BroadSoft Partner Configuration Guide

Yealink CP860 IP Phone

March 2016

Document Version 1.4

BroadWorks® Guide

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Document Revision History

Version	Reason for Change
1.1	Introduced document for Yealink CP860 IP Phone version 37.72.193.20 validation with BroadWorks Release 21.sp1.
1.2	Edited and published document. Verified *Table of Figures*.
1.3	Updated document for Yealink CP860 IP Phone version 37.80.193.10 validation with BroadWorks Release 21.sp1.
1.4	Edited changes and published document.

Table of Figures

1 Overview

This guide describes the configuration procedures required for the Yealink CP860 for interoperability with BroadWorks. This includes the following model:

■ CP860

The CP860 is an IP Conference Phone that uses the Session Initiation Protocol (SIP) to communicate with BroadWorks for call control.

This guide describes the specific configuration items that are important for use with BroadWorks. It does not describe the purpose and use of all configuration items on the CP860. For those details, see the *Yealink CP860 IP Phone User Guide* [1] supplied by Yealink.

2 Interoperability Status

This section provides the known interoperability status of the Yealink CP860 IP Phone with BroadWorks. This includes the version(s) tested, capabilities supported and known issues.

Interoperability testing validates that the device interfaces properly with 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 Yealink.

2.1 Verified Versions

The following table identifies the verified Yealink CP860 IP Phone and 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 CP860 IP Phone versions which the partner has identified as compatible and should interface properly with BroadWorks. Generally, maintenance releases of the validated version are considered compatible and are not specifically listed here. For any questions concerning maintenance and compatible releases, contact Yealink.

> **NOTE**: Interoperability testing is usually performed with the latest generally available (GA) device firmware/software and the latest GA BroadWorks release and service pack at the time the testing occurs. If there is a need to use a non-verified mix of BroadWorks and device software versions, customers can mitigate their risk by self-testing the combination themselves using the *BroadWorks SIP Phone Interoperability Test Plan* [5].

Verified Versions

Date (mm/yyyy)	BroadWorks Release	CP860 IP Phone Verified Version	CP860 IP Phone Compatible Versions
02/2016	Release 21.sp1	37.80.193.10	None.
04/2015	Release 21.sp1	37.72.193.20	None.

2.2 Interface Capabilities Supported

This section identifies interface capabilities that have been verified through testing as supported by Yealink CP860 IP Phone.

The *Supported* column in the tables in this section identifies the Yealink CP860 IP Phone'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 Yealink CP860 IP Phone has completed interoperability testing with BroadWorks using the *BroadWorks SIP Phone Interoperability Test Plan* [5]. The results are summarized in the following table.

The 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 BroadWorks with the intent to ensure interoperability sufficient to support the BroadWorks feature set.

NOTE: *DUT* in the following table refers to the *Device Under Test,* which in this case is the Yealink CP860 IP Phone.

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	Yes	
	Ringback	Yes	
	Forked Dialog	Yes	
	181 Call Being Forwarded	Yes	
	Dial Plan	Yes	
	DTMF – Inband	Yes	
	DTMF – RFC 2833	Yes	
	DTMF – DTMF Relay	Yes	
	Codec Negotiation	Yes	
	Codec Renegotiation	Yes	
BroadWorks Services	Third-Party Call Control – Basic	NA	
	Third-Party Call Control – Advanced	Yes	
	Voice Message Deposit/Retrieval	Yes	
	Message Waiting Indicator	Yes	Except Save and Urgent Information is Not displayed.
	Voice Portal Outcall	Yes	

BroadWorks SIP Phone Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
	Advanced Alerting – Ringing	Yes	
	Advanced Alerting – Call Waiting	Yes	
	Advanced Alerting – Ring Splash	Yes	
	Advanced Alerting – Silent Alerting	No	
	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	
	Collaborate – Audio	Yes	
	Collaborate – Audio – HD	Yes	
	Call Decline Policy	Yes	
DUT Services – Call Control Services	Call Waiting	Yes	
	Call Hold	Yes	
	Call Transfer	Yes	
	Three-Way Calling	Yes	Before answer scenario is not supported.
	Network-Based Conference	Yes	
DUT Services – Registration and Authentication	Register Authentication	Yes	
	Maximum Registration	Yes	
	Minimum Registration	Yes	
	Invite Authentication	Yes	
	Re-Invite/Update Authentication	Yes	
	Refer Authentication	Yes	
	Device Authenticating BroadWorks	No	

BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
DUT Services – Emergency Call	Emergency Call	NT	
	Emergency Call with Ringback	NT	
DUT Services – Miscellaneous	Do Not Disturb	Yes	
	Call Forwarding Always	Yes	
	Call Forwarding Always Diversion Inhibitor	Yes	
	Anonymous Call	Yes	
	Anonymous Call Block	Yes	
	Remote Restart Via Notify	Yes	
Advanced Phone Services – Busy Lamp Field	Busy Lamp Field	No	
	Call Park Notification	No	
Advanced Phone Services – Feature Key Synchronization, Private Line	Do Not Disturb	Yes	"Activate Do Not Disturb from Phone, Multi-line" is not supported.
	Do Not Disturb Ring Splash	Yes	
	Call Forwarding	Yes	
	Call Forwarding Always Ring Splash	Yes	
	Call Forwarding Always Diversion Inhibitor	Yes	
	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 Services – Feature Key Synchronization, Shared Line	Do Not Disturb	Yes	
	Do Not Disturb Ring Splash	Yes	
	Call Forwarding	Yes	
	Call Forwarding Always Ring Splash	Yes	
	Call Forwarding Always Diversion Inhibitor	Yes	
	Security Classification	No	

BroadWorks SIP Phone Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
Advanced Phone Services – Missed Calls Display Synchronization	Missed Calls Display Sync	Yes	
Advanced Phone Services – Shared Call Appearance using Call Info	Line-Seize	Yes	
	Call-Info/Lamp Management	Yes	
	Public Hold	No	
	Private Hold	No	
	Hybrid Key System	No	
	Multiple Call Arrangement	No	
	Bridge Active Line	No	
	Bridge Active Line – Silent Monitor	No	
	Call Park Notification	Yes	
Advanced Phone Services – Call Park Notification	Call Park Notification	Yes	
Advanced Phone Services – Call Center	Hold Reminder	Yes	
	Call Information	Yes	
	Hoteling Event	Yes	
	Status Event	Yes	
	Disposition Code	Yes	
	Emergency Escalation	Yes	
	Customer Originated Trace	Yes	
Advanced Phone Services – Call Recording Controls	Pause/Resume	No	
	Start/Stop	No	
	Record Local Conference	No	
	Record Network Conference	No	
Advanced Phone Services – Call Recording Video	Basic Call	No	
	Record Local Conference	No	
	Record Network Conference	No	
Advanced Phone Services – Security Classification	Security Classification	No	
Advanced Phone Services – Conference Event	Network-Based Conference Creator	No	
	Network-Based Conference Participant	No	

BroadWorks SIP Phone Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
	Meet-Me Conference Participant	No	
Redundancy	DNS SRV Lookup	Yes	
	Register Failover/Failback	Yes	
	Invite Failover/Failback	Yes	
	Bye Failover	Yes	
SBC/ALG - Basic	Register	Yes	
	Outgoing Invite	Yes	
	Incoming Invite	Yes	
SBC/ALG – Failover/Failback	Register Failover/Failback	Yes	
	Invite Failover/Failback	Yes	
Video – Basic Video Calls	Call Origination	No	
	Call Termination	No	
	Call Hold	No	
	Call Waiting	No	
	Call Transfer	No	
Video – BroadWorks Video Services	Auto Attendant	No	
	Auto Attendant – HD	No	
	Voice Messaging	No	
	Voice Messaging – HD	No	
	Custom Ringback	No	
Video – BroadWorks Video Conference	Network-based Conference	No	
	Network-based Conference – HD	No	
	Collaborate – Video	No	
	Collaborate – Video – HD	No	
TCP	Register	Yes	
	Outgoing Invite	Yes	
	Incoming Invite	Yes	
IPV6	Call Origination	NT	
	Call Termination	NT	
	Session Audit	NT	
	Ringback	NT	
	Codec Negotiation/Renegotiation	NT	
	Voice Message Deposit/Retrieval	NT	

BroadWorks SIP Phone Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
	Call Control	NT	
	Registration with Authentication	NT	
	Busy Lamp Field	No	
	Redundancy	NT	
	SBC	NT	
	Video	No	
	Dual Stack with Alternate Connectivity	No	

2.2.1 Other Interface Capabilities

The Yealink CP860 IP Phone may have implemented support for the following:

■ BroadWorks Xtended Services Interface (Xsi)

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

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

	BroadWorks Xtended Services Interface (Xsi) and BroadCloud IM&P Support Table		
Interface	Feature	Supported	Comments
Xsi Features – Authentication	Authenticate with SIP Credentials	Yes	
	Authenticate with BroadWorks User Login Credentials	Yes	Default.
	Authenticate with BroadWorks User Directory Number	No	
Xsi Features – User Service Configuration	Remote Office	Yes	
	BroadWorks Anywhere	Yes	
	Simultaneous Ringing	Yes	
	Caller ID Blocking	Yes	
	Call Forwarding Always	No	Via FKS.
	Call Forwarding Busy	No	Via FKS.
	Call Forwarding No Answer	No	Via FKS.
	Do Not Disturb	No	Via FKS.
Xsi Features – Directories	Enterprise Directory	Yes	
	Enterprise Common Phone List	Yes	
	Group Directory	Yes	
	Group Common Phone List	Yes	
	Personal Phone List	Yes	
	Search All Directories	Yes	
Xsi Features – Call Logs	Placed Calls	Yes	
	Received Calls	Yes	
	Missed Calls	Yes	
	All Calls	Yes	
	Sort by Name	No	
Xsi Features – Visual Voice Mail	View Messages	No	
	Listen to Audio Message	No	
	Watch Video Message	No	
	Mark Message Read/Unread	No	
	Delete Message	No	
	Mark All Messages Read/Unread	No	
XMPP Features – Contact/Buddy List	Contacts	No	
	Favorites	No	

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

Interface	Feature	Supported	Comments
	Groups	No	
	Non-XMPP Contacts	No	
	Conferences	No	
XMPP Features – Presence	Login Invisible	No	
	Presence State	No	
	Presence Status	No	
	Contact's Presence State	No	

2.3   Known Issues

This section lists the known interoperability issues between 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 BroadWorks release dependent.

The *Issue Number* is a tracking number for the issue. If it is a Yealink issue, the issue number is from Yealinks's tracking system. If it is a 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	Partner Version			
		37.72.193.20	37.80.193.10		
66931	**Connected Line ID on Re-INVITE.** Connected Line ID is not updated on receiving a re-Invite with new connected ID. There is a special flag for this to work but it can be modified in V72. Workaround: None.	X			

3 BroadWorks Configuration

This section identifies the required BroadWorks device profile type for the Yealink CP860 IP Phone as well as any other unique BroadWorks configuration required for interoperability with the CP860 IP Phone.

3.1 BroadWorks Device Profile Type Configuration

This section identifies the device profile type settings to use when deploying the Yealink CP860 IP Phone with BroadWorks.

Create a device profile type for the Yealink CP860 IP Phone with settings as shown in the following example. For an explanation of the profile parameters, see the *BroadWorks Device Management Configuration Guide* [2].

The device profile type shown in the following table provides the *Number of Ports* (number of SIP lines) setting for Yealink CP860 IP Phone. For other models, create a new device profile type and set the *Number of Ports* to match the available number of SIP lines per model according to the following table.

Model	Number of Lines
CP860	1 SIP accounts, 0 line keys

Figure 1 Device Identity/Profile Type

3.2   BroadWorks Configuration Steps

No additional BroadWorks configuration steps are required.

4 CP860 IP Phone Configuration

This section describes the configuration settings required for the CP860 IP Phone integration with BroadWorks, primarily focusing on the SIP interface configuration. The CP860 IP Phone configuration settings identified in this section have been derived and verified through interoperability testing with BroadWorks. For configuration details not covered in this section, see the *Yealink CP860 IP Phone User Guide* [1].

4.1 Configuration Method

The capabilities of the *CP860 IP Phone* have been verified for use with BroadWorks based on the settings described in the following table. For more information on the meaning, purpose, and applicability of the individual configuration items, see the *Yealink CP860 IP Phone User Guide* [1].

Configuration Files

Files Provided by Partner	Level	Description
y0000000000<xx>.cfg	system configuration file	"y0000000000xx.cfg", where "xx" is associated with the hardware version of Yealink Device.
<MACADDRESS>.cfg	device-specific configuration file	

4.2 System Level Configuration

This section describes system-wide configuration items that are generally required for each *CP860 IP Phone* to work with BroadWorks. Subscriber-specific settings are described in the next section.

Step	Command	Purpose
System Configuration Items y0000000000<xx>.cfg		
Step 1	**Set SIP Proxy/Domain.** account.1.sip_server_host = as.broadworks.net account.1.SIPServerPort = 5060 account.1.sip_server_type = 2	Set the CP860 IP Phone SIP server to the Fully Qualified Domain Name (FQDN) for the BroadWorks Application Server cluster. The domain must match the domain configured for the BroadWorks subscriber's line/port domain. Set the SIP server type of CP860: Default=0 Broadsoft=1
Step 2	**Set Outbound Proxy.** account.1.outbound_proxy_enable = 1 account.1.outbound_host = sbc.broadworks.net account.1.outbound_port = 5060	Set the Outbound Proxy to the session border controller (SBC) if one is deployed between the CP860 IP Phone and BroadWorks. If there are redundant SBCs, set it to the FQDN for the SBC cluster.

Step	Command	Purpose
System Configuration Items y0000000000<xx>.cfg		

Step 3	**Set SIP Timers.**
	`account.1.advanced.timer_t1 = 0.5`
	`account.1.advanced.timer_t2 = 4`
	`account.1.advanced.timer_t4 = 5`
		The SIP timers should be set to levels short enough to support a timely failover when there is no server response.

Step 4	**Set Register Expire Timer.** `account.1.expires = 3600`	Set the registration period.
Step 5	**Enable reliable response.** `account.1.100rel_enable = 1`	Reliable provisional response (PRACK) should be enabled.

Step 6	**Enable Session Timer.**
	`account.1.session_timer.enable = 1`
	`account.1.session_timer.expires = 300`
	`account.1.session_timer.refresher = 1`
		Set the CP860 IP Phone to enable Session Timer.
		Session Refresher:
		0 = uac
		1 = uas

Step 7	**Enable Call Waiting.**
	`call_waiting.enable = 1`
	`call_waiting.tone = 1`
		Set the CP860 IP Phone series to enable Call Waiting and Call Waiting Tone.

Step 8	**Enable MWI.**
	`account.1.subscribe_mwi = 0`
	`account.1.subscribe_mwi_expires =3600`
		MWI: Solicited when setting SubscribeMWI = 1.
		MWI: Not solicited when setting SubscribeMWI = 0.

Step 9	**Enable negotiated DTMF type.** `account.1.dtmf.type = 1`	Set the CP860 IP Phone to enable inband or RFC 2833 negotiated DTMF.
Step 10	**Select Transport Type.** `account.1.sip_server.1.transport_type = 0`	Set the SIP transport: Transport = 0 (UDP) Transport = 1 (TCP) Transport = 2 (TLS) (except T18P) Transport = 3 (DNS-SRV) (except T80P)

4.3 Subscriber Level Configuration Parameters

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 BroadWorks subscriber.

Provisioning a subscriber to register with BroadWorks allows calls to terminate to the subscriber's line. Registration requires that a unique address of record (AoR) is provisioned on BroadWorks and the phone; provisioning an AoR on BroadWorks consists of setting the line/port parameter to a unique value within the Application Server cluster.

Step	Command	Purpose
Subscriber parameters for the <MACADDRESS>.cfg		
Step 1	**Enable line 1 to be used.** Example: `account.1.enable = 1`	Enable a line of the CP860 IP Phone to be used.
Step 2	**Configure display name for a line.** Example: `account.1.display_name = Joe`	For the line, configure the name to be displayed on the device.
Step 3	**Set Register User ID for a line.** Example: `account.1.user_name = 2405551111`	The *register user ID* must correspond with the line/port setting on BroadWorks.

Step 4	**Enable SIP Authentication for a line.**
	Example:
	`account.1.auth_name = 2405551111`
	`account.1.password = 123456`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.

Step 5	**Configure Network Phonebook.**
	`account.1.xsi.host =`
	`xsp1.iop1.broad works.net`
	`account.1.xsi.user =`
	`2413333601@as.iop1.`
	`broadworks.net`
	`account.1.xsi.password = yealink`
		This configures the phone to use the BroadWorks Xsi interface to retrieve the group phone directory.
		Host: This is the identity of the BroadWorks Xsp server/cluster address and relevant xsi-actions parameters.
		User: This is the BroadWorks user's login name.
		Password: This is the BroadWorks user's login password.

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, and Emergency Call.

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

4.4.1 Shared Call Appearance Configuration

The Shared Call Appearance (SCA) feature allows the administrator to add multiple locations to a given line. Any of the locations can be used to originate or receive calls.

When a call comes in to an idle line, all the provisioned locations for that line are alerted. The first location to answer the call is connected to the originator. If the line is already active in a call, only the active location is alerted.

