	<pre>set CALL_PICKUP_BARGEIN_FAC *33</pre>	BLF Bargein Feature Access Code.

4.4.3 Feature Key Synchronization Configuration

Feature Key synchronization is done through SIP messages SUBSCRIBE and NOTIFY messages. Phone sends SUBSCRIBE message (with feature state) to the server, when any changes made. Similarly, if changes are made in the server, phone receives NOTIFY with feature state. There is no special configuration needed.

4.4.4 Call Center Feature Configuration

This section provides configuration instructions to configure the phone to enable integration with Cisco BroadWorks Call Center features including, but not limited to, call information, hoteling, status, and disposition codes.

Step	Command	Description
Step 1	<pre>SET BS_CC_AUTOMATIC_STATE 1 SET BS_CC_ENABLED 1 SET BS_CC_UNAVAIL_CODES " 1 = Coffee break, 2 = Tea party, dnd, coffee = Coffee break2 " SET ESCALATION_FAC #83</pre>	Enables the call center configurations.
Step 2	SET BS_CC_DISP_CODES "2066886813:1=Another_Call_Requi red;2=Promotion_Call,2066886814: 1=Question Resolved;2=Another Call Required;3=Another Call Required;4=Promotion Call"	Enables the call center disposition codes.
Step 3	<pre>SET BS_CC_SUPERVISORS "2066886813: 2066886155=Group6813_Truc6155;20 66886154=Group6813_6154@devices. avaya.com,2066886814: 2066886153 =Group6814_Technical Expert;2066886152;2066886151"</pre>	Enables the call center Supervisor configurations.
Step 4	SET BS_CC_COT_ENABLED 1	Enables the call center customer originated trace configuration.

4.4.5 Hoteling and Flexible Seating Feature Configuration

This section provides configuration instructions to configure the phone to enable integration with Cisco BroadWorks Hoteling feature or Flexible Seating feature. The Cisco BroadWorks Hoteling and Flexible Seating Feature are similar where both features allow a capable device to associate with a separate user's profile. The Cisco BroadWorks Hoteling feature has specific host-guest association signaling requirement where the device must support the SIP Subscribe and Notify "x-Cisco BroadWorks-hoteling" event package. The Cisco BroadWorks Flexible Seating feature is similar in concept as hoteling feature with the exception where the requirement of host-guest association requirement is reduced to the support of Cisco BroadWorks Device Management and Remote Restart. For Flexible Seating, the "x-Cisco BroadWorks-hoteling" event package is only required if the host-guest association is to be performed by the device. J100 supports Flexible seating Feature. It does not support Hoteling Feature.

Step	Command	Description	
System Conf	iguration File (46xxsettings.txt)		
Step 1	SET BW_HOTELING_MODE %BWHOTELINGMODE-1%	Enables the flexible seating configurations.	

4.4.6 Call Recording Feature Configuration

Avaya J100 currently does not support this feature.

4.4.7 Security Classification Feature Configuration

Avaya J100 currently does not support this feature.

4.4.8 Emergency Call Configuration

Avaya J100 currently does not support this feature.

4.4.9 Advice of Charge Configuration

Avaya J100 currently does not support this feature.

4.4.10 Conference Event Configuration

Avaya J100 currently does not support this feature.

4.5 Xtended Services Interface (Xsi) Feature Configuration

This section provides configuration instructions for configuration of Xtended Services Interface (Xsi) features supported by the phone, including but not limited to Cisco BroadWorks Directory and Cisco BroadWorks Call Logs.

4.5.1 Xtended Services Interface Authentication Method

The Avaya J100 Series IP Phones provide Xsi Authentication support using the "SIP credentials" and "Web credentials". The user can select the Authentication Method in the phone (*Main Menu* \rightarrow *Settings* \rightarrow "*XSI authentication*"). The preferred/default method is "SIP Credentials". The authorization is Cisco BroadWorks SIP by default.

The Avaya J100 Xsi SIP Credentials requires Xsi "com.broadsoft.xsi-events" is enabled on Cisco BroadWorks.

On the BroadSoft Application Server, add the application ID com.broadsoft.xsi-events by issuing the following command:

AS_CLI/Interface/OCI/CallControl> add <applicationId> <enableSystemWide> <notificationTimeoutInSeconds> [<description>]

Example:

AS_CLI/Interface/OCI/CallControl> add com.broadsoft.xsi-events true 8 BroadSoftXSIWebApp

Step	Command	Description
Subscribe	r Configuration File (%BWMACADDRES	S%.txt)
Step 1	SET FORCE_XSI_USER BobSmith	Optional. If the Cisco BroadWorks web portal User ID is different than the SIP Authentication User Name you can define the User ID here. If the @domain.com is provided the J100 ignores and appends SIPDOMAIN. This requires that the @domain.com portion of User ID and the Line/Port must match.
Step 2	SET FORCE_XSI_WEB_PASSWORD	This is used when the IP phone authenticates via the Web credentials method. The Xsi Web username and password via "Authorization: Basic" is also supported with this parameter.

4.5.2 Cisco BroadWorks User Service Configuration

Avaya J100 currently does not support this feature.

4.5.3 Cisco BroadWorks Directory Configuration

Integration with the Cisco BroadWorks Xtended Services Interface for Directories enables the phone to download personal, group, and enterprise directories from Cisco BroadWorks and make them available to a user via the phone menus. To enable this feature, follow these instructions.