A subscriber can originate calls from any of the configured locations. All other locations are unable to originate calls until all calls are released.

It is recommended that the phone number plus an index (<phoneNumber>_<index>) is used when provisioning the unique address of record (AoR) for each shared line. For example: 2405551111_2. If a phone number does not exist, the MAC address plus an index could be used (<macAddress>_<index>).
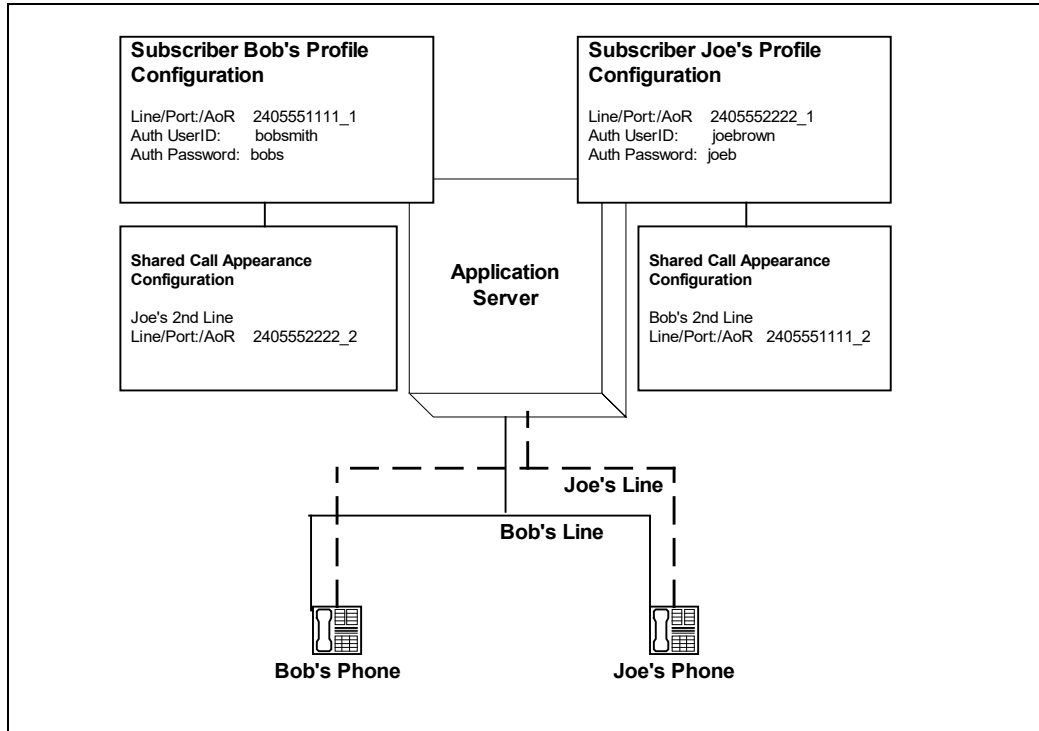
Figure 2 Shared Call Appearance Configuration

Figure 2 shows that both DUT 1 and DUT2 each have one line and that Bob has shared lines on both DUT 1 and DUT2. The figure also shows the applicable Subscriber Profile and Shared Call Appearance Configuration data for subscriber Bob.

When Bob (2405551111) is called, both DUT1 and DUT2 will ring.

The following steps show how to configure both phones for this Shared Call Appearance configuration.

For configurations of SCA for the device, see the example in the following section.

4.4.1.1   DUT1's Phone Configuration – MAC.cfg

This is the SCA configurations as specified in *MAC.cfg*, that is, *0015651130dc.cfg* where "0015651130dc" is the MAC address of the SIP phone.

The following steps are used to configure line 1 for DUT1's phone.

Step	Command	Purpose
Step 1	**Configure line as shared.** `account.1.shared_line = 1;`	Configure the line as "shared" (as opposed to "private").

Step 2	**Set Register User ID.**
	`Example:`
	`account.1.user_name = 2405551111_1;`
		The register user ID must correspond with the line/port setting on BroadWorks.

Step	Command	Purpose

Step 3	**Enable SIP Authentication.**
	Example:
	`account.1.auth_name = bobsmith;`
	`account.1.password = bobs;`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.
		
		This line rings when Bob is called, so it has Bob's authentication information.

Step 4	**Configure display name.** Example: `account.1.display_name = Bob Smith;`	Configure the name to be displayed on the device for this line.

4.4.1.2 Joe's Phone Configuration – MAC.cfg

The following steps are used to configure line 1 for DUT2's phone.

Step	Command	Purpose
Step 1	**Configure line as shared.** `account.1.shared_line = 1;`	Configure the line as "shared" (as opposed to "private").
Step 2	**Set Register User ID.** Example: `account.1.user_name = 2405551111_2;`	The register user ID must correspond with the line/port setting on BroadWorks.

Step 3	**Enable SIP Authentication.**
	Example:
	`account.1.Auth_Name = joebrown;`
	`account.1.password = joeb;`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.
		
		This line rings when Joe is called, so it has Joe's authentication information.

Step 4	**Configure display name.** Example: `account.1.Display_Name = Bob Smith;`	Configure the name to be displayed on the device for this line.

4.4.1.3 Hybrid Key System Configuration

Yealink CP860 IP Phone does not support Hybrid Key System feature.

4.4.2 Busy Lamp Field Configuration

Yealink CP860 IP Phone does not support Busy Lamp Field feature.

4.4.3 Feature Key Synchronization Configuration

Feature Key Synchronization provides synchronization of phone services such as *Call Forwarding* and *Do Not Disturb* with the settings on BroadWorks for the analogous services. Configure the phone to enable Feature Key Synchronization as follows:

Step	Command	Purpose
Step 1	Enable Feature Key Synchronization. Example: bw.feature_key_sync = 1	Enable Feature Key Synchronization feature. ▪ 0 for Disabled ▪ 1 for Enable

Browse to *Features → General Information* and set Feature Key Synchronization to "Enabled".
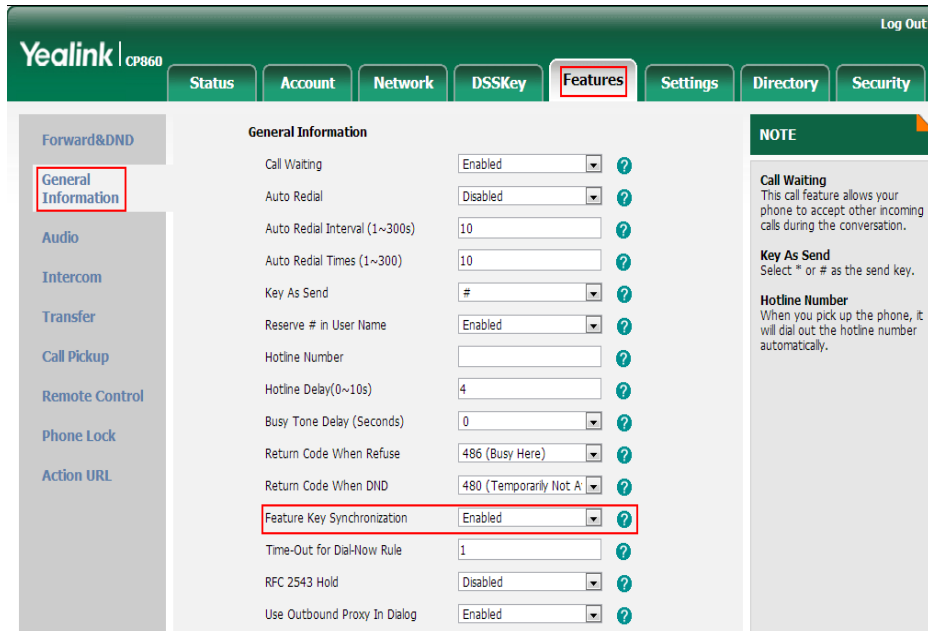
Figure 3 Feature Key Synchronization Configuration

4.4.4 Call Center Feature Configuration

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

1) Browse to the *Call Centers* configuration page.
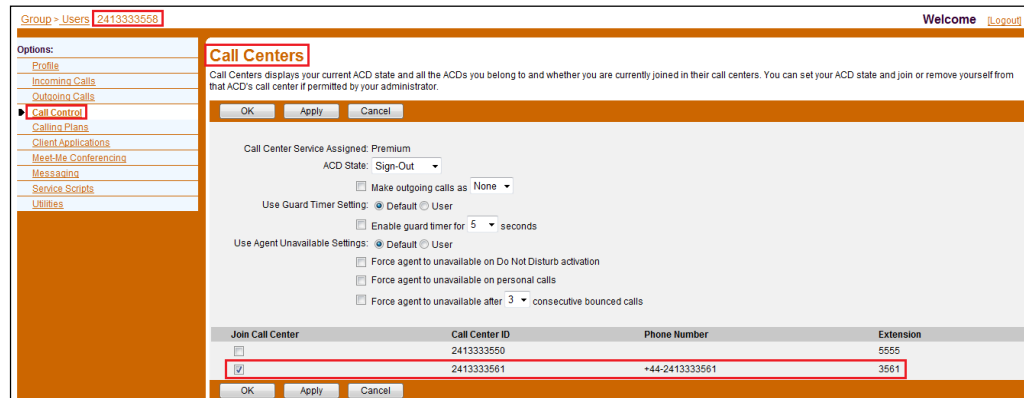
Figure 4 Call Control → Call Centers Page

2) Register the Call Center line.
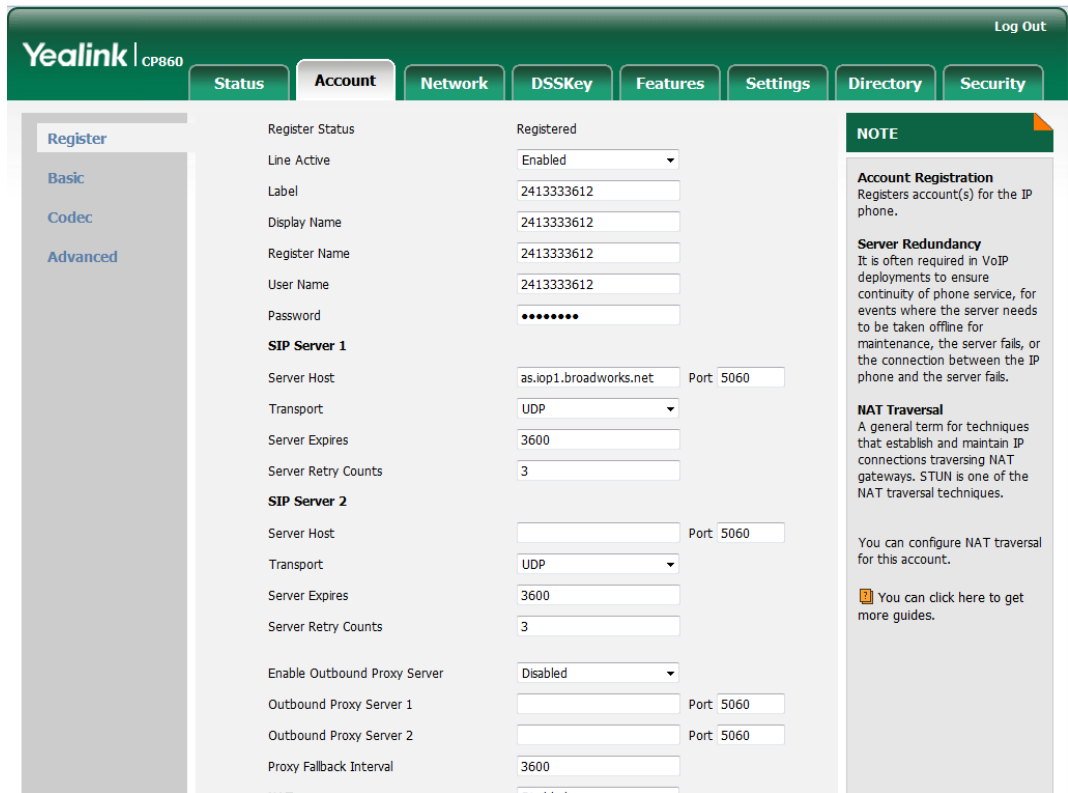
Figure 5 Account Register Page

3) Browse to the *Account → Advanced* page and set the SIP Server Type to "Broadsoft".

Figure 6 SIP Server Type Field

4) To configure the Call Center features listed in the following table, see the related *autop* parameters.

Step	Command	Purpose
Step 1	Enable ACD feature for the line. Example: account.1.acd.enable =1	Enable ACD feature. ▪ 0 for Disabled ▪ 1 for Enable
Step 2	Set the phone to display the Unavailable and Available soft keys after logging into the ACD system for the line. Example account.1.acd.available = 1	The Unavailable/Available soft key appears on the LCD screen when the phone logging to the ACD system. ▪ 0 for Disabled ▪ 1 for Enable
Step 3	Configure the initial agent state for the line. Example account.1.acd.initial_state = 1	Configure the initial agent state. ▪ 1 for Available ▪ 2 for Unavailable

Step	Command	Purpose
Step 4	Configure the unavailable code for the line. account.X.reason_code.Y = *code* account.X.reason_code_name.Y=*name* Example: account.1.acd.unavailable_reason_enable = 1 account.1.reason_code.1 = 100 account.1.reason_code_name.1= rest	Enable unavailable code feature. ▪ 0 for Disabled ▪ 1 for Enable The unavailable code length must be within 10 characters. The unavailable reason length must be within 40 characters. Value Y must be continuous, with minimum and maximum as 1 and 100.
Step 5	Enable the hold reminder feature for the line. Example: account.1.call_center.play_bw_hold_tone_enable = 1	Enable the hold reminder feature. ▪ 0 for Disabled ▪ 1 for Enable
Step 6	Configure the interval to specify how long the call center call information displays. Example: account.1.call_center.call_info_enable = 1 account.1.call_center.show_call_info_time = 30	Enable the call center call information feature. ▪ 0 for Disabled ▪ 1 for Enable
Step 7	Configure the disposition code for the line. account.X.bw_disp_code.Y = *disposition code* account.X.bw_disp_code_name.Y = *disposition code name* Example: account.1.call_center.disp_code_enable = 1 account.1.bw_disp_code.1 = 22 account.1.bw_disp_code_name.1 = *asleep*	Enable account 1's disposition code feature. ▪ 0 for Disabled ▪ 1 for Enable The disposition code which must match one of the codes configured on BroadWorks. Value Y must be continuous, with minimum and maximum as 1 and 100.
Step 8	Configure the customer originated trace feature. Example: account.1.call_center.trace_enable = 1	Enable the customer originated trace for account 1. ▪ 0 for Disabled ▪ 1 for Enable
Step 9	Configures the emergency escalation feature. account.X.supervisor_info_code_name.Y = *supervisor name* account.X.supervisor_info_code_name.Y = *supervisor name* Example: account.1.call_center.emergency_enable = 1 account.1.supervisor_info_code.1 = *supervisor number* account.1.supervisor_info_code_name.1 = *supervisor name*	Enable the emergency escalation feature. ▪ 0 for Disabled ▪ 1 for Enable The supervisor number. The supervisor number length must be within 30 characters. The supervisor name length must be within 99 characters. Value Y must be continuous, with minimum and maximum as 1 and 100.

Step	Command	Purpose
Step 10	Configure the queue status via the Power Indicator LED. Example: account.1.call_center.queue_status_enable = 1 account.1.call_center.queue_status_light_enable = 1	Enable the queue status notification feature for account 1. 0 for Disabled 1 for Enable

4.4.5 Call Recording Feature Configuration

Yealink CP860 IP Phone does not support Call recording feature.

4.4.6 Security Classification Feature Configuration

Yealink CP860 IP Phone does not support Security Classification feature.

4.4.7 Emergency Call Configuration

This section provides configuration instructions to configure the device to enable emergency call headers and ringback after hang up. Configure the emergency for phone as follows:

Step	Command	Purpose
Step 1	Configure the emergency number. Example: `phone_setting.emergency.number = 311`	Configure the emergency number.

Browse to the *Features → Phone Lock* page and set the Emergency number.
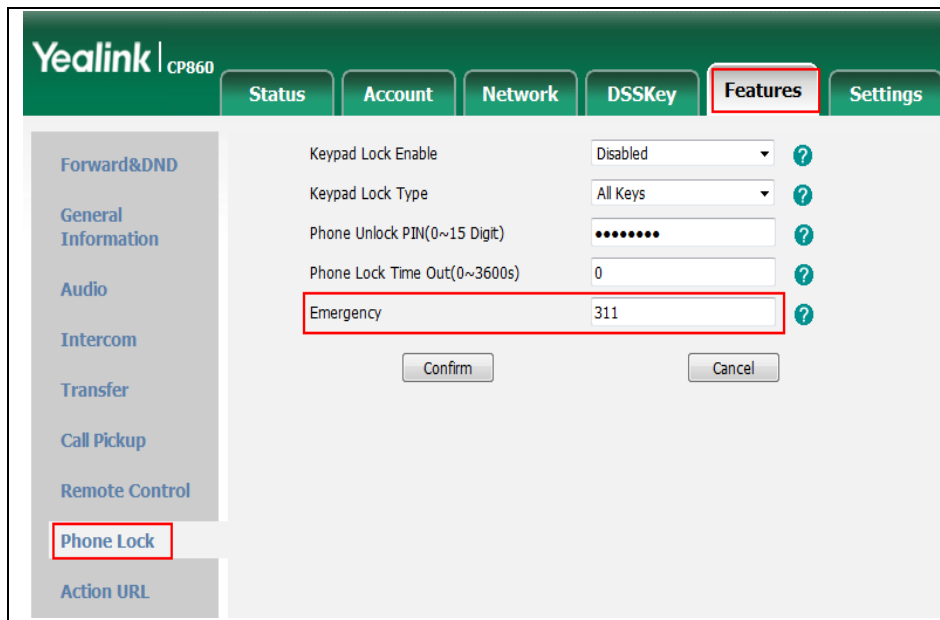
Figure 7 Emergency Number

4.4.8   Advice of Charge Configuration

Yealink CP860 IP Phone does not support Advice of Charge feature.

4.4.9   Conference Event Configuration

Yealink CP860 IP Phone does not support Conference Event feature.

4.5   Xtended Services Interface (Xsi) Feature Configuration
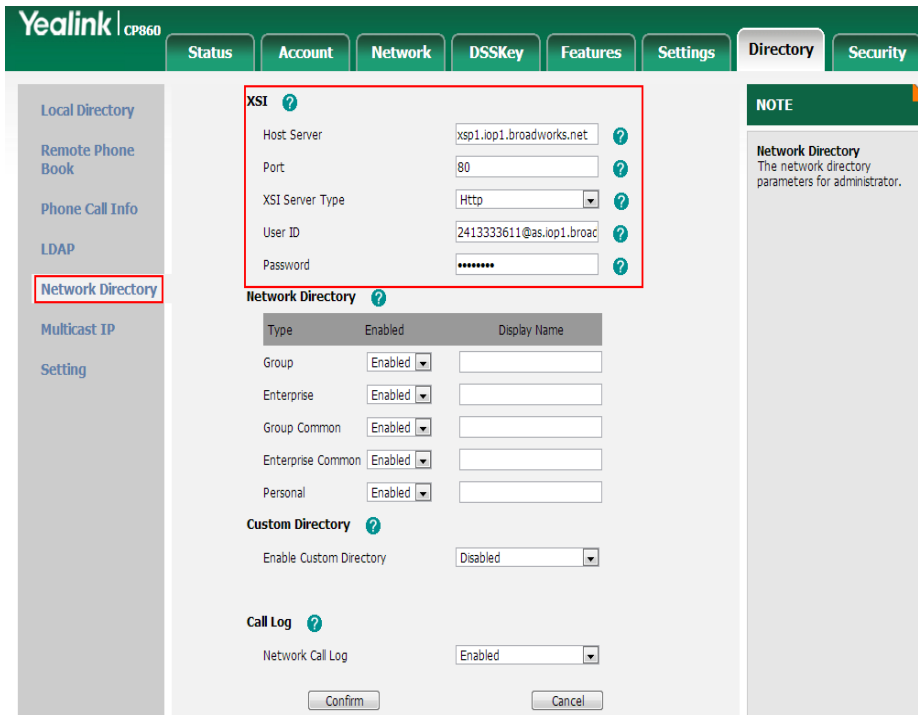
This section applies to SIP phones, soft clients, and other devices that provide a user interface.

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

For a phone to access Xtended Services Interface features including services, directories, call logs and so on, the SIP phone must first authenticate the user. At present, Yealink SIP phone supports two methods for authenticating the user, BroadWorks User Login Credentials and SIP Authentication Credentials.

BroadWorks User Login Credentials

1)   Go to the *Directory → Network Directory → XSI* settings.

Figure 8 Xtended Services Interface Configuration

2)   Type in the related parameters and then click the **Confirm** button.

SIP Authentication Credentials

1)   Browse to the *Account → Register,* type in the correct account parameters, then click **Confirm** button.
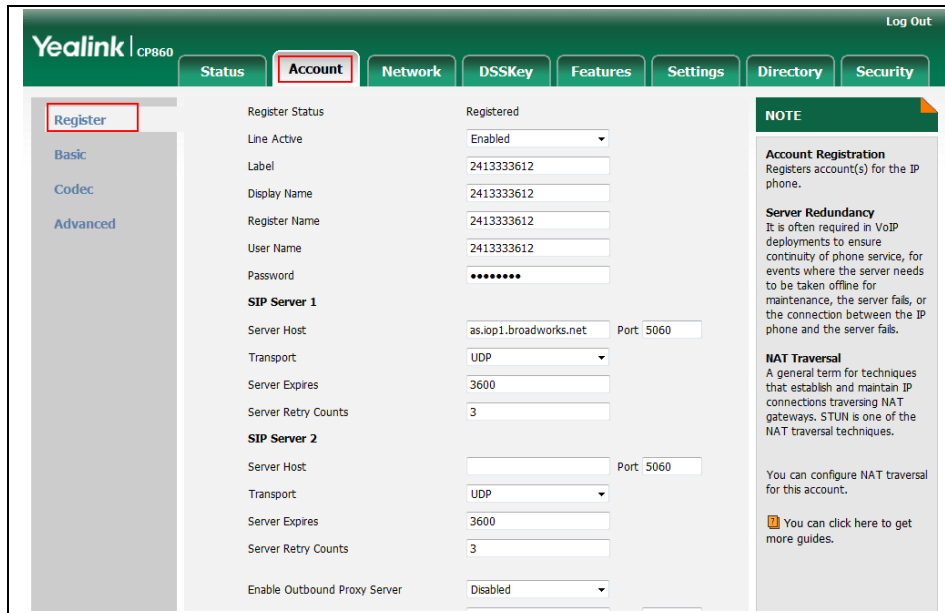
Figure 9 Xtended Services Platform Account Configuration

2)   Browse to *Directory → Network Directories*, type in the correct parameters, then save the configuration.
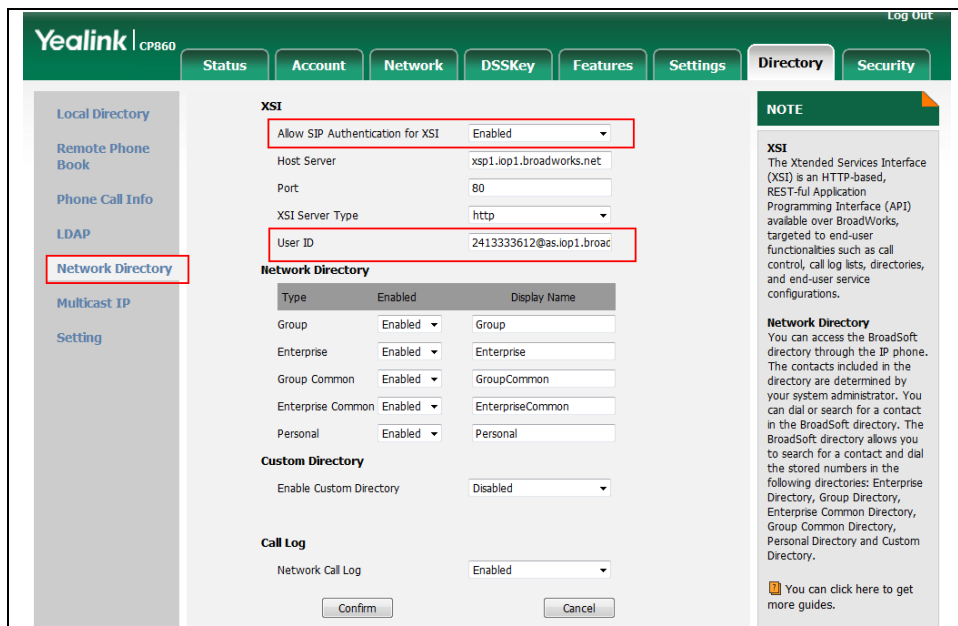
Figure 10 Xtended Services Platform Configuration

4.5.1   BroadWorks User Service Configuration

Integration with the BroadWorks Xtended Services Interface for User Service Configuration enables the phone to display and configure BroadWorks user services such as Remote Office, BroadWorks Anywhere, Call Forwarding, and Simultaneous Ring. To enable User Service Configuration, perform the following steps.

Step	Command	Purpose
Step 1	account.1.xsi.user= account.1.xsi.password = Example: account.1.xsi.user= 2405551111 account.1.xsi.password = 123456	Set the Xsi login user name and password for line 1.
Step 2	account.1.xsi.host = Example: account.1.xsi.host =xsp1.iop1.broadworks.net	Set the IP address or domain name of the Xsp server.
Step 3	account.1.xsi.server_type = Example: account.1.xsi.server_type =http	Set the transport type for Xsi.
Step 4	account.1.xsi.port = Example: account.1.xsi.port =80	Set the transport port for Xsi.

4.5.2 BroadWorks Directory Configuration

Integration with the BroadWorks Xtended Services Interface for directories enables the phone to download personal, group, and enterprise directories from BroadWorks and makes them available to a user via the phone menus. To enable this feature, perform the following steps.

Step	Command	Purpose
Step 1	Enable the group directory to be displayed on the IP phone. Example: `bw_phonebook.group_enable = 1`	Enable the group directory to be displayed on the IP phone. 0 = Disabled 1 = Enable
Step 2	Configure the group directory name displayed on the IP phone. Example: `bw_phonebook.group_displayname = Group`	Configure Group as the group directory name displayed on the IP phone. The default value is Group.
Step 3	Configure the group common directory to be displayed on the IP phone. Example: `bw_phonebook.group_common_enable = 1`	Enable the group common directory to be displayed on the IP phone. 0 = Disabled 1 = Enable
Step 4	Configure the group common directory name displayed on the IP phone. Example: `bw_phonebook.group_common_displaynam e = GroupCommon`	Configure *GroupCommon* as the group common directory name displayed on the IP phone. The default value is "GroupCommon".
Step 5	Configure the enterprise directory to be displayed on the IP phone. Example: `bw_phonebook.enterprise_enable = 1`	Enable the enterprise directory to be displayed on the IP phone. ▪ 0 for Disabled ▪ 1 for Enabled
Step 6	Configure the enterprise directory name displayed on the IP phone. Example: `bw_phonebook.enterprise_displayname = Enterprise`	Configure Enterprise as the enterprise directory name displayed on the IP phone. The default value is Enterprise.
Step 7	Enable the enterprise common directory to be displayed on the IP phone. Example: `bw_phonebook.enterprise_common_enabl e = 1`	Enable the enterprise common directory to be displayed on the IP phone. ▪ 0 for Disabled ▪ 1 for Enabled
Step 8	Configure the enterprise common directory name displayed on the IP phone. Example: `bw_phonebook.enterprise_common_displ ayname = EnterpriseCommon`	Configure *EnterpriseCommon* as the enterprise common directory name displayed on the IP phone. The default value is "EnterpriseCommon".

Step	Command	Purpose
Step 9	Enable the personal directory to be displayed on the IP phone. Example: `bw_phonebook.personal_enable = 1`	Enable the personal directory to be displayed on the IP phone. ▪ 0 for Disabled ▪ 1 for Enabled
Step 10	Configure the personal directory name displayed on the IP phone. `bw_phonebook.personal_displayname = Personal`	Configure *Personal* as the personal directory name displayed on the IP phone. The default value is "Personal".
Step 11	Enable the custom directory feature. Example: `bw_phonebook.custom = 1`	Enable the custom directory feature. ▪ 0 for Disabled ▪ 1 for Enabled

4.5.3 BroadWorks Call Logs Configuration

Integration with the BroadWorks Xtended Services Interface for Call Logs enables the phone to get call log history (missed, placed, and received calls) from BroadWorks and make them available to a user via the phone menus. To enable this feature, perform the following step.

Step	Command	Purpose
Step 1	Enable the BroadSoft call log feature. Example: `bw_phonebook.call_log_enable = 1`	Enable BroadWorks call log feature. ▪ 0 for Disabled ▪ 1 for Enabled

Configure the phone as shown in the following figure.
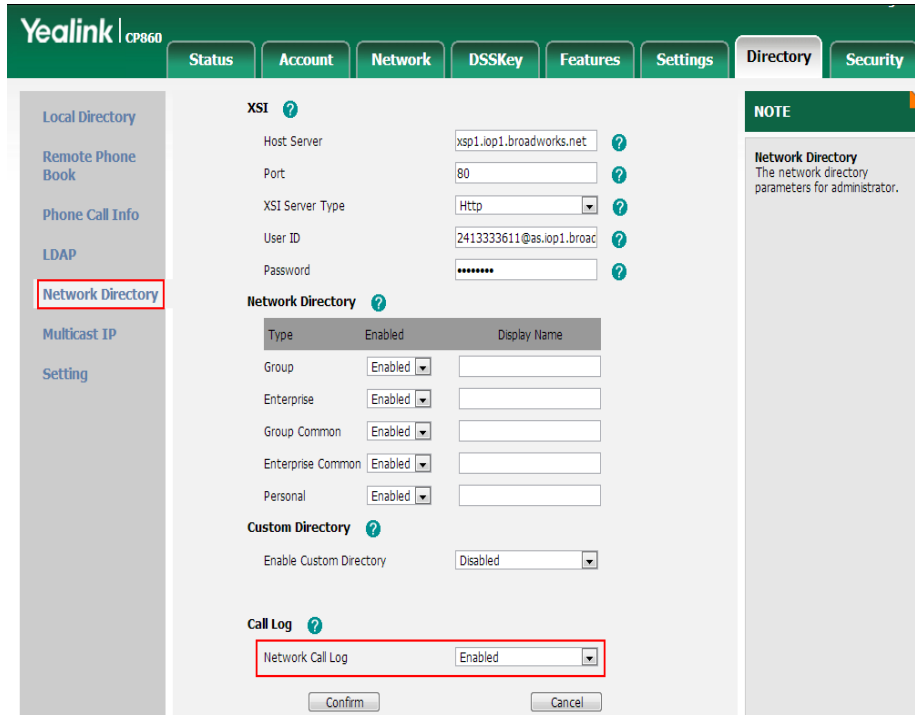
Figure 11 Call Logs Configuration

4.5.4   BroadWorks Call Park Configuration

Integration with the BroadWorks Xtended Services Interface for Call Park makes call park available to a user via the phone menus. To enable this feature, perform the following steps.

Step	Command	Purpose
Step 1	Enable call park feature for the line. Example: `account.1.callpark_enable= 1`	Enable call park feature. 0 for Disabled 1 for Enabled
Step 2	Enable the phone to display the Park soft key during a call. Example: `call_park.enable = 1`	The Park soft key appears on the LCD screen during a call. 0 for Disabled 1 for Enabled
Step 3	Enable the phone to display the GPark soft key during a call. Example: `call_park.group_enable= 1`	The GPark soft key appears on the LCD screen during a call. 0 for Disabled 1 for Enabled
Step 4	Enable the phone to play a warning tone when a call is parked against its line. Example: `call_park.park_ring = 1`	Enable the phone to play a warning tone when a call is parked against its line. 0 for Disabled 1 for Enabled

Step	Command	Purpose

Step 5	Enable the phone to display a parked indicator when a call is parked against its line.
	
	`Example:`
	`call_park.park_visual_notify_enable = 1`
		Enable the phone to display a parked indicator when a call is parked against its line.
		
		▪ 0 for Disabled
		▪ 1 for Enabled

Configure the Call Park settings as shown in the following figure.
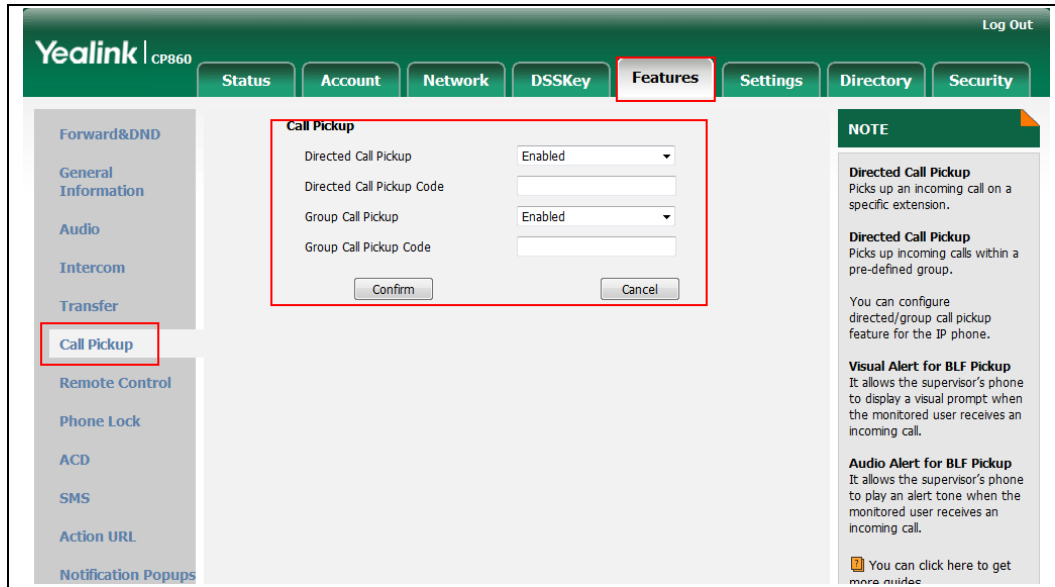
Figure 12 Call Park Configuration

4.5.5   BroadWorks Visual Voice Mail Configuration

Yealink CP860 IP Phone do not support Integration with the BroadWorks Xtended Services Interface for Visual Voice Mail.