The Cisco BroadWorks Directory service makes access to the directories associated with a user account through the Cisco BroadWorks Xtended Services Interface. Using this service means that the user's credentials must be provisioned on the Xtended Services Interface, see section *4.5.1 Xsi Authentication Method*. The Avaya J100 Series IP Phones' Cisco BroadWorks Directory support include:

- Enterprise
- EnterpriseCommon
- Group
- GroupCommon
- Personal

By default, these directories are enabled if the J100 Series IP Phone is successfully connected to the XSI-URL.

The phone's *Contacts* screen similar to the following after a successful Xsi Authentication.



Figure 2 Contacts

The following are the detailed steps to activate/deactivate directories.

Step	Command	Description		
System Configuration File (46xxsettings.txt)				
Step 1	SET BW_ENABLE_DIR 1	Enables/disables the Cisco BroadWorks Directories.		
Step 2	SET BW_ENABLE_DIR_ENTERPRISE 1	Enables/disables the Cisco BroadWorks Enterprise Directory.		
Step 3	SET BW_ENABLE_DIR_ENTERPRISE_COMMO N 1	Enables/disables the Cisco BroadWorks Enterprise Common Directory.		
Step 4	SET BW_ENABLE_DIR_GROUP 1	Enables/disables the Cisco BroadWorks Group Directory.		
Step 5	SET BW_ENABLE_DIR_GROUP_COMMON 1	Enables/disables the Cisco BroadWorks Group Common Directory.		
Step 6	SET BW_ENABLE_DIR_PERSONAL 1	Enables/disables the Cisco BroadWorks Personal Directory.		
Step 7	SET BW_DIR_ENTERPRISE_DESCRIPTION ``Enterprise"	Define the string that appears on the user's <i>Menu</i> \rightarrow <i>Applications</i> \rightarrow <i>Contacts</i> screen to describe the Enterprise Directory.		
Step 8	SET BW_DIR_GROUP_DESCRIPTION "Group"	Define the string that appears on the user's <i>Menu</i> \rightarrow <i>Applications</i> \rightarrow <i>Contacts</i> screen to describe the Group Directory.		
Step 9	SET BW_DIR_GROUP_COMMON_DESCRIPTIO N "Group Common"	Define the string that appears on the user's <i>Menu</i> \rightarrow <i>Applications</i> \rightarrow <i>Contacts</i> screen to describe the Group Common Directory.		
Step 10	SET BW_DIR_PERSONAL_DESCRIPTION "Personal"	Define the string that appears on the user's $Menu \rightarrow Applications \rightarrow Contacts$ screen to describe the Personal Directory.		
Step 11	SET BW_DIR_ENTERPRISE_EXTENSION "BW Entr"	After the user performs a search, define the string that appears on the user's screen to indicate the Enterprise Directory as the source of a search result		

Step	Command	Description
System Conf	iguration File (46xxsettings.txt)	
Step 12	SET BW_DIR_GROUP_EXTENSION "BW Group"	After the user performs a search, define the string that appears on the user's screen to indicate Group Directory as the source of a search result.

4.5.4 Cisco BroadWorks Call Logs Configuration

Avaya J100 currently does not support this feature.

4.5.5 Cisco BroadWorks Visual Voice Mail Configuration

Avaya J100 currently does not support this feature.

4.6 Instant Message and Presence Configuration

Avaya J100 currently does not support this feature.

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. This section identifies the Device Management capabilities supported by the Avaya J100 and the configuration steps required. For Device Management configuration details not covered here, see the *Cisco BroadWorks Device Management Configuration Guide* [1] and the *Cisco BroadWorks CPE Kit Usage Guide* [8].

5.1 Device Management Capabilities Supported

The Avaya J100 has completed Device Management interoperability testing with Cisco BroadWorks using the *Cisco BroadWorks Device Management Interoperability Test Plan* [7]. The results are summarized in the following table.

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 Avaya J100'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 Avaya J100.

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	Yes	
	HTTP Download Using XSP FQDN	Yes	
	HTTP Download Using XSP Cluster FQDN	Yes	
	HTTP Download With Double Slash	Yes	
HTTPS File Download	HTTPS Download Using XSP FQDN	Yes	
	HTTPS Download Using XSP Cluster FQDN	Yes	
HTTPS File Download with	HTTPS Download with Client Authentication Using XSP FQDN	Yes	

Cisco BroadWorks Device Management Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
Client Authentication	HTTPS Download with Client Authentication Using XSP Cluster FQDN	Yes	
Time Zone Mapping	Inspect Time Zone Setting	Yes	
Language Mapping	Inspect Language Setting	Yes	
File Inspection	Inspect System Config File	Yes	
	Inspect Device-Specific Config File	Yes	
	Inspect Other Config Files	Yes	
	Inspect Static Files	Yes	
Device Inspection	Inspect SIP Settings	Yes	
	Inspect Line Settings	Yes	
	Inspect Service Settings	Yes	
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	Register with Authentication	Yes	
Sanity lests	Call Origination	Yes	
	Call Termination	Yes	
	Remote Restart	Yes	
	Shared Line Origination	Yes	
	Shared Line Termination	Yes	
	Shared Line Status	Yes	
	Busy Lamp Field	Yes	
	Network-Based Conference	Yes	
Flexible Seating	Association via Voice Portal	Yes	
	Association via Phone	Yes	Flexible Seating Guest Locks/Unlocks Association with Host Phone is Not supported.
No Touch Provisioning	Provision via DHCP Options Field	Yes	
Frovisioning	No Touch Provision via DM redirect	No	
	No Touch Provision via Vendor redirect	Yes	

5.2 Device Management Configuration

This section identifies the steps required to enable the Avaya J100 for Device Management. For Device Management configuration details not covered here, see the *Cisco BroadWorks Device Management Configuration Guide* [1] and the *Cisco BroadWorks CPE Kit Usage Guide* [8].