4.6   Instant Message and Presence Configuration

Yealink CP860 IP Phone does not support the Instant Message and Presence feature.

4.7   Connected Line Presentation on UPDATE

Log in to the device's web portal, and then go to *Account → Advance → Caller ID Source*. Select the configuration item PAI-FROM, or *PAI-RPID-FROM* from the drop-down menu.

Figure 13 Connected Line Presentation on Update or Re-Invite

Or you can use the configuration parameter: account.x.cid_source=. The available values are:

- 0 – FROM

- 1 – PAI

- 2 – PAI-FROM

- 3 – PRID-PAI-FROM

- 4 – PAI-RPID-FROM

- 5 – RPID-FROM

You can select 1, 2, or 4 to make it work.

5   Device Management

The 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 Yealink CP860 IP Phone and the configuration steps required. For Device Management configuration details not covered here, see the *BroadWorks Device Management Configuration Guide* [2] and the *BroadWorks CPE Kit Usage Guide* [8].

5.1   Device Management Capabilities Supported

The Yealink CP860 IP Phone has completed Device Management interoperability testing with BroadWorks using the *BroadWorks Device Management Interoperability Test Plan* [7]. The results are summarized in the following table.

The 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 BroadWorks with the intent to ensure interoperability.

The *Supported* column in the following table identifies the Yealink CP860 IP Phone'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

■   NS*   Test item does not fully comply with BroadWorks requirements

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 Yealink CP860 IP Phone.

BroadWorks Device Management Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
HTTP File Download	HTTP Download Using Xtended Services Platform (Xsp) IP Address	Yes	
	HTTP Download Using Xtended Services Platform FQDN	Yes	
	HTTP Download Using Xtended Services Platform Cluster FQDN	Yes	
	HTTP Download With Double Slash	Yes	
HTTPS File Download	HTTPS Download Using Xtended Services Platform IP Address	Yes	

BroadWorks Device Management Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
	HTTPS Download Using Xtended Services Platform FQDN	Yes	
	HTTPS Download Using Xtended Services Platform Cluster FQDN	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 Xtended Services Platform IP Address	No	
	HTTP Upload Using Xtended Services Platform FQDN	No	
	HTTP Upload Using Xtended Services Platform Cluster FQDN	No	
Call Processing Sanity Tests	Register with Authentication	Yes	
	Call Origination	Yes	
	Call Termination	Yes	
	Remote Restart	Yes	
	Shared Line Origination	Yes	
	Shared Line Termination	Yes	
	Shared Line Status	Yes	
	Busy Lamp Field	No	
	Network-Based Conference	Yes	
Flexible Seating	Association via Voice Portal	Yes	
	Association via Phone	No	
No Touch Provisioning	Provision via DHCP Options Field	NS*	See section *5.1.6.2.4 DHCP Server configuration (Direct DM location) and redirect events*.
	No Touch Provision via DM redirect	NS*	See section *5.1.6.2.3 DHCP Server Configuration (BroadWorks Default) and Redirect Events*.
	No Touch Provision via Vendor redirect	NS*	See section *5.1.6.3 No Touch Provisioning via Yealink Redirect Service*.

5.1 Device Management Configuration

This section identifies the steps required to enable the Yealink CP860 IP Phone for device management. For Device Management configuration details not covered here, see the *BroadWorks Device Management Configuration Guide* [2] and the *BroadWorks CPE Kit Usage Guide* [8].

5.1.1 Configure BroadWorks Tags

The template files in Device Management use tags to represent the data stored on 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 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 Yealink CP860 phone models only.

The Yealink CP860 IP Phone makes use of dynamic tags which can be configured by a BroadWorks administrator as either system default or device type-specific tags. This section identifies the required tags.

5.1.1.1 Create System Default Tags

Browse to *System → Resources → Device Management Tag Sets* and select the *System Default* tag set. Add the system default tags in the following table if they do not already exist.

Tag Name	Valid Settings	Description
%SNTP_SERVER_1%	IP address/FQDN	NTP server address
%SNTP_SERVER_2%	IP address/FQDN	NTP server address alternate
%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
%USE_SBC_BOOLEAN%	0/1	Use SBC: 1=yes, 0=no
%XSP_ADDRESS_XSI_ACTIONS%	IP address/FQDN	Xtended Services Platform server address

Example System Default Tag Settings

Figure 14 System Default Tag Settings

5.1.1.2   Create Device Type-specific Tags

Browse to *System → Resources → Device Management Tag Sets* and select *Add* to add a new tag set. Configure the tag set name using the device name appended by Tags: *Yealink CP860_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 tags are defined in the following table.

Tag Name	Valid Settings	Description
%COUNTRY%	United States, Australia, Austria, Brazil, Belgium, China, Czech, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Lithuania, India, Italy, Japan, Mexico, New Zealand, Netherlands, Norway, Portugal, Spain, Switzerland, Sweden, Russia, Chile, Czech ETSI	Identifies the country for standard ringtones.
%CP860_FIRMWARE%	37.<x.x.x>.rom Example: 37.80.193.10.rom	Defines the CP860 firmware version.

Tag Name	Valid Settings	Description
%TRANSPORT_TYPE%	0 1 2 3	Defines the SIP transport. ▪ 0 = UDP ▪ 1 = TCP ▪ 2 = TLS ▪ 3 = DNS NAPTR
%CALL_WAITING_BINARY%	0 1	Enable/Disable the call waiting feature. ▪ 0 = Disabled ▪ 1 = Enable
%FEATURE_SYN%	0 1	Enable/Disable the feature key synchronization for the phone. ▪ 0 = Disabled ▪ 1 = Enable
%ACD_SYNC_BINARY%	0 1	Enable/Disable the ACD feature for the phone. ▪ 0 = Disabled ▪ 1 = Enable
%XSIPASSWORD-x%	String	Xsi login password for line x. *Leave the value as blank, this tag is customized at each device profile level.
%TIMEZONENAME%	See Appendix B.	Defines the time zone name.
%AUTO_ANSWER_BINARY%	0 1	Enable/Disable the auto answer feature for the phone. ▪ 0 = Disabled ▪ 1 = Enable

Example Device Type-specific 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.

| OK | Apply | Add | Cancel |

* Tag Set Name: Yealink-CP860_Tags

Delete	Tag Name ▲	Tag Value
☐	%ACD_SYNC_BINARY%	0
☐	%AUTO_ANSWER_BINARY%	0
☐	%CALL_WAITING_BINARY%	1
☐	%COUNTRY%	United States
☐	%CP860_FIRMWARE%	37.80.193.10.rom
☐	%FEATURE_SYNC%	1
☐	%TIMEZONENAME%	United States-Eastern Time
☐	%TRANSPORT_TYPE%	3
☐	%XSIPASSWORD-1%	

Figure 15 Device Type-specific Tag Settings

5.1.2   Configure BroadWorks Device Profile Type

The device profile type is a system-level structure that defines how the device interfaces with 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 BroadWorks device profile configuration methods described: import and manual. The import method takes a DTAF as input and builds the 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 BroadWorks Release is 17.0 or later.

■   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 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, see the *BroadWorks CPE Kit Usage Guide* [8] and the *BroadWorks Device Management Configuration Guide* [2].

5.1.2.1 Configuration Method 1: Import
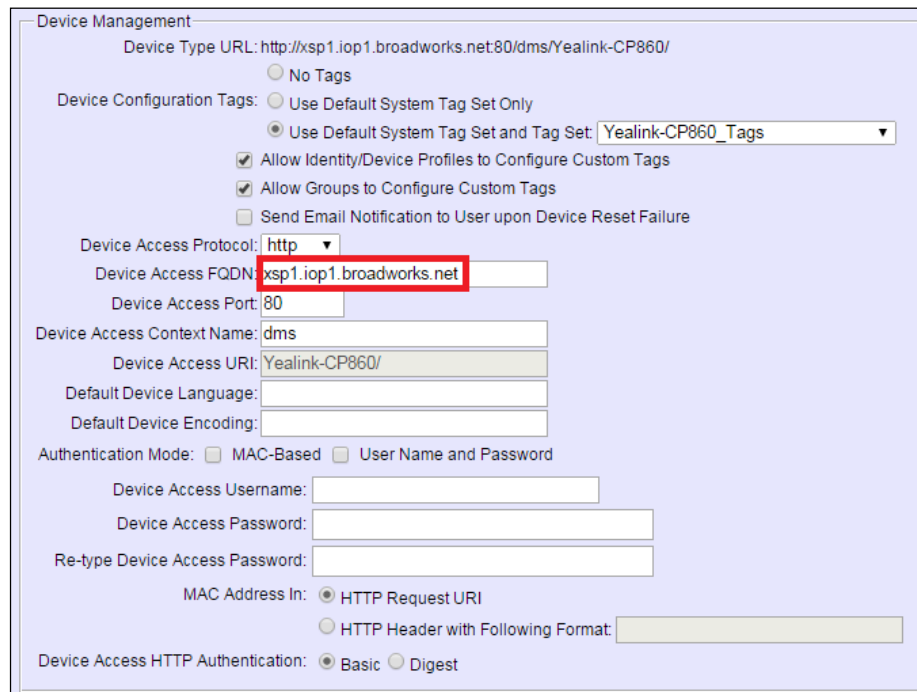
This section identifies the steps necessary to make use of the Device Management import feature to configure BroadWorks to add the Yealink CP860 IP Phone as a Device Management-enabled device type. Also see the *BroadWorks CPE Kit Usage Guide* [8].

Download the Yealink CP860 CPE kit from BroadSoft Xchange at xchange.broadsoft.com. 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 BroadWorks as an administrator.

2) Go 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 → Resources → Identity/Device Profile Types.*

5) Perform a search to find the imported device profile type, Yealink CP860.

6) Browse to the *Profile* page and change the Device Management Device Access FQDN to your Xtended Services Platform (Xsp) or Xtended Services Platform cluster address.

Figure 16 Device Access FQDN

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

Firmware files must be obtained from Yealink. These files are not included in the import. Complete the steps in section *5.2.2.2.2 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.

8) After importing the DTAFs, restart the Application Server to load the *TimeZoneAlias* files.

9) Update the device profile type language setting according to instructions provided in section *5.2.2.2.3.1 Language Mapping*.

5.1.2.2 Configuration Method 2: Manual

This section identifies the basic steps necessary for an administrator to manually configure BroadWorks to add the Yealink CP860 IP Phone 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 BroadWorks Device Profile Type*.

For more detailed instruction on manual configuration, see the *BroadWorks CPE Kit Usage Guide* [8] and the *BroadWorks Device Management Configuration Guide* [2].

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

If there are DTAFs for more than one device model, these steps must be completed for each model.

5.1.2.2.1 Create or Modify Device Profile Type

This section identifies the BroadWorks device profile type settings relevant to Device Management for the Yealink CP860 IP Phone.

Browse to *System → Resources → Identity/Device Profile Types* and perform a search to find the Yealink CP860 device profile type(s) created in section *3.1 BroadWorks Device Profile Type Configuration* or add the device profile type for each model using the settings from section *3.1 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 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.

5.1.2.2.2 Define Device Profile Type Files

This section describes the BroadWorks Device Management configuration necessary to identify the configuration files and other files that the Yealink CP860 IP Phone downloads.

Configuration templates, firmware, and other files the CP860 uses must be uploaded to BroadWorks. Download the Yealink CP860 CPE kit from BroadSoft Xchange at xchange.broadsoft.com. Extract the configuration files from the *Configuration Files* folder of CPE kit. Obtain the firmware files directly from Yealink.

The following table identifies the CP860 configuration files distributed with the version 72 CPE kit.

File Name	CPE Kit Template File Name	File Type	Description
		System-level, Device-specific, Static, Time Zone Alias	
Examples:			
BWMACADDRESS.cfg	*%BWMACADDRESS%-CP860.cfg*	Device-specific	This file contains device specific parameters that the phone needs to load.
y0000000000xx.cfg CP860: xx=37	*y0000000000xx.cfg* CP860: xx=37	System-level	This file contains system level parameters that the phone needs to load.
contact.xml	*contact.xml*	Static	This file contains the contact information in XML format.
DialPlan.xml	*DialPlan.xml*	Static	Specifies the dialing rules.
AutoDST.xml	*AutoDST.xml*	Static	Rules set of the beginning and end of Day Light Savings Time.
TimeZoneAliasLabels_Yealink+<model>.properties	*TimeZoneAliasLabels_Yealink-CP860.properties*	Time Zone Alias	The Time zone Alias file is a BroadWorks Device Management file used to map time zone identifiers between BroadWorks and Yealink phones. A Time zone Alias file is required for each model.
WebItemsLevel.cfg	*WebItemsLevel.cfg*	Static	This file defines the access level of configuration items in cfg format.
CallFailed.xml	*Call Failed.xml*	Static	This file defines the softkey of call failed state.
CallIn.xml	*CallIn.xml*	Static	This file defines the softkey of incoming call state.
Connecting.xml	*Connecting.xml*	Static	This file defines the softkey of connecting state.
Dialing.xml	*Dialing.xml*	Static	This file defines the softkey of dialing state.
favorite_setting.xml	*favorite_setting.xml*	static	This file configures desired lists of the Directory softkey
Lang-English.txt	*Lang-English(<Phone Model>).txt*	Static	Customized languages file for English.
Ring.wav	*Ring.wav*	Static	Ring tone in WAV format.
RingBack.xml	*RingBack.xml*	Static	This file defines the softkey of ring back state.
super_search.xml	*super_search.xml*	Static	This file configures the search source list in dialing.
Talking.xml	*Talking.xml*	Static	This file defines the softkey of talking state.

The following table identifies other files that the Yealink CP860 IP Phone downloads from the server or uploads to the server. These files are not provided in the CPE kit and must be obtained from Yealink.

File Name	File Type	Description
x.x.x.x.rom	Static	Device firmware file.
lang<Language>.txt	Static	Customized language files.

Go to *System → Resources → Identity/Device Profile Types → Files and Authentication* to add the files as described in the following subsections.

5.1.2.2.2.1 *System File*

This section identifies the system-level files used by Yealink and provides instructions for defining the files and uploading for Device Management.

CP860 IP Phone model downloads a model-specific system file, named as follows:

- *y000000000037.cfg*

Add the *y000000000037.cfg* file to the device profile type with the settings shown in *Figure 17*.

After creating the device profile type file, upload *y000000000037.cfg* extracted from the CPE kit. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.

Identity/Device Profile Type File Modify

Modify or delete a file type defined in an Identity/Device Profile Type.

| OK | Apply | Delete | Cancel |

Device Access File Format: y000000000037.cfg
Repository File Format: y000000000037-%BWTIMESTAMP%.cfg
Access File: http://xsp1.iop1.broadworks.net:80/dms/Yealink-CP860/y000000000037.cfg
Repository File: Download
Template File: Download
File Category: ○ Static ● Dynamic Per-Type ○ Dynamic Per-Device
File Customization: Administrator ▼
☑ Enable caching

Assign File

○ Manual
● Custom
Upload File: Choose File | No file chosen

Currently using configuration file: **/var/broadworks/IpDeviceConfig/type/Yealink-CP860/y000000000037.cfg.template**

```
#!version:1.0.0.1

##File header "#!version:1.0.0.1" can not be edited or deleted, and
must be placed in the first line.##
##This template file is applicable to CP860 phones running firmware
version 72 or later.##

##################################################################
################
```

File Authentication

Authentication Mode: ☐ MAC-Based ☑ User Name and Password
MAC Address In: ● HTTP Request URI
○ HTTP Header with Following Format: [   ]
Device Access HTTP Authentication: ○ Basic ● Digest
Allowed Access Protocols: ☑ http ☑ https ☑ tftp

| OK | Apply | Delete | Cancel |

Figure 17 *y000000000037.cfg* Settings

5.1.2.2.2.2 Device-Specific File
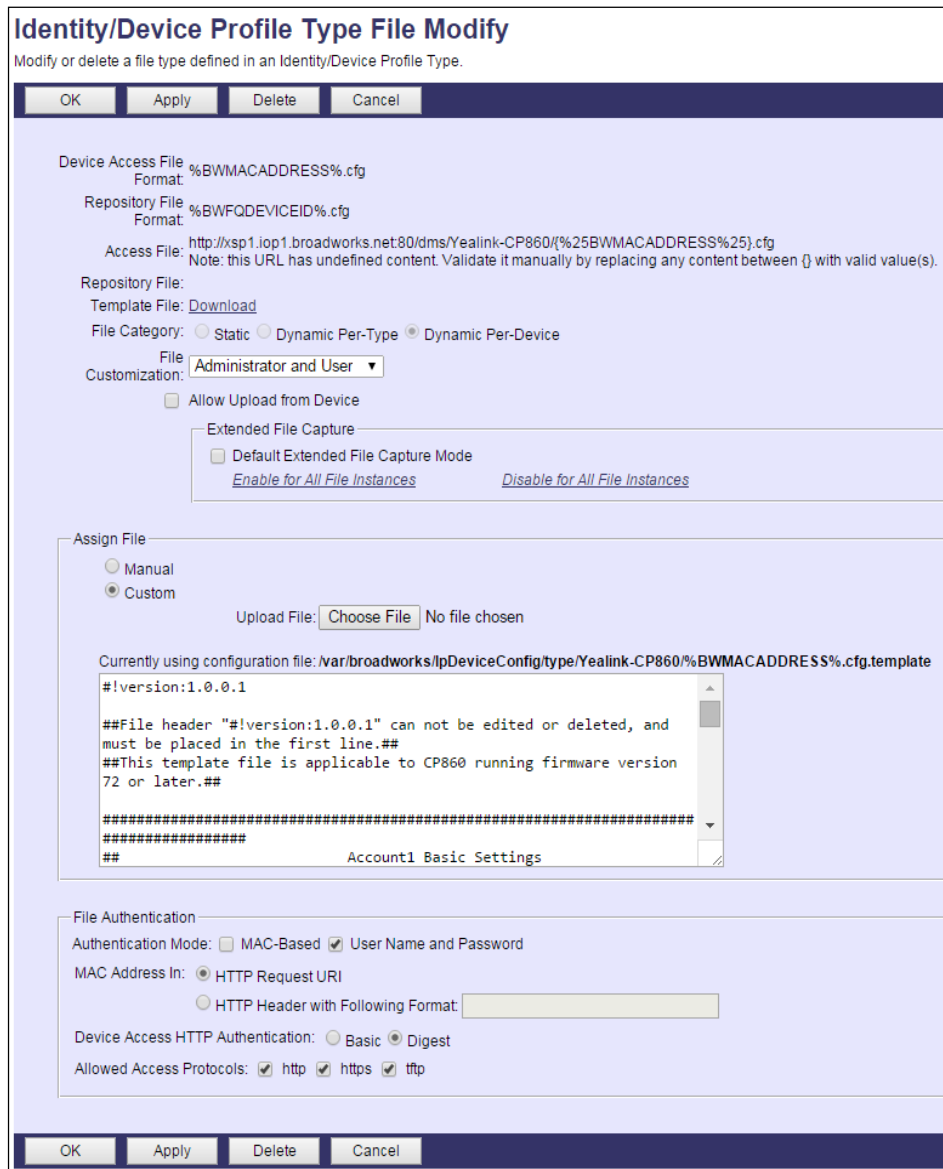
This section identifies the device-specific files used by Yealink and provides instructions for defining the files and uploading for Device Management.