5.2.1 Configure Cisco BroadWorks Tags

The template files in Device Management use tags to represent the data stored on Cisco BroadWorks. When a configuration changes for a user, Device Management parses the template files and replaces the Device Management tags with the associated data stored on Cisco BroadWorks. There are default tags defined in the Device Management software and there are custom tags that the service provider can create and define via the web portal for use by Device Management. There are two types of custom tags that can be defined: system default tags that are common to all devices on the system and device type-specific tags that are common to Avaya device models only.

The Avaya J100 makes use of custom tags which can be configured by a Cisco BroadWorks administrator as either system default or device type-specific tags. This section identifies the required tags.

5.2.1.1 Create System Default Tags

Browse to System \rightarrow Resources \rightarrow Device Management Tag Sets and select the System Default tag set. The Avaya configuration templates make use of the tags in the following table. Add the tags if they do not already exist.

Tag Name	Valid Settings	Description
%DNS_SERVER_1%	IP address	DNS server address.
%DNS_SERVER_2%	IP address	DNS server address alternate.
%SBC_ADDRESS%	IP address/FQDN	SBC SIP address.
%SBC_PORT%	Port	SBC SIP port.
%SBC_TRANSPORT%	UDP TCP TLS	SBC transport protocol.

Example System Default Tag Settings

Device Management Tag Sets Modify Display all the device management tags defined in the tag set. Tags can be added to the set or deleted from the set.				
ОК	Apply Add	Cancel		
Tag Set	t: System Default			
Delete	Tag Name 🔺	Tag Value	Is Overridable	Edit
	%DNS_SERVER%	8.8.8	~	Edit
	%SBC_ADDRESS%	192.65.79.250	~	<u>Edit</u>
	%SBC_PORT%	5060	~	Edit
	%SIP_TRANSPORT_PROTO%	UDP	~	<u>Edit</u>
	%SIP_TRANSPORT%	0	~	<u>Edit</u>
	%sip-proxy%	as.tekvizion.com	1 🖌	<u>Edit</u>
	%SNTP_SERVER%	10.10.10.5	~	Edit
	%XSP_ADDRESS_XSI_ACTIONS%	xsp1.tekvizion.c	om 🖌	Edit
	%XSP_ADDRESS%	xsp1.tekvizion.co	om 🖌	<u>Edit</u>

Figure 3 System Default Tag Settings

5.2.1.2 Create Device Type-specific Tags

Browse to System \rightarrow Resources \rightarrow Device Management Tag Sets and then click Add to add a new tag set. Configure the tag set name using the device name appended by Tags: Avaya_J100_Tags. Add the device type-specific tags in the following table to the device tag set. If the tag set already exists, make sure the following tags are defined.

Tag Name	Valid Settings	Description
%ADMIN_PASSWORD%	Example: 123456	This tag is used with SET ADMIN_PASSWORD. Password for <i>Menu</i> \rightarrow <i>Administration.</i> Default: 27238
%ENABLE_WEBSERVER%	Default: 1	This tag is used with SET ENABLE_WEBSERVER. Default: 1
%DIAL_PLAN%	Example: [23]xxxx 91xxxxxxxxxx 9[2- 9]xxxxxxxxx	This tag is used with SET DIAL_PLAN.
%PHNNUMOFSA%	Default: 3	The tag specifies the number of Session Appearances the telephone should support while operating in a non-Avaya environment. Valid values are 1 through 10 and the default value is "3".
%REGISTERWAIT%	Example: 180	This tag specifies the number of seconds between re-registrations with the current server.

Tag Name	Valid Settings	Description
%SUBSCRIBE_LIST_NON_ AVAYA%	message-summary	This specifies the comma- separated list of event packages to subscribe to after registration. The possible values are: "reg", "dialog", "mwi", "ccs", "message- summary" which is identical to "mwi". The values are case insensitive. For Cisco, the recommended value is "message-summary".
%PROCPSWD%	Example: 123456	To be used with: SET PROCPSWD 123456 Default value: 27238
%JEM24_VERSION%	1_0_1_0_12	Allows BroadSoft Admin to define which version of JEM software to deploy.
%SCA1_MAX_CALL_APPEA RANCES%	3	Specifies the number of Call Appearances for SCA1 Default: 3
%TRUSTCERTS%	broadsoft.pem,AcmeRootCA. pem	List of certificates that the phone will download and use for TLS connections.

Delete	Tag Name	Tag Value	Is Overridable	Edit
	%ADMIN_PASSWORD%	123456	~	<u>Edit</u>
	%DIAL_PLAN%	[23]xxxx 91xxxxxxxxx 9[2-9]xxxxxxxxx	~	<u>Edit</u>
	%ENABLE_WEBSERVER%	1	~	<u>Edit</u>
	%PHNNUMOFSA%	3	~	<u>Edit</u>
	%PROCPSWD%	123456	~	<u>Edit</u>
	%REGISTERWAIT%	180	~	<u>Edit</u>
	%SUBSCRIBE_LIST_NON_ AVAYA%	message-summary	~	<u>Edit</u>
	%TRUSTCERTS%	broadsoft.pem	~	<u>Edit</u>
	%XSP_ADDRESS_XSI_ACTIONS%	xsp1.tekvizion.com	~	<u>Edit</u>

Figure 4 Device Type-specific Tag Settings

5.2.2 Configure Cisco BroadWorks Device Profile Type

The device profile type is a system-level structure that defines how the device interfaces with Cisco BroadWorks. It also identifies the default configuration files and other files, such as firmware, which are required for the device to operate correctly. The device profile type is created by the system administrator. Group administrators use the device profile type to create a device profile. The device profile is an instance of the device profile type that is associated with a physical device.

There are two Cisco BroadWorks device profile configuration methods described: import and manual. The import method takes a DTAF as input and builds the Cisco BroadWorks device profile type(s) automatically. The manual method takes the administrator through the steps to manually add and configure the device profile type(s).

The import method should be used if all of the following prerequisites are met:

■ The Cisco BroadWorks Release is 17.0 or later.

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- The device profile type(s) being imported do not already exist on the system. (If either a previous import or manual configuration was done, then the import fails.)
- There is a DTAF file available for import with a Cisco BroadWorks release level that is the same as or prior to the release to which it is being imported. If the DTAF file is at a release level later than the release being imported to, then the import can fail.

Otherwise, use the manual method.

For more detailed instructions, refer to the *Cisco BroadWorks CPE Kit Usage Guide* [8] and the *Cisco BroadWorks Device Management Configuration Guide* [2].

5.2.2.1 Configuration Method 1: Import

This section identifies the steps necessary to make use of the Device Management import feature to configure Cisco BroadWorks to add the Avaya J100 as a Device Managementenabled device type. Also, see the *Cisco BroadWorks CPE Kit Usage Guide* [8].

Download the Avaya J100 CPE kit from BroadSoft Xchange at <u>xchange.broadsoft.com</u>. Extract the DTAF file(s) from the CPE kit. These are the import files. Repeat the following steps for each model you wish to import.

- 1) Log in to Cisco BroadWorks as an administrator.
- 2) Browse to System → Resources → Identity/Device Profile Types and then click Import.
- 3) Select *Browse* to find the extracted DTAF file for the model and then click **OK** to start the import.

After the import finishes, complete the following post-import configuration steps:

- 4) Browse to System \rightarrow Resources \rightarrow Identity/Device Profile Types.
- 5) Perform a search to find the imported Avaya device profile type, Avaya_J100.
- 6) Browse to the *Profile* page and change the Device Management Device Access FQDN to your Xtended Services Platform (XSP) or XSP cluster address.

Device IVI	Device Type URL:	http://xsp1.tekvizion.com:80/dms/Avava_J100/
Device	Configuration Tags:	O Use Default System Tag Set Only
		• Use Default System Tag Set and Tag Set:
		Avaya_J100_Tags
	✓	Allow Identity/Device Profiles to Configure Custom Tags
	✓	Allow Groups to Configure Custom Tags
		Allow Enterprises/Service Providers to Configure Custom Tags
		Send Email Notification to User upon Device Reset Failure
Dev	ice Access Protocol:	http 🗸
D	evice Access FQDN:	xsp1.tekvizion.com
	Device Access Port:	80
Device Ac	cess Context Name:	dms
	Device Access URI:	Avaya_J100/
Defau	It Device Language:	
Defa	ult Device Encoding:	
Authentic	ation Mode: 📃 MA	C-Based 🔲 User Name and Password
	Device Access Use	rname:
	Device Access Pas	ssword:
Re-typ	e Device Access Pas	ssword:
	MAC Addr	ress In: HTTP Request URI
		O HTTP Header
		O Client Certificate
	MAC Address F	Format:
Device A	ccess HTTP Authenti	cation: Basic Digest

Figure 5 Device Access FQDN

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7) Click the **Files and Authentication** link and then select the option to rebuild all the system files.

Firmware files must be obtained from Avaya. These files are not included in the import. Complete the steps in section 5.2.2.2 Define Device Profile Type Files to define the static firmware files and to upload the firmware.

NOTE: The non-firmware static files in section 5.2.2.2.2 *Define Device Profile Type Files* are normally included in the import.

5.2.2.2 Configuration Method 2: Manual

This section identifies the basic steps necessary for an administrator to manually configure Cisco BroadWorks to add the Avaya J100 as a Device Management-enabled device type. This method should not be used except in special cases as described in the opening to section *5.2.2 Configure Cisco BroadWorks Device Profile Type*.

For more detailed instruction on manual configuration, refer to the *Cisco BroadWorks CPE Kit Usage Guide* [8] and the *Cisco BroadWorks Device Management Configuration Guide* [1].

The steps in this section can also be followed to update previously imported or configured device profile type with new configuration files and firmware.

5.2.2.2.1 Create or Modify Device Profile Type

This section identifies the Cisco BroadWorks device profile type settings relevant to Device Management for the Avaya J100.

Browse to System \rightarrow Resources \rightarrow Identity/Device Profile Types and perform a search to find the Avaya device profile type(s) created in section 3.1 Cisco BroadWorks Device Profile Type Configuration or add the device profile type for each model using the settings from section 3.1 Cisco BroadWorks Device Profile Type Configuration if they do not exist.