Each CP860 phone downloads a phone-specific file based on the phone's MAC address using the following file name format:

- <mac-address>.cfg

Add the <mac-address>.cfg file to the device profile type with the settings shown in *Figure 18.*

After creating the device profile type file, upload <mac-address>.cfg extracted from the CPE kit. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.

Figure 18 <mac-address>.cfg Settings

5.1.2.2.2.3 Static Files

Static files are files such as firmware and media files that are not configurable and/or do not make use of the dynamic BroadWorks Device Management tags. The Yealink CP860 requires the following static files:

- <firmware-version>.rom
- *Ring.wav*
- *Xxx.GUI.<Language>.lang*
- *contact.xml*
- *AutoDST.xml*
- *DialBlock.xml*
- *DialPlan.xml*
- *DialNow.xml*
- *CallFailed.xml*
- *CallIn.xml*
- *Dialing.xml*
- *Connecting.xml*
- *Ringback.xml*
- *Talking.xml*
- *super_search.xml*
- *favorite_setting.xml*
- *WebItemsLevel.cfg*

Add the static files to the device profile type with the settings shown in *Figure 19*.

After creating the device profile type file, upload static files (extracted from the CPE kit – obtained from Yealink*)*. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.

Figure 19 Static File Settings

5.1.2.2.3 Time Zone Mapping

To properly map the BroadWorks configured user time zone to the Yealink CP860 phone setting, a mapping file must be created on the BroadWorks system. This file maps the BroadWorks time zone settings to the phone's time zone settings. Adding this mapping file for the device profile type is described in the *BroadWorks Device Management Configuration Guide* [2].

This time zone mapping file must be added to the */usr/local/broadworks/bw_base/ conf/dms* directory on the Application Server using the following file name format:

TimeZoneAliasLabels_<Device_Type_Name>.properties

For example, if the device type name is *Yealink-CP860,* the time zone mapping file name must be *TimeZoneAliasLabels_Yealink-CP860.properties*. A space in the device name must be converted to a "+" in the file name.

The file must contain the mapping of BroadWorks time zones values to Yealink time zone values. The following is an example of the file contents:

```
US_ALASKA=-9 cat
US_HAWAII=-10
CANADA_PACIFIC_TIME=-8
MEXICO_PACIFIC_TIME=-8
US_PACIFIC_TIME=-8
US_ARIZONA=-7
CANADA_MOUNTAIN_TIME=-7
MEXICO_MOUNTAIN_TIME=-7
US_MOUNTAIN_TIME=-7
CANADA_CENTRAL_TIME=-6
US_CENTRAL_TIME=-6
CANADA_EASTERN_TIME=-5
US_INDIANA=-5
US_EASTERN_TIME=-5
VENEZUELA_TIME=-4.5
CANADA_ALTANTIC_TIME=-4
CHILE_TIME=-4
CANADA_NEWFOUNDLAND=-3.5
ARGENTINA_TIME=-3
GREENWICH_MEAN_TIME=0
CENTRAL_EUROPEAN_TIME=+1
EASTERN_EUROPEAN_TIME=+2
EAST_AFRICAN_TIME=+3
IRAN_TIME=+3.5
AZERBAIJAN_TIME=+4
AFGHANISTAN_TIME=+4.5
PAKISTAN_TIME=+5
INDIA_TIME=+5.5
EASTERN_KAZAKHSTAN_TIME=+6
MYANMAR_TIME=+6.5
THAILAND_TIME=+7
```

```
CHINA_TIME=+8

JAPAN_TIME=+9

AUSTRALIAN_CENTRAL_STANDARD_TIME=+9.5

AUSTRALIAN_EASTERN_STANDARD_TIME=+10

NEWZEALAND_TIME=+12
```

This file should contain all the time zones supported by the Service Provider's BroadWorks system.
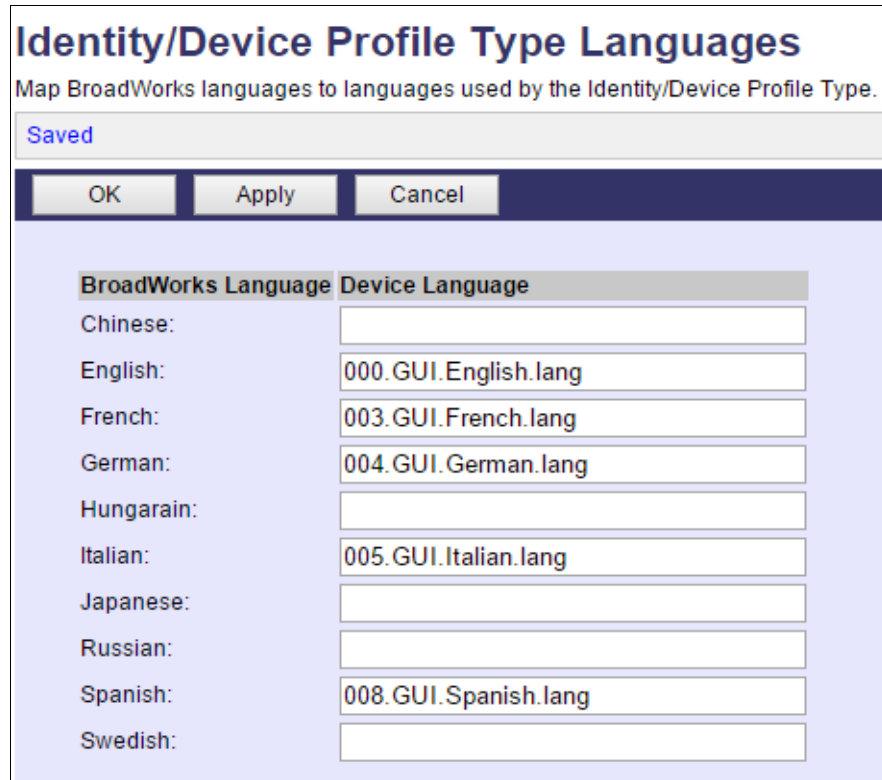
The BroadWorks Application Server must be restarted for the TimeZoneAlias files to be picked up by the system.

5.1.2.2.3.1   Language Mapping

To enable Device Management control of the phone language, the languages defined on the BroadWorks Application Server must be mapped to the Yealink language files. To perform the mapping, select the Yealink CP860 device profile type and then select the *Languages* link. The defined BroadWorks languages are listed in a table. If languages other than English do not appear, they have not been defined. The supported languages and required mapping are as follows:

BroadWorks Language	Yealink Language Mapping
English	Example：000.GUI.English.lang
Spain_Spanish	Example：008.GUI.Spanish.lang
Polish	Example：006.GUI.Polish.lang
Turkish	Example：009.GUI.Turkish.lang
French	Example：003.GUI.French.lang
German	Example：004.GUI.German.lang
Italian	Example：005.GUI.Italian.lang
Portuguese	Example：007.GUI.Portuguese.lang

Example language mapping:

Figure 20 Language Mapping

The language applied to an individual phone is determined by the language defined for the user on the *BroadWorks User's Profile* page.
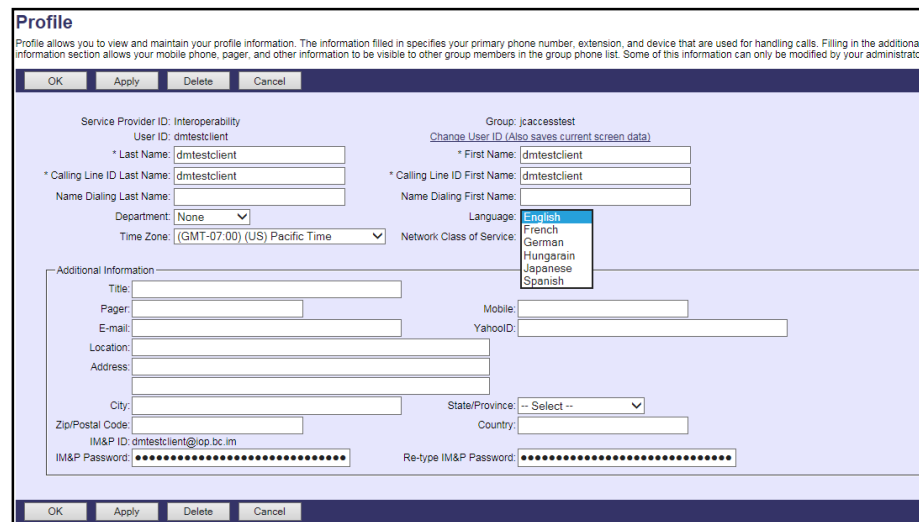
Figure 21 BroadWorks User Language Definition

5.1.3 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 BroadWorks interface to an individual Yealink CP860 device.

Go to the BroadWorks *<group>* → *Resources* → *Identity/Device Profiles* page and then select **Add** to add a new Yealink CP860 device profile. Configure the device profile as shown in the *Figure 22 Device Profile Instance* example.

The Use Custom Credentials option must be selected. Set the Device Access User Name and Password to the username and password the device uses for file download.
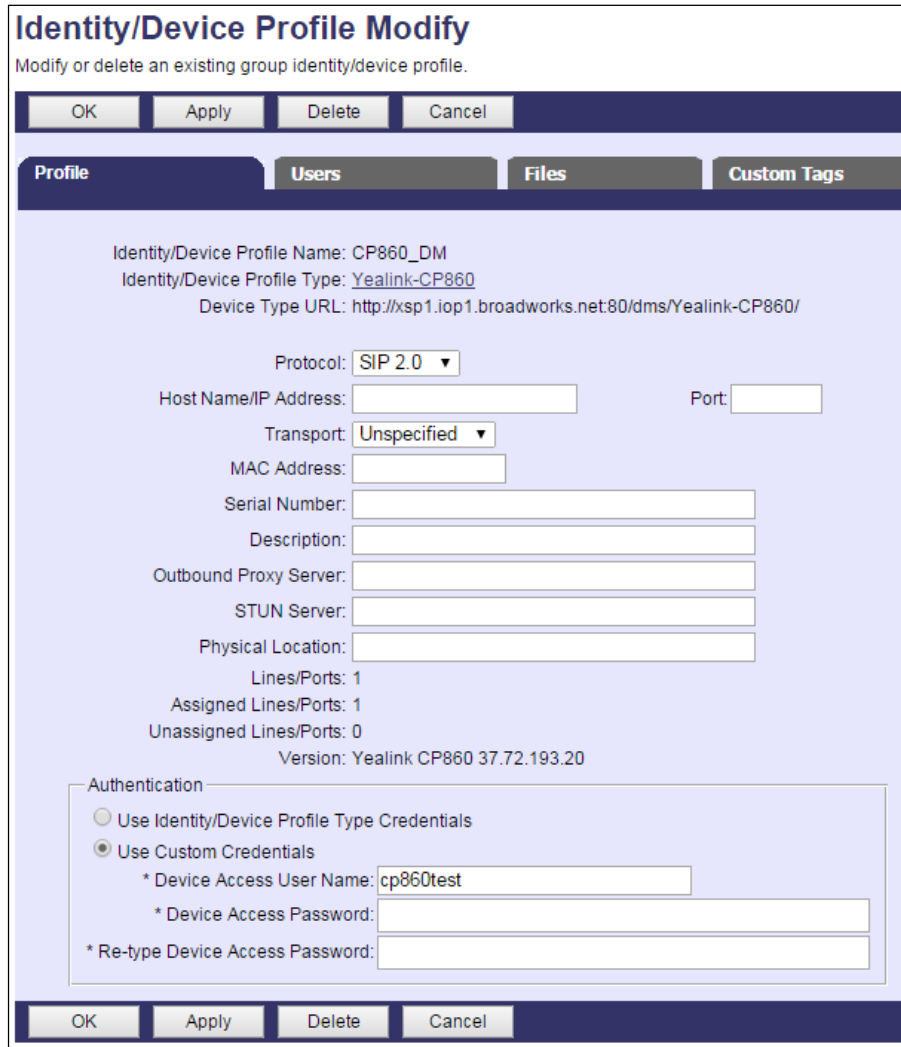
Figure 22 Device Profile Instance

5.1.4 Configure BroadWorks User

Configure the user with the desired 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 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 BroadWorks *<user> → Addresses.*

5.1.5 Customize Tags

This section identifies custom tags used by the CP860 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.

5.1.5.1 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 does not apply.

To integrate the edge device with Device Management, the SBC address tag (%SBC_ADDRESS%) defined in section *5.1.1.1 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.

1) At the *Group → Utilities → Configure Device* page, select the Yealink CP860 device profile (for example, CP860_DM).

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**.

5.1.5.2 Xtended Services Interface Password

For the Xtended Services Interface feature to be authenticated, it is necessary to override the Xtended Services Interface password for each of the lines at the device profile instance level. To override custom tags at the device profile instance level, click on the *Custom Tags* tab.
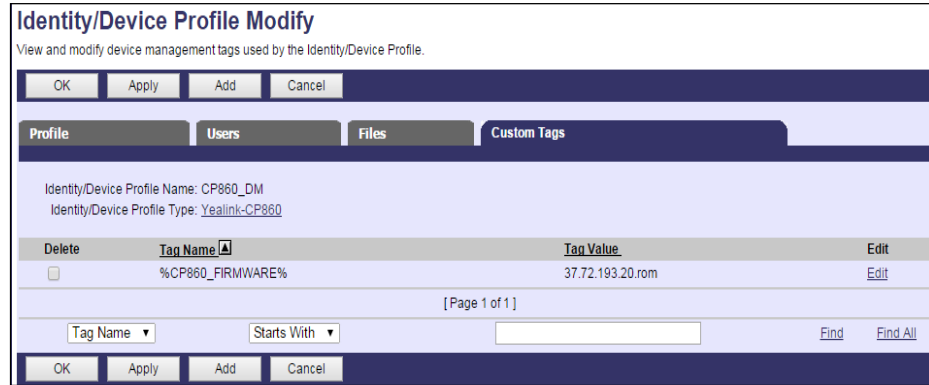
Figure 23 Device Profile Instance Custom Tags Override

Then click **Add** to add a custom tag with the following parameters:

Parameter	Value	Description/Notes
Tag Name	XSIPASSWORD-<line number> Example: XSIPPASSWORD-1	This tag provides the Xsi password of the user for the line which is assigned to the phone. Line number is an integer corresponding to the phone line in assignment.
Tag Value	The user's Xsi password. Example: 123456	

Example device profile custom tag setting

Figure 24 Device Profile Instance Custom Tags Add

Repeat the tag adding process for each of the lines provisioned on the device.

5.1.6 Configure Yealink CP860 IP Phone

This section describes the steps necessary to configure the Yealink CP860 to integrate with BroadWorks Device Management.

The phone must be configured with the Device Management URL and authentication user name and password. This configuration can be accomplished as described in the following sections:

- *5.1.6.1 Manual Provisioning*
- *5.1.6.2 No Touch Provisioning via BroadWorks Device Management*
- *5.1.6.3 No Touch Provisioning via Yealink Redirect Service*

5.1.6.1   Manual Provisioning

5.1.6.1.1   Check Enterprise/Business DHCP Server Settings

The Yealink phone uses the file server parameters configured on the phone unless *Option 66* has been defined on the DHCP server. If the DHCP server returns data set for the *Option 66* parameter, then the Yealink phone uses the address defined in this field as the server address to retrieve its configuration data.