Configure the device profile type *Signaling Address Type*, *Standard* and *Advanced* options settings to match the settings in section 3.1 Cisco BroadWorks Device Profile Type Configuration.

Configure the device profile type *Device Management* options as shown in section 5.2.2.1 *Configuration Method 1: Import.*

The following subsections identify the required settings specific to Device Management.

5.2.2.2.2 Define Device Profile Type Files

This section describes the Cisco BroadWorks Device Management configuration necessary to identify the configuration files and other files that the Avaya J100 downloads.

Configuration templates, firmware, and other files the J100 uses must be uploaded to Cisco BroadWorks. Download the Avaya J100 CPE kit from BroadSoft Xchange at <u>xchange.broadsoft.com</u>. Extract the configuration files from the *Configuration Files* folder of CPE kit. Obtain the firmware files directly from Avaya.

The following table identifies the Avaya configuration files distributed with the *R4.0.0.0.18* version CPE kit.

File Name	CPE Kit Template File Name	File Type	Description
Examples			
%BWMACADDRESS%.txt	%BWMACADDRESS%.txt.template	Device- specific	This file contains all the configuration and firmware files that the device needs to load.
46xxsettings.txt	46xxsettings.txt.template	System- level	Contains configurable parameters that apply to all devices in a given deployment.
J100Supgrade.txt	J100Supgrade.txt.template	System- level	Contains the device firmware load.

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The following table identifies other files that the Avaya J100 downloads from the server or uploads to the server. These files are not provided in the CPE kit and must be obtained from Avaya.

File Name	File Type	Description
FW_S_J129_R4_0_4_0_10.bin	binary	Firmware for J129
FW_S_J139_ R4_0_4_0_10.bin	binary	Firmware for J139
FW_S_J159_R4_0_4_0_10.bin	binary	Firmware for J159
FW_S_J169_ R4_0_4_0_10.bin	binary	Firmware for J169
FW_S_J179_R4_0_4_0_10.bin	binary	Firmware for J179
FW_JEM24_R1_0_1_0_12.bin	binary	Firmware of JEM (button Module)

Browse to System \rightarrow Resources \rightarrow Identity/Device Profile Types \rightarrow Files and Authentication to add the files as described in the following subsections.

5.2.2.2.2.1 %BWMACADDRESS%.txt

Add the *%BWMACADDRESS%.txt* file to the device profile type with the settings shown in *Figure 6.*

After creating the device profile type file, upload *%BWMACADDRESS%.txt*, which is extracted from the CPE kit. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.

_				
	Device Access File %BWMACADDRESS%.txt Format:			
	Repository File %BWFQDEVICEID%.txt Format:			
	http://xsp1.iop1.broadworks.net:80/dms/Avaya_J100/(%25BWMACADDRESS%25}.txt Access File: Note: this URL has undefined content. Validate it manually by replacing any content between {} with valid value			
	(5). Denository File:			
	Template File: Download			
	File Customization: Administrator and User			
	Allow Upload from Device			
	Extended File Capture			
	Default Extended File Capture Mode			
	Enable for All File Instances Disable for All File Instances			
	- Assign File			
	O Manual			
	© Custom			
	Upload File: Browse			
	Currently using configuration file: /var/broadworks/lpDeviceConfig/type/Avaya_J100/%BWMACADDRESS%.txt.template			
	SET FORCE_SIP_USERNAME %BWLINEPORT-1%			
	SET FORCE_SIP_PASSWORD %BWAUTHPASSWORD-1%			
	SET SIPDOMAIN %BWHOST-1% SET CONFERENCE FACTORY LIPI "%BWNETWORK-			
	CONFERENCE-SIPURI-1%"			
	SET PSTN_VM_NUM %BWVOICE-PORTAL-NUMBER-1%			
	V			
	File Authentication			
	Authentication Mode: 🗹 MAC-Based 🗌 User Name and Password			
	MAC Address In: OHTTP Request URI			
	HTTP Header			
	O Client Certificate			
	MAC Address Format: User-Agent:.*MAC:([0-9A-Fa-f]{12			
	Device Access HTTP Authentication: Basic Direct			
	Allowed Access Protocols: I http:// https:// ttp			

Figure 6 %BWMACADDRESS%.txt

The MAC Address Format should be: User-Agent:.*MAC:([0-9A-Fa-f]{12}).*

5.2.2.2.2.2 46xxsettings.txt

Add the 46xxsettings.txt file to the device profile type with the settings shown in Figure 7.

After creating the device profile type file, upload *46xxsettings.txt*, which is extracted from the CPE kit. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.



Figure 7 46xxsettings.txt

5.2.2.2.2.3 J100Supgrade.txt

Add the *J100Supgrade.txt* file to the device profile type with the settings shown in *Figure 8.*

After creating the device profile type file, upload *J100Supgrade.txt*, which is extracted from the CPE kit. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.



Figure 8 J100Supgrade.txt

5.2.2.2.2.4 Firmware Files

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Add each Avaya J100 model's firmware file to the device profile type with the example settings shown in *Figure 9*.

After creating the device profile type file, upload the corresponding firmware, which is obtained from Avaya. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.

Device Access File FW_S_J179_R4_0_4_0_10.bin Format: Repository File Format: FW S J179 R4 0 4 0 10.bin Access File: http://xsp1.tekvizion.com:80/dms/Avaya_J100 /FW_S_J179_R4_0_4_0_10.bin Repository File: Download Template File: Download File Category: Static Dynamic Per-Type Dynamic Per-Device File Customization: Disallow \mathbf{v} Enable caching Assign File O Manual Custom Upload File: Browse... No file selected. Currently using /var/broadworks/lpDeviceConfig/type/Avaya J100 configuration file: /FW S J179 R4 0 4 0 10.bin.template CE000TX000001.0044000000000000000000000 ******* **** **** **** File Authentication Authentication Mode: MAC-Based User Name and Password MAC Address In: HTTP Request URI O HTTP Header Client Certificate MAC Address Format: Allowed Access Protocols: 🗹 http 🗹 https 📝 tftp

Figure 9 Firmware Example

cisco.

5.2.3 Create Device Profile Instance

The previous sections defined the device profile type such that the system is ready to mass deploy device profiles. A device profile is an instance of the device profile type and defines the Cisco BroadWorks interface to an individual Avaya device.

Browse to the Cisco BroadWorks $\langle group \rangle \rightarrow Resources \rightarrow Identity/Device Profiles$ page and then select **Add** to add a new Avaya J100 device profile. Configure the device profile as shown in the *Figure 9* example.

The MAC Address field must be populated with the device MAC Address.

Identity/Device Profile Name:	Avaya_J100		
Identity/Device Profile Type:	<u>Avaya_J100</u>		
Device Type URL:	http://xsp1.tekvizion.com:80/dms/Avaya_J100/		
Protocol:	SIP 2.0 V		
Host Name/IP Address:	Port:		
Transport:	Unspecified V		
MAC Address:	C81FEA9B843B		
Serial Number:			
Description:			
Outbound Proxy Server:			
STUN Server:			
Physical Location:			
Lines/Ports:	: Unlimited		
Assigned Lines/Ports: 2	Assigned Lines/Ports: 2		
Unassigned Lines/Ports: Unlimited			
Version: Avaya J179 IP Phone 4.0.4.0.10 c81fea9b843b			
Use Identity/Device Profile Type	Credentials		
O Use Custom Credentials			
* Device Access User Name:			
* Device Access Password:			
* Re-type Device Access Password:			

Figure 10 Device Profile Instance

5.2.4 Configure Cisco BroadWorks User

Configure the user with the desired Cisco BroadWorks configuration and services. Any services that require a specific configuration on the device are managed via Device Management and are defined in the device configuration files, if the template files are created with the correct Device Management tags.

The device profile created in the previous section must be assigned to the Cisco BroadWorks user. Assigning the device profile to the user automatically causes the Device Management feature to generate the device configuration files for this user's device.

To assign the device profile to the user, browse to the Cisco BroadWorks $< user > \rightarrow Addresses$.

5.2.5 Customize Tags

This section identifies custom tags used by the J100 that may need to be customized at the group or device profile. Customizing a tag at the group level overrides the setting on the device profile type for the device profiles created within the group. Customizing a tag at the device profile level overrides the setting at the device profile type and/or group level for the individual device profile.

5.2.5.1 SBC Address Customization for Edge Device

In many deployments, an edge device, such as an enterprise SBC or application layer gateway, is deployed on the enterprise edge. The edge device's SIP server or outbound proxy setting is configured with the service provider's SBC IP address or FQDN. If there is no edge device, the customization below does not apply.

To integrate the edge device with Device Management, the SBC address tag (%SBC_ADDRESS%) defined in section *5.2.1.1 Create System Default Tags* must be overridden at the group level with the LAN address of the edge device. To do so, perform that following steps.

- At the Group → Utilities → Configure Device page, select the Avaya device profile, Avaya_J100.
- 2) Click on the *Custom Tags* tab.
- 3) Click **Add**.
- 4) For the tag, enter "SBC_ADDRESS".
- 5) For the value, enter the edge device LAN IP address.
- 6) To save the tag data, click **OK**.

5.2.6 Configure Avaya J100

This section describes the steps necessary to configure the Avaya J100 to integrate with Cisco BroadWorks Device Management. The J100 can be configured either manually through its web interface or through No Touch Provisioning by supporting DHCP option 43.

5.2.6.1 Manually Configure J100

Manually configure J100 through its web interface https://<device IP>. The default login user name is "admin" and the default password is "27238".

After logging in to the phone, browse to the *Management* \rightarrow *HTTP/HTTPS Provisioning Server Address* to set the Cisco BroadWorks Device Management information.

AVAYA	J179 IP Phone	
Status	Device Enrollment Service	
Network	DES Discovery *	Enable (Default)
Ethernet	Embedded Public Certificates *	Trusted only if Trustcerts i v
Wi-Fi	HTTP Provisioning Server	
	HTTP Server Address *	xsp1.tekvizion.com
SIP	HTTP Server Directory Path *	dms/Avaya_J100/
Settings	HTTP Port *	80
Date & Time	HTTPS Provisioning Server	
Management	HTTPS Server Address *	xsp1.tekvizion.com
Password	HTTPS Server Directory Path *	dms/Avaya_J100/
Debugging	HTTPS Port *	443
Cortificator	Authentication Credentials to Provisioning	Server
	User Name	9725980581
Environment Settings	User Password	•••••
Background and Screen	Pug-and-Play (PNP) Provisioning	
	PNP Configuration *	Enabled (Default)
Calendar	Configuration	
Multicast Paging	Configuration Server Access Mode *	use HTTPS if SIP transport 🗸 🧖
Key Configuration	Download configuration file using HTTPS only *	No (Default)

Figure 11 J100 Management Screen

- HTTP/S Server Address: FQDN or IP address of XSP server, for example, xsp1.tekvizion.com.
- HTTP/S Server Directory Path: dms/Avaya_J100.