When using manual provisioning, to make sure that the phone interfaces properly with Device Management, the *Option 66* parameter must not be set on the DHCP server. If *Option 66* is defined and cannot be cleared, then the Zero Active parameter in the DHCP menu must be set to "Disabled". This parameter is set at boot time by accessing the web user interface.

1) Click the **Settings** tab.

2) In the *Zero Active* drop-down box, select *Disabled*.

3) Confirm the configuration changes and start the phone initialization.
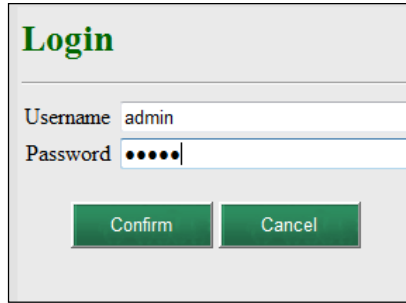
5.1.6.1.2   Provision Manual Device Management Settings

Log in to the web user interface for the CP860 IP Phone (https://<phone-ip-address>). Go to the *Settings → Auto Provision* web page and set the following:

- Power On – On

- URL – Device Management server (Xtended Services Platform) device address URL

  Example: http(s)://xsp1.broadworks.net:80/dms/Yealink_CP860/

- HTTP Authentication:

  User Name – BroadWorks Device Access (Example: yealink)

  Password – BroadWorks Device Access Password (Example: 123456)

Restart the phone to force the phone to download the Device Management configuration files and firmware.

Example Login (Default User Name/Password is admin/admin)

Figure 25 Login Screen

Example Auto Provision web page

Figure 26 Auto Provision Screen

After all parameters are entered, click the **Save** button. Allow the phone to reboot and retrieve the new configuration parameters from Device Management.

5.1.6.2   No Touch Provisioning via BroadWorks Device Management

The No Touch Provisioning method via BroadWorks Device Management uses DHCP and Device Management default configuration files. This enables configuration of the phone out-of-the-box without pre-provisioning before sending it to a customer's site.

No Touch Provisioning is done using the DHCP options provided by the end customer's DHCP server. The steps are as follows:

1) The phones are shipped to the end customer without pre-provisioning.

2) The end customer's DHCP server is configured with *Option 66* with the default Device Management URL.

3) The phone is plugged in and it receives the default Device Management URL from the DHCP server.

4) The phone queries for the default product file from Device Management.

5) The phone receives the default device file from Device Management and provisions the phone with the physical Device Management URL for the specific device model.

6) The phone resynchronizes with Device Management and prompts Zero Touch Update.

7) The end user or administrator enters the device management credentials into the Auto Provision username and password fields.

8) The phone resynchronizes with Device Management and downloads the files associated with the credentials supplied via the above step.

Device Management must be configured to facilitate the No Touch Provisioning method. Configuration can be performed using the Device Management import function or done manually. Each method is described in the following subsections

5.1.6.2.1 Configuration Method 1: Import

This section identifies the steps necessary to make use of the Device Management import feature to configure BroadWorks to add the Device Management Defaults device type for No Touch Provisioning.

The import method is available in BroadWorks Release 17.0 and later. For previous releases, use the manual configuration method described in the next section.
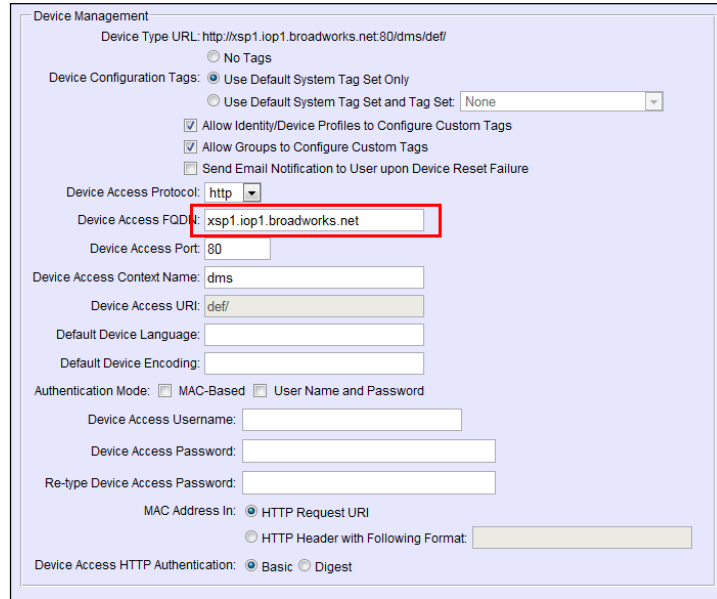
Download the CP860 CPE kit from BroadSoft Xchange at www.broadsoft.com/xchange. Extract the *DeviceManagementDefaults.DTAF.zip* file from the CPE kit. This is the import file.

Log in to BroadWorks as an administrator. Browse to *System → Resources → Identity/Device Profile Types* and select *Import*. Select *Browse* to find the extracted DTAF file and click **OK** to start the import.

After the import finishes, the following post-import configuration steps must be completed.

Browse to *System → Resources → Identity/Device Profile Types* and perform a search to find the imported *DeviceManagementDefaults* device profile type. Browse to the *Profile* page and change the Device Management Device Access FQDN to your Xtended Services Platform or Xtended Services Platform cluster address.

Example:

Figure 27 Device Access FQDN

Next, using the *Files and Authentication* link, select the option to rebuild all the system files.

5.1.6.2.2   Configuration Method 2: Manual

This section identifies the manual steps necessary to configure BroadWorks to add the Device Management Defaults device type for No Touch Provisioning

The manual method must be used for BroadWorks releases prior to Release 17.0. It is an optional method in Release 17.0 and later. The steps in this section can also be followed to update previously imported or configured device profile type(s) with new configuration files and firmware.

5.1.6.2.2.1   Create Default Device Profile Type

A Device Management default device profile type must be created. This device profile type can be configured to serve default provisioning files to Yealink CP860 endpoints, as well as other vendor devices.

Create a default device profile type as shown in the following figure. Only the device management settings are important in this context since the profile type is used only to serve default provisioning files. The standard and advanced settings do not matter.

5.1.6.2.2.1.1   Configure Standard Options

The device profile type name and standard options do not matter, but an example is provided for reference. All settings can be left with their default values.
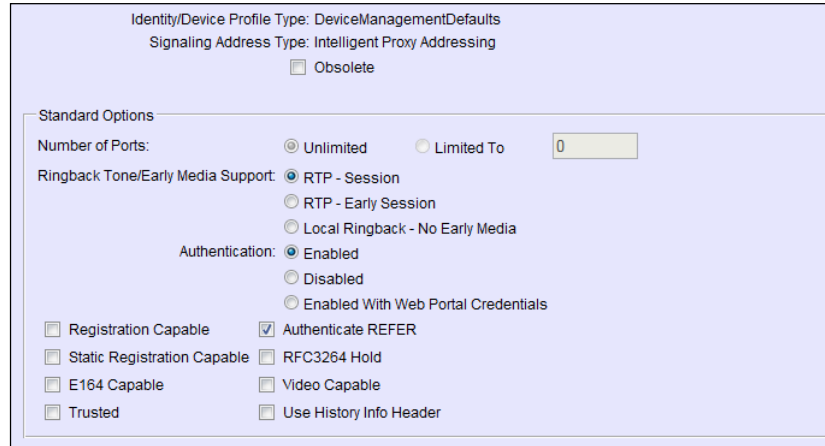
Figure 28 Default Device Profile Type

5.1.6.2.2.1.2   Configure Advanced Options

The advanced options do not matter, but an example is provided for reference. All settings can be left with their default values.
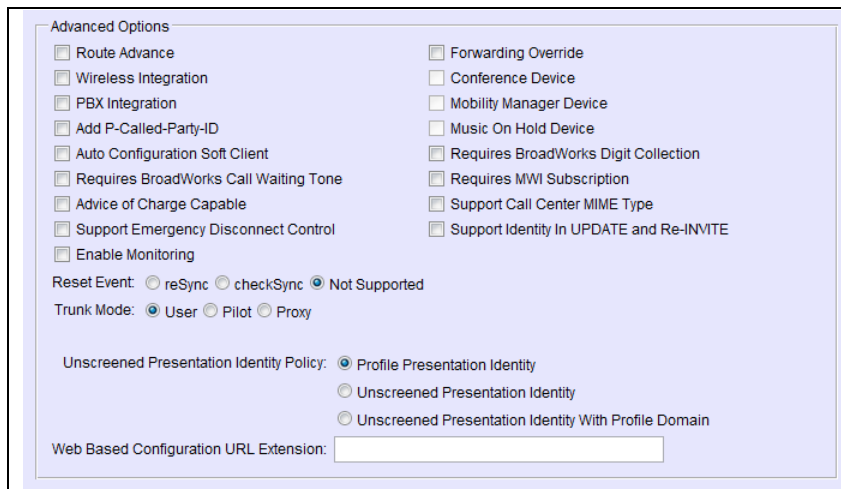
Figure 29 Configure Advanced Options

5.1.6.2.2.1.3   Configure Device Management Options
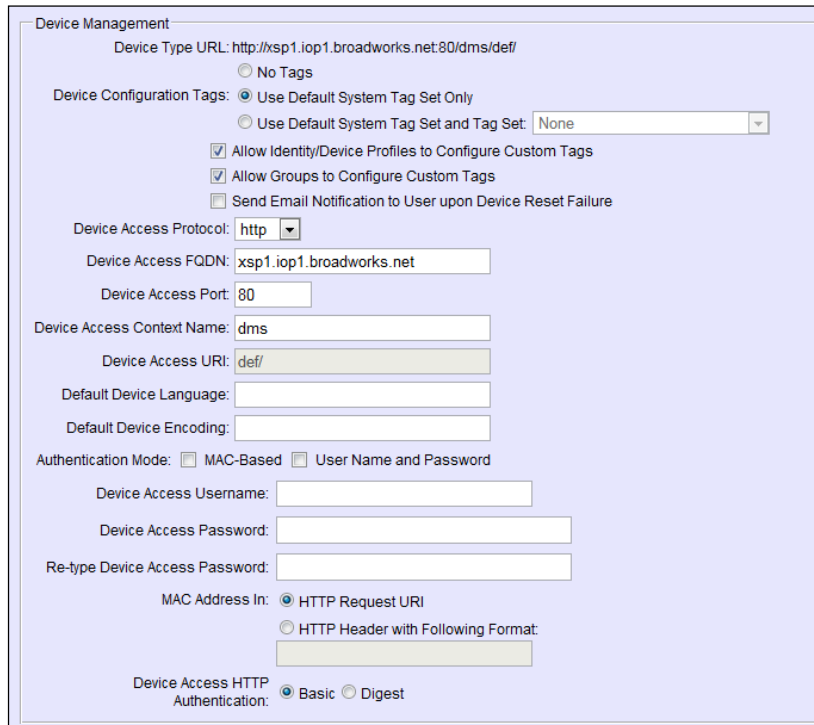
Configure the device profile type *Device Management Options* as directed in the following table. These are common settings, which apply to all devices enabled for Device Management.

Parameters not identified in the following table can usually be left with their default values.

Parameter	Value	Description
Device Configuration Tags	Use Default System Tag Set Only	
Allow Identity/Device Profiles to Configure Custom Tags	Checked	Optional

Parameter	Value	Description
Allow Groups to Configure Custom Tags	Checked	Optional
Device Access Protocol	http	
Device Access FQDN	<BroadWorks-XSP-Cluster-Address>

Example: xsp.iop1.broadworks.net | If using an Xtended Services Platform farm, set this to the Xtended Services Platform cluster FQDN. Otherwise, set it to the individual Xtended Services Platform FQDN or IP address. |
| Device Access Port | <BroadWorks-XSP-Port>

Example: 80 | This should be set to "80". |
| Device Access Context Name | Dms | This does not need to be defined. BroadWorks defaults to the system-defined value. |
| Device Access URI | Def | This defines the directory the Xtended Services Platform uses to access the default configuration files. |

Example *Device Management Options* settings:

Figure 30 Device Management Options Settings

5.1.6.2.2.2   Define Device Profile Type Files

This section describes the BroadWorks Device Management configuration necessary to identify the configuration files used to enable the *DeviceManagementDefaults* device type for Yealink CP860 devices. The files must be defined as described in the following sections:

- ▪ y000000000037.cfg

Add the static files to the device profile type with the settings shown in the following figure.

Identity/Device Profile Type File Modify
Modify or delete a file type defined in an Identity/Device Profile Type.

Saved

| OK | Apply | Delete | Cancel |

Device Access File Format: y000000000037.cfg
Repository File Format: y000000000037-%BWTIMESTAMP%.cfg
Access File: http://xsp1.iop1.broadworks.net:80/dms/def/y000000000037.cfg
Repository File: Download
Template File: Download
File Category: ○ Static ⦿ Dynamic Per-Type ○ Dynamic Per-Device
File Customization: Disallow ▼
☑ Enable caching

Assign File
○ Manual
⦿ Custom
Upload File: Choose File No file chosen

Currently using configuration file:/var/broadworks/IpDeviceConfig/type/DeviceManagementDefaults/y000000000037.cfg.template

```
#!version:1.0.0.1

auto_provision.server.url =
http://xsp1.iop1.broadworks.net:80/dms/Yealink-CP860/
auto_provision.dhcp_option.enable = 0

#auto_provision.server.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%
#auto_provision.server.username = %BWDEVICEUSERNAME%
```

File Authentication
Authentication Mode: ☐ MAC-Based ☐ User Name and Password
MAC Address In: ⦿ HTTP Request URI
○ HTTP Header
○ Client Certificate
MAC Address Format:
Device Access HTTP Authentication: ⦿ Basic ○ Digest
Allowed Access Protocols: ☑ http ☑ https ☑ tftp

| OK | Apply | Delete | Cancel |

Figure 31 Default y000000000037.cfg

5.1.6.2.3   DHCP Server Configuration (BroadWorks Default) and Redirect Events

Configure the end customer's DHCP server with *Option 66/43* containing the default BroadWorks Device Management URL as *http://<Device Access FQDN>:<Device Access Port>/ <Device Access Context Name>/def*.

Example:

```
option BWRedir code 43 = string;

subnet 10.2.0.0 netmask 255.255.255.0 {
option subnet-mask 255.255.255.0;
option domain-name-servers 10.2.0.29;
option routers 10.2.0.1;
option BWRedir "http://xsp1.iop1.broadworks.net/dms/def/"
```

```
}
```

CP860 starts the provisioning process by following this default BroadWorks Device Management URL to obtain an initial configuration redirect. The following steps detail the phone's sequence to become fully provisioned on BroadWorks after receiving the redirect from BroadWorks.

1) The phone does initial resynchronization with Device Management and downloads the default file from location specified in DHCP offer.

2) After restarting the phone, it displays configuration wizard on the phone screen.

3) The end user or administrator follows the wizard and enters the device username and password using the user interface on the phone.

4) The phone resynchronizes with Device Management and downloads the file(s) associated with the credentials supplied via the previous step.

5.1.6.2.4 DHCP Server Configuration (Direct DM Location) and Redirect Events

Configure the end customer's DHCP server with *Option 66/43* containing the direct Yealink Device Management URL as *http://<Device Access FQDN>:<Device Access Port>/ <Device Access Context Name>/Yealink-CP860*

Example:

```
option BWRedir code 43 = string;

subnet 10.2.0.0 netmask 255.255.255.0 {
option subnet-mask 255.255.255.0;
option domain-name-servers 10.2.0.29;
option routers 10.2.0.1;
option BWRedir "http://xsp1.iop1.broadworks.net/dms/Yealink-CP860/"
}
```

CP860 starts the provisioning process by following Yealink Device Management URL to obtain the device configuration files. The following steps detail the phone's sequence to become fully provisioned on BroadWorks after receiving the direct URL from BroadWorks.

1) The phone does initial resynchronization with Device Management and downloads the configuration file from location specified in DHCP offer.

2) The end user or administrator enters the device username and password using the user interface on the phone's webGUI.

3) If secured (https) connection is needed, then install the CA certificates or set security → trusted_certificates to "disable" and restart the phone.

4) After restart the phone resynchronizes with Device Management and downloads additional configuration file(s) associated with the credentials supplied via the previous step.

5.1.6.3 No Touch Provisioning via Yealink Redirect Service

Yealink Device Management Redirect is a web redirect service hosted by Yealink. It works in conjunction with the BroadWorks Device Management Redirect. Hence, prior to device deployment, the administrator is required to login to Yealink's web portal to associate each device based on the MAC address to the default BroadWorks Device Management URL. At boot time, the CP860 automatically queries the Yealink Device Management Redirect service for the associated BroadWorks URL. The CP860 finally completes the provisioning process as detailed in the previous section. For more information about the Yealink Device Management Redirect service, visit <https://rps.yealink.com/>.

> **NOTE:** If secured (https) connection is needed, then install the CA certificates or set security → trusted_certificates to "disable" and restart the phone.

5.2 Upgrade from Previous CPE Kits

The previous configuration sections are primarily structured around importing or manually configuring the Yealink CP860 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 *BroadWorks CPE Kit Usage Guide* [8].