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5.2.6.2 No Touch Provisioning through DHCP

No Touch Provisioning allows Avaya J100 to be deployed with minimal user input. To put the endpoint in service, the Avaya J100 can be simply taken out of the box and plugged into the LAN.

Configure the end customer's DHCP server with Option 43 containing the Cisco BroadWorks Device Management URL. The URL is in format *http://xsp1.tekvizion.com* /dms/ Avaya_J100/.

5.3 Upgrade from Previous CPE Kits

The previous configuration sections are primarily structured around importing or manually configuring the Avaya device profile types for the first time. Many of the steps are unnecessary when upgrading to a new firmware release or CPE kit version.

For general instructions on upgrading, see the *Cisco BroadWorks CPE Kit Usage Guide* [8].

Appendix A: Reference J100 Configuration Files

The following is a reference configuration for the J100 configured for use with Cisco BroadWorks.

System Default File: 46xxsettings.txt

NOTE: This is an example file and it should be used for reference only.

```
#For details of all available configuration parameters please see
the latest 46xxsettings.txt example here:
#https://support.avaya.com/downloads/downloads-
landing.action?product id=P1661&product name=j100-series-ip-
phones&release number=releaseId&contentType=Solutions
#Generated by Broadsoft Device Management: %BWTIMESTAMP%
SET ENABLE AVAYA ENVIRONMENT 0
SET DISCOVER AVAYA ENVIRONMENT 0
SET ENABLE IPOFFICE 0
SET ENABLE 3PCC ENVIRONMENT 1
SET 3PCC SERVER MODE 1
SET SIPREGPROXYPOLICY alternate
SET ENABLE PRESENCE 0
SET ENABLE STRICT USER VALIDATION 1
SET ENABLE OOD RESET NOTIFY 1
SET ADMIN PASSWORD % ADMIN PASSWORD%
SET XSI URL %XSP ADDRESS XSI ACTIONS%
SET SIP CONTROLLER LIST "%SBC ADDRESS%:%SBC PORT%;transport=tcp"
SET ENABLE SIP USER ID 1
SET ENABLE WEBSERVER %ENABLE WEBSERVER%
SET DIALPLAN %DIAL PLAN%
SET AUTO ANSWER MUTE ENABLE %AUTO ANSWER MUTE ENABLE%
SET PROVIDE LOGOUT 1
SET IPV6STAT 0
SET TRUSTCERTS %TRUSTCERTS%
SET BS CC AUTOMATIC STATE 1
SET BS CC ENABLED 1
SET BS CC UNAVAIL CODES " 1 = Coffee break , 2 = Tea party, dnd,
coffee = Coffee break2 "
SET ESCALATION FAC #83
SET BS CC DISP CODES
"2066886813:1=Another Call Required;2=Promotion Call,2066886814:1
=Question Resolved;2=Another Call Required;3=Another Call
Required; 4=Promotion Call"
SET BS CC SUPERVISORS
"2066886813:2066886155=Group6813 CC6155;2066886154=Group6813 6154
@devices.avaya.com,2066886814:2066886153 =Group6814 Technical
Expert;2066886152;2066886151"
SET BS CC COT ENABLED 1
#Phone Model Specific configuration
IF $MODEL4 SEQ J129 GOTO J129 RESOURCES
```

IF \$MODEL4 SEQ J139 GOTO J139 RESOURCES IF \$MODEL4 SEQ J169 GOTO J169 RESOURCES IF \$MODEL4 SEQ J179 GOTO J179 RESOURCES GOTO DONE RESOURCES # J129 RESOURCES GOTO DONE RESOURCES # J139 RESOURCES GOTO DONE RESOURCES # J169 RESOURCES SET BACKGROUND IMAGE %BACKGROUND IMAGE% SET BACKGROUND IMAGE DISPLAY %BACKGROUND IMAGE DISPLAY% SET BACKGROUND IMAGE SELECTABLE %BACKGROUND IMAGE SELECTABLE% SET SCREENSAVER IMAGE %SCREENSAVER IMAGE% SET SCREENSAVER IMAGE DISPLAY %SCREENSAVER IMAGE DISPLAY% SET SCREENSAVER IMAGE SELECTABLE %SCREENSAVER IMAGE SELECTABLE% SET SCREENSAVERON %SCREENSAVERON% SET RINGTONES %RINGTONES% SET RINGTONES UPDATE 1 GOTO DONE RESOURCES # J179 RESOURCES SET BACKGROUND IMAGE %BACKGROUND IMAGE% SET BACKGROUND IMAGE DISPLAY %BACKGROUND IMAGE DISPLAY% SET BACKGROUND IMAGE SELECTABLE %BACKGROUND IMAGE SELECTABLE% SET SCREENSAVER IMAGE %SCREENSAVER IMAGE% SET SCREENSAVER_IMAGE_DISPLAY %SCREENSAVER IMAGE DISPLAY% SET SCREENSAVER IMAGE SELECTABLE %SCREENSAVER IMAGE SELECTABLE% SET SCREENSAVERON %SCREENSAVERON% SET RINGTONES %RINGTONES% SET RINGTONES UPDATE 1 GOTO DONE RESOURCES # DONE RESOURCES GET \$MACADDR.txt

Device-specific File: %BWMACADDRESS%.txt

NOTE: This is an example file and it should be used for reference only.

#For details of all available configuration parameters please see the latest 46xxsettings.txt example here: #https://support.avaya.com/downloads/downloadslanding.action?product_id=P1661&product_name=j100-series-ipphones&release_number=releaseId&contentType=Solutions #Generated by Broadsoft Device Management: %BWTIMESTAMP% SET PRIMARY LINE TYPE %BWSHAREDLINE-BINARY-1%

```
SET PRIMARI_LINE_IIPE &BWSHAREDLINE-BINARI-1%
SET PRIMARY_LINE_BARGE_IN_ENABLED %BWSCA-BRIDGING-BINARY-1%
SET PHNNUMOFSA %PHNNUMOFSA%
```

CISCO SET FORCE SIP USERNAME %BWLINEPORT-1% #FORCE SIP USERNAME is actually BWLINEPORT (yes it seems backwards) SET FORCE SIP PASSWORD %BWAUTHPASSWORD-1% SET FORCE SIP EXTENSION %BWAUTHUSER-1% #FORCE SIP EXTENSION is actually BWAUTHUSER (yes it seems backwards) SET BW HOTELING MODE %BWHOTELINGMODE-1% # Shared Line Configuration SET PROVIDE SHARED LINE CONFIG 1 SET SCA1 ENABLED %BWSHAREDLINE-BINARY-2% SET SCA1 BARGE IN ENABLED %BWSCA-BRIDGING-BINARY-2% SET SCA1 MAX CALL APPEARANCES %SCA1 MAX CALL APPEARANCES% SET SCA1 SIPUSERID %BWLINEPORT-2% SET SCA1 USERNAME %BWAUTHUSER-2% SET SCA1 PASSWORD %BWAUTHPASSWORD-2% SET SCA2 ENABLED %BWSHAREDLINE-BINARY-3% SET SCA2 BARGE IN ENABLED %BWSCA-BRIDGING-BINARY-3% SET SCA2 MAX CALL APPEARANCES %SCA1 MAX CALL APPEARANCES% SET SCA2 SIPUSERID %BWLINEPORT-3% SET SCA2 USERNAME %BWAUTHUSER-3% SET SCA2 PASSWORD %BWAUTHPASSWORD-3% SET SCA3 ENABLED %BWSHAREDLINE-BINARY-4% SET SCA3_BARGE IN ENABLED %BWSCA-BRIDGING-BINARY-4% SET SCA3 MAX CALL APPEARANCES %SCA1 MAX CALL APPEARANCES% SET SCA3 SIPUSERID %BWLINEPORT-4% SET SCA3 USERNAME %BWAUTHUSER-4% SET SCA3 PASSWORD %BWAUTHPASSWORD-4% # XSI AUTHENTICATION # Ensure correct configuration on the Broadsoft Service Provider AS to authenticate XSI requests "com.broadsoft.xsi-events" using SIP Credentials # On the AS add the applicationID "com.broadsoft.xsi-events" by issuing the following command: # AS CLI/Interface/OCI/CallControl> add <applicationId> <enableSystemWide> <notificationTimeoutInSeconds> [<description>] # Example: # AS CLI/Interface/OCI/CallControl> add com.broadsoft.xsi-events true 8 BroadSoftXSIWebApp #If above SIP Credential authorization is not working the below fields can be used as a workaround: #FORCE XSI USER ID %BWLOGIN-ID-1% #This requires J100 Firmware version >=4.0.1.0 #SET FORCE XSI WEB PASSWORD %BWAUTHPASSWORD-1% #This requires the users Web Portal password to be the same as the SIP Authorization password

SET GMTOFFSET %BWTIMEZONE-1%

11 111 11



SET SIPDOMAIN %BWHOST-1% SET CONFERENCE FACTORY URI %BWNETWORK-CONFERENCE-SIPURI-1% SET PSTN VM NUM %BWVOICE-PORTAL-EXTENSION-1% SET SUBSCRIBE LIST NON AVAYA %SUBSCRIBE LIST NON AVAYA% IF \$MODEL4 SEQ J129 GOTO J129 LANGUAGE IF \$MODEL4 SEQ J139 GOTO J139 LANGUAGE IF \$MODEL4 SEQ J169 GOTO J169 LANGUAGE IF \$MODEL4 SEQ J179 GOTO J179 LANGUAGE GOTO DONE LANGUAGE # J129 LANGUAGE SET LANGUAGES Mlf J129 %BWLANGUAGE-1%.xml SET SYSTEM LANGUAGE Mlf \$MODEL %BWLANGUAGE-1%.xml GOTO DONE LANGUAGE # J139 LANGUAGE SET LANGUAGES Mlf J139 %BWLANGUAGE-1%.xml SET SYSTEM LANGUAGE MIT \$MODEL %BWLANGUAGE-1%.xml GOTO DONE LANGUAGE # J169 LANGUAGE SET LANGUAGES Mlf J169 J179 %BWLANGUAGE-1%.xml SET SYSTEM LANGUAGE Mlf J169 J179 %BWLANGUAGE-1%.xml GOTO DONE LANGUAGE # J179 LANGUAGE SET LANGUAGES Mlf J169 J179 %BWLANGUAGE-1%.xml SET SYSTEM LANGUAGE MIT J169 J179 %BWLANGUAGE-1%.xml GOTO DONE LANGUAGE # DONE LANGUAGE

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