Appendix A: Reference CP860 Configuration Files

The following is a reference configuration for the CP860 configured for use with BroadWorks.

System Default File: y000000000037.cfg

> **NOTE**: The following samples are examples and should be used as a reference only. DO NOT CUT AND PASTE THESE EXAMPLES TO GENERATE YOUR CONFIGURATION FILES. Use the configuration files obtained from Yealink with the specific release to generate your configuration files.

```
#!version:1.0.0.1

##File header "#!version:1.0.0.1" can not be edited or deleted, and must
be placed in the first line.##
##This template file is applicable to CP860 phones running firmware
version 72 or later.##


########################################################################
############
##                                  Hostname
##
########################################################################
############
network.dhcp_host_name =

########################################################################
############
##                                  Network Advanced
##
########################################################################
############

##It configures the transmission mode and speed of the Internet (WAN)
port.
##0-Auto Negotiate
##1-Full Duplex 10Mbps
##2-Full Duplex 100Mbps
##3-Half Duplex 10Mbps
##4-Half Duplex 100Mbps
##5-Full Duplex 1000Mbps
##The default value is 0.It takes effect after a reboot.
network.internet_port.speed_duplex =



##It enables or disables the phone to use manually configured static IPv4
DNS when Internet (WAN) port type for IPv4 is configured as DHCP.
##0-Disabled (use the IPv4 DNS obtained by DHCP)   1-Enabled
##The default value is 0.It takes effect after a reboot.
network.static_dns_enable =

network.ipv6_static_dns_enable =
```

```
########################################################################
############
##                              VLAN
##
########################################################################
############
network.vlan.internet_port_enable =
network.vlan.internet_port_vid =
network.vlan.internet_port_priority =
network.vlan.dhcp_enable =
network.vlan.dhcp_option =


########################################################################
############
##                              WEB Port
##
########################################################################
############
##It configures the HTTP port for web server access.
##The default value is 80.It takes effect after a reboot.
network.port.http =

##It configures the HTTPS port for web server access.
##The default value is 443.It takes effect after a reboot.
network.port.https =

wui.https_enable =
wui.http_enable =


########################################################################
############
##                              QoS
##
########################################################################
############
##It configures the voice QoS.
##The default value is 46.It takes effect after a reboot.Integer from 0 to
63
network.qos.rtptos =

##It configures the SIP QoS.
##The default value is 26.It takes effect after a reboot.Integer from 0 to
63
network.qos.signaltos =


########################################################################
############
##                              802.1X
##
########################################################################
############
network.802_1x.mode =
network.802_1x.identity =
network.802_1x.md5_password =
network.802_1x.root_cert_url =
```

```
network.802_1x.client_cert_url =

################################################################################
############
##                              OpenVPN
                                                         ##
################################################################################
############
network.vpn_enable =
openvpn.url =

################################################################################
############
##                              LLDP
##
################################################################################
############
network.lldp.enable =
network.lldp.packet_interval =

################################################################################
############
##                              RTP Port
##
################################################################################
############
##It configures the maximum local RTP port.
##The default value is 11800.It takes effect after a reboot.Integer from
1024 to 65535
network.port.max_rtpport =

##It configures the maximum local RTP port.
##The default value is 11780.It takes effect after a reboot.Integer from
1024 to 65535
network.port.min_rtpport =

################################################################################
############
##                              Syslog
##
################################################################################
############
syslog.mode =

##It configures the IP address or domain name of the syslog server when
exporting log to the syslog server.
##It takes effect only if the parameter ¡°syslog.mode¡± is configured as
Server.
##The default value is blank.It takes effect after a reboot.
syslog.server =

##It configures the detail level of syslog information to be exported.0
means nothing and 6 means all.
##The default value is 3.It takes effect after a reboot.Integer from 0 to
6
syslog.log_level =
```

```
###############################################################################
############
##                             TR069
##
###############################################################################
############
managementserver.enable =
managementserver.username =
managementserver.password =
managementserver.url =
managementserver.connection_request_username =
managementserver.connection_request_password =
managementserver.periodic_inform_enable =
managementserver.periodic_inform_interval =


###############################################################################
############
##                             Autop Mode
##
###############################################################################
############
auto_provision.power_on =

###############################################################################
############
##                             Autop PNP
##
###############################################################################
############
auto_provision.pnp_enable =

###############################################################################
############
##                             Autop DHCP
##
###############################################################################
############
auto_provision.dhcp_option.enable =
auto_provision.dhcp_option.list_user_options =

###############################################################################
############
##                             Autop Repeat
##
###############################################################################
############
auto_provision.repeat.enable =
auto_provision.repeat.minutes =

###############################################################################
############
##                             Autop Weekly
##
###############################################################################
############
```

```
auto_provision.weekly.enable =
auto_provision.weekly.dayofweek =
auto_provision.weekly.begin_time =
auto_provision.weekly.end_time =

###########################################################################
############
##                                  Autop URL
##
###########################################################################
############
auto_provision.server.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%
auto_provision.server.username = %BWDEVICEUSERNAME%
auto_provision.server.password = %DEVICE_ACCESS_PWD%

###########################################################################
############
##                                  Autop AES Key
##
###########################################################################
############
##It configures the AES key for decrypting the Common CFG file. The valid
characters contain: 0 ~ 9, A ~ Z, a ~ z.
##The default value is blank.
auto_provision.aes_key_16.com =

##It configures the AES key for decrypting the MAC-Oriented CFG file. The
valid characters contain: 0 ~ 9, A ~ Z, a ~ z.
##The default value is blank.
auto_provision.aes_key_16.mac =

auto_provision.aes_key_in_file =

##It configures the access URL of the custom MAC-Oriented CFG file.
##The default value is blank.
custom_mac_cfg.url =

##It configures the value (vendor name of the device) of DHCP option 60.
##The default value is yealink.
auto_provision.dhcp_option.option60_value =

###########################################################################
############
##                                  Autop Code
##
###########################################################################
############
##It configures the name of the code for triggering auto provisioning.
##The default value is blank.It takes effect after a reboot.
autoprovision.1.name =

##It configures the code for triggering auto provisioning.
##Valid characters are digits, # and *.Example:autoprovision.1.code =
*99The default value is blank.
##It takes effect after a reboot.
```

```
autoprovision.1.code =

##It configures the access URL of auto provisioning server.The default
value is blank.
##It takes effect after a reboot.
autoprovision.1.url =

##It configures the user name for authentication during auto provisioning.
##The default value is blank.It takes effect after a reboot.
autoprovision.1.user =

##It configures the password for authentication during auto provisioning.
##The default value is blank.It takes effect after a reboot.
autoprovision.1.password =

##It configures the AES key for decrypting the Common CFG file.
##The default value is blank.It takes effect after a reboot.
autoprovision.1.com_aes =

##It configures the AES key for decrypting the MAC-Oriented CFG file.
##The default value is blank.It takes effect after a reboot.
autoprovision.1.mac_aes =

##########################################################################
############
##                                  Watch Dog
##
##########################################################################
############
watch_dog.enable =

##########################################################################
############
##                                  SIP Advanced
##
##########################################################################
############
sip.use_23_as_pound =
sip.rfc2543_hold =
sip.use_out_bound_in_dialog =
sip.reg_surge_prevention =
sip.send_response_by_request =
sip.notify_reboot_enable =

##########################################################################
############
##                                  Echo Cancellation
##
##########################################################################
############
voice.vad =
voice.cng =
voice.echo_cancellation =

##########################################################################
############
```

```
##                                    Jitter Buffer
##
########################################################################
############
voice.jib.adaptive =
voice.jib.min =
voice.jib.max =
voice.jib.normal =




########################################################################
############
##                                      Transfer
##
########################################################################
############
##It enables or disables the transferee party¡¯s phone to prompt a missed
call on the LCD screen before displaying
##the caller ID when performing a semi-attended transfer.0-Enabled,1-
Disabled
##The default value is 1.
transfer.semi_attend_tran_enable =

##It enables or disables the phone to complete the blind transfer through
on-hook.0-Disabled,1-Enabled .
##The default value is 1.
transfer.blind_tran_on_hook_enable =

##It enables or disables the phone to transfer call to the two parties
after a local conference call hangs up.
##0-Disabled,1-Enabled.
##The default value is 0.
transfer.tran_others_after_conf_enable =

##It enables or disables the phone to complete the attended transfer
through on-hook.
##0-Disabled,1-Enabled.
##The default value is 1.
transfer.on_hook_trans_enable =

##It configures the DSS key behavior during an active call when user
presses the DSS
##key and the DSS key is configured as a speed dial, transfer or BLF/BLF
list key.
##0-New Call,1-Attended Transfer,2-Blind Transfer.
##The default value is 2.
transfer.dsskey_deal_type =

##It enables or disables the phone to enter Transfer to menu during
multiple calls when pressing the transfer soft key or TRAN key.
##0-Disabled,1-Enabled.
##The default value is 1.
transfer.multi_call_trans_enable =
```

```
##############################################################################
############
##                                    Auto Redial
##
##############################################################################
############
auto_redial.enable =
auto_redial.interval =
auto_redial.times =


##############################################################################
############
##                                    Zero Touch
##
##############################################################################
############
zero_touch.enable = 1
zero_touch.wait_time = 10


##############################################################################
############
##                                    Push XML
##
##############################################################################
############

push_xml.sip_notify=


##############################################################################
############
##                                    Dial Plan
##
##############################################################################
############
dialplan.area_code.code =
dialplan.area_code.min_len =
dialplan.area_code.max_len =
dialplan.area_code.line_id =

### X ranges from 1 to 10
###dialplan.block_out.number.x =
###dialplan.block_out.line_id.x =

dialplan.block_out.number.1 =
dialplan.block_out.line_id.1 =

###X ranges from 1 to 100
###dialplan.dialnow.rule.X =
###dialplan.dialnow.line_id.X =

dialplan.dialnow.rule.1 =
dialplan.dialnow.line_id.1 =

###X ranges from 1 to 100
###dialplan.replace.prefix.X =
###dialplan.replace.replace.X =
###dialplan.replace.line_id.X =
```

```
dialplan.replace.prefix.1 =
dialplan.replace.replace.1 =
dialplan.replace.line_id.1 =

dialplan_dialnow.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%dialnow.xml
phone_setting.dialnow_delay =
dialplan_replace_rule.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%dialplan.xml


#############################################################################
############
##                                 Remote Phonebook
##
#############################################################################
############
###X ranges from 1 to 5
###remote_phonebook.data.X.url =
###remote_phonebook.data.X.name =

remote_phonebook.data.1.url =
remote_phonebook.data.1.name =

###Except T41P/T42G Models
remote_phonebook.display_name =

###It enables or disables the phone to update the data of the remote phone
book at a time when accessing the remote phone book.
###0-Disabled, 1-Enabled. The default value is 0.


##It enables or disables the phone to perform a remote phone book search
when receiving an incoming call.
##0-Disabled,1-Enabled.
##The default value is 0.
features.remote_phonebook.enable =

##It configures the interval (in seconds) for the phone to update the data
of the remote phone book from the remote phone book server.
##The value 0 means the phone will not regularly update the data of the
remote phone book from the remote phone book server.
##The default value is 21600.Integer from 3600 to 2592000,and 0.
features.remote_phonebook.flash_time =

#############################################################################
############
##                                    LDAP
##
#############################################################################
############
##It enables or disables LDAP feature.0-Disabled,1-Enabled.
##The default value is 0.
ldap.enable =
```

```
##It configures the criteria for searching the contact name attributes.
##The default value is blank.
ldap.name_filter =

##It configures the criteria for searching the contact number attributes.
##The default value is blank.
ldap.number_filter =

##It configures the IP address or domain name of the LDAP server.
##The default value is blank.
ldap.host =

##It configures the port of the LDAP server.
##The default value is 389.Integer from 1 to 65535.
ldap.port =

##It configures the LDAP search base which corresponds to the location of
the LDAP phonebook.
##Example:ldap.base = dc=yealink,dc=cn.
##The default value is blank.
ldap.base =

##It configures the user name for accessing the LDAP server.
##The default value is blank.
ldap.user =

##It configures the password for accessing the LDAP server.
##The default value is blank.
ldap.password =

##It configures the maximum of the search results returned by the LDAP
server to be displayed.
##The default value is 50.Integer from 1 to 32000.
ldap.max_hits =

##It configures the name attributes of each record to be returned by the
LDAP server.
##Multiple attributes are separated by spaces.Example:ldap.name_attr =sn
cn.
##The default value is blank.
ldap.name_attr =

##It configures the number attributes of each record to be returned by the
LDAP server.
##Multiple attributes are separated by spaces.Example:ldap.numb_attr =
Mobile ipPhone.
##The default value is blank.
ldap.numb_attr =

##The default value is blank.
ldap.display_name =

##It configures the LDAP version.
##The default value is 3.
ldap.version =
```

```
##It enables or disables the phone to perform an LDAP search when
receiving an incoming call.
##0-Disabled,1-Enabled.
##The default value is 0.
ldap.call_in_lookup =

##It enables or disables the phone to sort the search results in
alphabetical order or numerical order.
##0-Disabled,1-Enabled.
##The default value is 0.
ldap.ldap_sort =


########################################################################
#############
##                                Features
##
########################################################################
#############
features.normal_refuse_code =
features.auto_answer_delay =
features.allow_mute =
features.call_num_filter =
features.direct_ip_call_enable =
features.relog_offtime =
features.ringer_device.is_use_headset =
features.factory_pwd_enable = 1
features.export_cfg_erase_pwd =


########################################################################
#############
##                                Features Forward
##
########################################################################
#############

features.fwd_diversion_enable =

########################################################################
#############
##                                Features DND
##
########################################################################
#############

features.dnd.enable =
features.dnd.on_code =
features.dnd.off_code =
features.dnd_refuse_code =
features.dnd.emergency_enable =
features.dnd.emergency_authorized_number =


########################################################################
#############
##                                Features Intercom
##
########################################################################
#############
```

```
features.intercom.allow  =
features.intercom.mute  =
features.intercom.tone  =
features.intercom.barge  =

#########################################################################
############
##                            Features Hotline
##
#########################################################################
############
##It configures the hotline number.
##The default value is blank.
features.hotline_number =

##It configures the delay time (in seconds) for the phone to dial out the
hotline number automatically.
##The default value of delay time is 4.Integer from 0 to 10
features.hotline_delay =

#########################################################################
############
##                            Features DTMF
##
#########################################################################
############
features.dtmf.hide =
features.dtmf.hide_delay =

features.dtmf.repetition =
features.dtmf.transfer =
features.dtmf.replace_tran =


#########################################################################
############
##                            Features Audio Settings
##
#########################################################################
############

features.alert_info_tone =
features.busy_tone_delay =
features.send_pound_key =
features.key_as_send =
features.send_key_tone =
features.key_tone =
features.play_hold_tone.enable =
features.play_hold_tone.delay =
features.redial_tone =
features.partition_tone =

#########################################################################
############
##                            Features Action URI
##
```

```
###########################################################################
############
features.action_uri_limit_ip =


###########################################################################
############
##                                  Features Prefix
##
###########################################################################
############
features.password_dial.enable =
features.password_dial.prefix =
features.password_dial.length =


###########################################################################
############
##                                  Features History
##
###########################################################################
############
features.save_call_history =


###########################################################################
############
##                                  Ringtone
##
###########################################################################
############
ringtone.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%Ring.wav
ringtone.delete =


###########################################################################
############
##                                  Phone Settings
##
###########################################################################
############
phone_setting.inter_digit_time =
phone_setting.ring_type =

phone_setting.ring_for_tranfailed =
phone_setting.is_deal180 =
phone_setting.show_code403 =

phone_setting.predial_autodial =
phone_setting.headsetkey_mode =
features.voice_mail_tone_enable =




###########################################################################
############
```

```
##                                               Phone Setting Display
##
##############################################################################
############
##It configures the backlight time (in seconds).0, 1, 15, 30, 60, 120,
300, 600 or 1800.
phone_setting.backlight_time =


##It configures the logo mode of the LCD screen.
##0-Disabled   1-System logo   2-Custom logo
##The default value is 0.
phone_setting.lcd_logo.mode =

##############################################################################
############
##                                               Key Lock
##
##############################################################################
############
phone_setting.lock =

###It enables or disables keypad lock feature.
###0-Disabled,1-Enabled.
###The default value is 0.
phone_setting.phone_lock.enable =

###It configures the keypad lock type.
###0-All Keys,1-Function Keys,2-Menu Key.
###The default value is 0.
phone_setting.phone_lock.lock_key_type =

###It configures the password for unlocking the keypad.
###The default value is 123.
phone_setting.phone_lock.unlock_pin =

###It configures the interval (in seconds) to automatically lock the
keypad.
###The default value is 0 (the keypad is locked only by long pressing the
pound key or pressing the keypad lock key)
phone_setting.phone_lock.lock_time_out =
phone_setting.emergency.number =

##############################################################################
############
##                                               Multicast
##
##############################################################################
############
multicast.codec =
multicast.receive_priority.enable =
multicast.receive_priority.priority =

###X ranges from 1 to 10
###multicast.listen_address.X.label =
```

```
###multicast.listen_address.X.ip_address =

multicast.listen_address.1.label =
multicast.listen_address.1.ip_address =

##############################################################################
#############
##                                   Super Search
##
##############################################################################
#############
super_search.recent_call =
super_search.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%super_search.xml

##############################################################################
#############
##                                   Security
##
##############################################################################
#############
###Define the login username and password of the user, var and
administrator.
###If you change the username of the administrator from "admin" to
"admin1", your new administrator's username should be configured as:
security.user_name.admin = admin1.
###If you change the password of the administrator from "admin" to
"admin1pwd", your new administrator's password should be configured as:
security.user_password = admin1:admin1pwd.

###The following examples change the user's username to "user23" and the
user's password to "user23pwd".
###security.user_name.user = user23
###security.user_password = user23:user23pwd
###The following examples change the var's username to "var55" and the
var's password to "var55pwd".
###security.user_name.var = var55
###security.user_password = var55:var55pwd
security.user_name.user =
security.user_name.admin =
security.user_name.var =
security.user_password =

###It enables or disables the phone to only accept the certificates in the
Trusted Certificates list.
###0-Disabled,1-Enabled.
###The default value is 1.It takes effect after a reboot.
security.trust_certificates =

###It configures the source certificates for the phone to authenticate for
TLS connection.
###0-Default certificates,1-Custom certificates,2-All certificates.
###The default value is 0.It takes effect after a reboot.
security.ca_cert =
```

```
###It configures the device certificates for the phone to send for TLS
authentication.
###0-Default certificates,1-Custom certificates.
###The default value is 0.It takes effect after a reboot.
security.dev_cert =

###It enables or disables the phone to mandatorily validate the CommonName
or SubjectAltName of the certificate received from the connecting server.
###0-Disabled,1-Enabled.
###The default value is 0.It takes effect after a reboot.
security.cn_validation =


#########################################################################
#############
##                               User Mode
##
#########################################################################
#############
###It enables or disables the 3-level permissions (admin, user, var).
###0-Disabled,1-Enabled.
###The default value is 0.It takes effect after a reboot.
security.var_enable =
web_item_level.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%WebItemsLevel.cfg


#########################################################################
#############
##                             Trusted Certificates
##
#########################################################################
#############
trusted_certificates.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%ca.crt
trusted_certificates.delete =


#########################################################################
#############
##                             Server Certificates
##
#########################################################################
#############
server_certificates.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%server.pem
server_certificates.delete =


#########################################################################
#############
##                               Programable Key
##
#########################################################################
#############
###CP860 X ranges from 1 to 8
#programablekey.x.type--Customize the programmable key type.
```

```
#The valid types are:
#0-NA   2-Forward   5-DND   7-Call Return   8-SMS   9-Directed Pickup
13-Speed Dial
#22-XML Group   23-Group Pickup   27-XML Browser   28-History   30-Menu
31-Switch Account   32-New SMS
#33-Status   34-Hot Desking   38-LDAP   40-Prefix   41-Zero Touch   43-
Local Directory   44-Network Directory   45-Local Group
#46-Network Group   47-XML Directory   50-Keypad Lock   51-Switch Account
Up   52-Switch Account Down   55-Meet-Me Conference   61-Directory

#40-Prefix
#22-XML Group
#38-LDAP
#46-Network Group
#47-XML Directory
#44-Network Directory
#34-Hot Desking

###programablekey.X.type =
###programablekey.X.line =
###programablekey.X.value =
###programablekey.X.xml_phonebook =
###programablekey.X.history_type =
###programablekey.X.label =
###programablekey.X.pickup_value =

###It configures the key feature for the programmable key X.
programablekey.1.type = 28
###It configures the desired line to apply the programmable key feature.
programablekey.1.line =

###It configures the value of the programmable key feature.
###For example, when configuring the key feature to be Speed Dial, it
configures the number.
###The default value is blank.
programablekey.1.value =

###It configures the desired local group/XML group/network group for the
programmable key.
###It only applies to the Local Group, XML Group and Network Group
features.
programablekey.1.xml_phonebook =

###It configures the history type of programmable key.
###0-Local History,1-Network History.
###The default value is 0.
programablekey.1.history_type =

###It configures the label displayed on the LCD screen for each soft key.
###The default value is blank.
programablekey.1.label = Call Log
###It configures conference ID followed by the # sign for Meet-Me
conference feature.
###It only applies to Meet-Me conference feature.
###The default value is blank.
programablekey.1.pickup_value =
```

```
programablekey.2.type = 44
programablekey.2.line =
programablekey.2.value =
programablekey.2.xml_phonebook =
programablekey.2.history_type =
programablekey.2.label = BSFT Dir
programablekey.2.pickup_value =


##############################################################################
############
##                              Forward Always
##
##############################################################################
############
forward.always.enable =
forward.always.target =
forward.always.on_code =
forward.always.off_code =


##############################################################################
############
##                              Forward Busy
##
##############################################################################
############
forward.busy.enable =
forward.busy.target =
forward.busy.on_code =
forward.busy.off_code =


##############################################################################
############
##                              Forward No Answer
##
##############################################################################
############
forward.no_answer.enable =
forward.no_answer.target =
forward.no_answer.timeout =
forward.no_answer.on_code =
forward.no_answer.off_code =


##############################################################################
############
##                              Forward International
##
##############################################################################
############
###It enables or disables the phone to forward incoming calls to
international numbers.
###0-Disabled,1-Enabled.
###The default value is 1.
forward.international.enable =


##############################################################################
############
```

```
##                                    Alert Info
##
#######################################################################
############
###X ranges from 1 to 100
###distinctive_ring_tones.alert_info.x.text =
###distinctive_ring_tones.alert_info.x.ringer =

###It configures the internal ringer text for distinctive ringtone.
###Example: distinctive_ring_tones.alert_info.1.text = Family
###The default value is blank.
distinctive_ring_tones.alert_info.1.text =

###It configures the desired ring tones for each text.
###The value ranges from 1 to 8, the digit stands for the appropriate
ringtone.
###Ring tones 6-8 are only applicable to SIP-T46G IP phones.
###The default value is 1.
distinctive_ring_tones.alert_info.1.ringer =

#######################################################################
############
##                                    Call Waiting
##
#######################################################################
############
call_waiting.enable = %CALL_WAITING_BINARY%
call_waiting.tone =
call_waiting.on_code =
call_waiting.off_code =

#######################################################################
############
##                                    Action URL
##
#######################################################################
############
action_url.setup_completed =
action_url.registered =
action_url.unregistered =
action_url.register_failed =
action_url.off_hook =
action_url.on_hook =
action_url.incoming_call =
action_url.outgoing_call =
action_url.call_established =
action_url.dnd_on =
action_url.dnd_off =
action_url.always_fwd_on =
action_url.always_fwd_off =
action_url.busy_fwd_on =
action_url.busy_fwd_off =
action_url.no_answer_fwd_on =
action_url.no_answer_fwd_off =
action_url.transfer_call =
action_url.blind_transfer_call =
action_url.attended_transfer_call =
```

```
action_url.hold =
action_url.unhold =
action_url.mute =
action_url.unmute =
action_url.missed_call =
action_url.call_terminated =
action_url.busy_to_idle =
action_url.idle_to_busy =
action_url.ip_change =
action_url.forward_incoming_call =
action_url.reject_incoming_call =
action_url.answer_new_incoming_call =
action_url.transfer_finished =
action_url.transfer_failed =


#########################################################################
############
##                                      Contact
##
#########################################################################
############
local_contact.data.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%contact.xml
directory_setting.url =

#########################################################################
############
##                                      Custom Factory Configuration
##
#########################################################################
############
custom_factory_configuration.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%factory.cfg
features.custom_factory_config.enable =

#########################################################################
############
##                                      Custom  Configuration
##
#########################################################################
############
configuration.url =

#########################################################################
############
##                                      Custom Softkey
##
#########################################################################
############
phone_setting.custom_softkey_enable =
custom_softkey_call_failed.url =
custom_softkey_call_in.url =
custom_softkey_connecting.url =
```

```
custom_softkey_dialing.url =
custom_softkey_ring_back.url =
custom_softkey_talking.url =

#########################################################################
############
##                                  Configure the access URL of firmware
##
#########################################################################
############
###It configures the access URL of the firmware file.
###The default value is blank.It takes effect after a reboot.
firmware.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%%CP860_FIRMWARE%
```

Device-specific File: %BWMACADDRESS%.cfg

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

```
#!version:1.0.0.1

##File header "#!version:1.0.0.1" can not be edited or deleted, and must
be placed in the first line.##
##This template file is applicable to CP860 running firmware version 72 or
later.##

#########################################################################
############
##                              Account1 Basic Settings
##
#########################################################################
############
account.1.enable = %BWLINE-BINARY-1%
account.1.label = %BWEXTENSION-1%
account.1.display_name = %BWCLID-1%
account.1.auth_name = %BWAUTHUSER-1%
account.1.user_name = %BWLINEPORT-1%
account.1.password = %BWAUTHPASSWORD-1%
account.1.outbound_proxy_enable = %USE_SBC_BOOLEAN%
account.1.outbound_host = %SBC_ADDRESS%
account.1.outbound_port = %SBC_PORT%
##It configures the local SIP port for account 1. The default value is
5060.
account.1.sip_listen_port =



##It configures the transport type for account 1. 0-UDP,1-TCP,2-TLS,3-DNS-
NAPTR
##The default value is 0.
account.1.transport =

#########################################################################
############
```

```
##                        Failback
##
###########################################################################
############

account.1.naptr_build =
account.1.fallback.redundancy_type =
account.1.fallback.timeout =
account.1.sip_server.1.address = %BWHOST-1%
account.1.sip_server.1.port =
account.1.sip_server.1.expires =
account.1.sip_server.1.retry_counts =
account.1.sip_server.1.failback_mode =
account.1.sip_server.1.failback_timeout =
account.1.sip_server.1.register_on_enable =

account.1.sip_server.2.address =
account.1.sip_server.2.port =
account.1.sip_server.2.expires =
account.1.sip_server.2.retry_counts =
account.1.sip_server.2.failback_mode =
account.1.sip_server.2.failback_timeout =
account.1.sip_server.2.register_on_enable =

account.1.dns_cache_type =
account.1.dns_cache_a.1.name =
account.1.dns_cache_a.1.ip =
account.1.dns_cache_a.1.ttl =
account.1.dns_cache_srv.1.name =
account.1.dns_cache_srv.1.port =
account.1.dns_cache_srv.1.priority =
account.1.dns_cache_srv.1.target =
account.1.dns_cache_srv.1.weight =
account.1.dns_cache_srv.1.ttl =
account.1.dns_cache_naptr.1.name =
account.1.dns_cache_naptr.1.flags =
account.1.dns_cache_naptr.1.order =
account.1.dns_cache_naptr.1.preference =
account.1.dns_cache_naptr.1.replace =
account.1.dns_cache_naptr.1.service =
account.1.dns_cache_naptr.1.ttl =

account.1.dns_cache_type =
account.1.dns_cache_a.2.name =
account.1.dns_cache_a.2.ip =
account.1.dns_cache_a.2.ttl =
account.1.dns_cache_srv.2.name =
account.1.dns_cache_srv.2.port =
account.1.dns_cache_srv.2.priority =
account.1.dns_cache_srv.2.target =
account.1.dns_cache_srv.2.weight =
account.1.dns_cache_srv.2.ttl =
account.1.dns_cache_naptr.2.name =
account.1.dns_cache_naptr.2.flags =
account.1.dns_cache_naptr.2.order =
account.1.dns_cache_naptr.2.preference =
account.1.dns_cache_naptr.2.replace =
```

```
account.1.dns_cache_naptr.2.service =
account.1.dns_cache_naptr.2.ttl =

account.1.static_cache_pri =

#############################################################################
#############
##                          Register Advanced
##
#############################################################################
#############
##It configures the SIP server type for account X.0-Default,2-BroadSoft,4-
Cosmocom,6-UCAP
##The default value is 0.

account.1.sip_server_type = 2

account.1.unregister_on_reboot =
account.1.proxy_require =
account.1.srv_ttl_timer_enable =
account.1.register_mac =
account.1.register_line =
account.1.reg_fail_retry_interval =

#############################################################################
#############
##                          NAT Settings
##
#############################################################################
#############
##It enables or disables the NAT traversal for account X.0-Disabled,1-
Enabled
##The default value is 0.
account.1.nat.nat_traversal =

##It configures the IP address or domain name of the STUN server for
account X.
##The default value is blank.
account.1.nat.stun_server =

##It configures the port of the STUN server for account X.
##The default value is 3478.
account.1.nat.stun_port =

##It configures the type of keep-alive packets sent by the phone to the
NAT device to keep the communication port open so that NAT can continue to
function for account X.
##0-Dsiabled,1-Default: the phone sends UDP packets to the server,2-
Option: the phone sends SIP OPTION packets to the server,3-Notify: the
phone sends SIP NOTIFY packets to the server.
##The default value is 1.
account.1.nat.udp_update_enable =

##It configures the keep-alive interval (in seconds) for account X.
##The default value is 30.Integer from 15 to 2147483647
account.1.nat.udp_update_time =
```

```
##It enables or disables NAT Rport feature for account X.0-Disabled,1-
Enabled
##The default value is 0.
account.1.nat.rport =

#############################################################################
############
##                              Account1 Advance Settings
##
#############################################################################
############
account.1.advanced.timer_t1 =
account.1.advanced.timer_t2 =
account.1.advanced.timer_t4 =

##It configures the voice mail number for account X.
##The default value is blank.
voice_mail.number.1 = %BWVOICE-PORTAL-NUMBER-1%




#############################################################################
############
##                              Subscribe
##
#############################################################################
############
##It enables or disables the phone to subscribe the message waiting
indicator for account X.0-Disabled,1-Enabled.
##The default value is 0.
account.1.subscribe_mwi =

##It configures the interval (in seconds) of MWI subscription for account.
##The default value is 3600.
account.1.subscribe_mwi_expires =


##It enables or disables the phone to subscribe to the voice mail number
for the message waiting indicator for account X.0-Disabled,1-Enabled.
##The default value is 0.
account.1.subscribe_mwi_to_vm =


#############################################################################
############
##                              Audio Codec
##
#############################################################################
############

account.1.codec.1.enable =
account.1.codec.1.payload_type =
account.1.codec.1.priority =
account.1.codec.1.rtpmap =

account.1.codec.2.enable =
```

```
account.1.codec.2.payload_type =
account.1.codec.2.priority =
account.1.codec.2.rtpmap =

account.1.codec.3.enable =
account.1.codec.3.payload_type =
account.1.codec.3.priority =
account.1.codec.3.rtpmap =

account.1.codec.4.enable =
account.1.codec.4.payload_type =
account.1.codec.4.priority =
account.1.codec.4.rtpmap =

account.1.codec.5.enable =
account.1.codec.5.payload_type =
account.1.codec.5.priority =
account.1.codec.5.rtpmap =

account.1.codec.6.enable =
account.1.codec.6.payload_type =
account.1.codec.6.priority =
account.1.codec.6.rtpmap =

account.1.codec.7.enable =
account.1.codec.7.payload_type =
account.1.codec.7.priority =
account.1.codec.7.rtpmap =

account.1.codec.8.enable =
account.1.codec.8.payload_type =
account.1.codec.8.priority =
account.1.codec.8.rtpmap =

account.1.codec.9.enable =
account.1.codec.9.payload_type =
account.1.codec.9.priority =
account.1.codec.9.rtpmap =

account.1.codec.10.enable =
account.1.codec.10.payload_type =
account.1.codec.10.priority =
account.1.codec.10.rtpmap =

account.1.codec.11.enable =
account.1.codec.11.payload_type =
account.1.codec.11.priority =
account.1.codec.11.rtpmap =




##################################################################
#############
##                              Audio Advanced
##
##################################################################
#############
```

```
##It configures whether to use voice encryption service for account X.0-
Disabled,1-Optional,2-Compulsory.
##The default value is 0.
account.1.srtp_encryption =

##It configures the RTP packet time for account X.0 (Disabled), 10, 20,
30, 40, 50 or 60.
##The default value is 20.
account.1.ptime =

## The default value is 0(Take a SRTP all encryption).1:Only carry AES -
80 secret key,2: Only carry AES - 32 secret key
account.1.srtp_auth_tag_mode =

#########################################################################
############
##                              Anonymous Call
##
#########################################################################
############
account.1.send_anonymous_code =
account.1.anonymous_call =
account.1.anonymous_call_oncode =
account.1.anonymous_call_offcode =
account.1.reject_anonymous_call = %REJECT_ANONYMOUS_CALL_BINARY%
account.1.anonymous_reject_oncode =
account.1.anonymous_reject_offcode =
account.1.send_anonymous_rejection_code =


#########################################################################
############
##                              Pickup Code
##
#########################################################################
############
##It enables or disables the phone to pick up a call according to the SIP
header of dialog-info for account X.0-Disabled,1-Enabled.
##The default value is 0.
account.1.dialoginfo_callpickup =

##It configures the group pickup code for account X.
##The default value is blank.
account.1.group_pickup_code = %BWFAC-CALL-PICKUP-1%
##It configures the directed pickup code for account X.
##The default value is blank.
account.1.direct_pickup_code = %BWFAC-DIRECTED-CALL-PICKUP-1%

#########################################################################
############
##                              DTMF
##
#########################################################################
############
account.1.dtmf.type =
account.1.dtmf.info_type =
account.1.dtmf.dtmf_payload =
```

```
##############################################################################
############
##                              Alert info
##
##############################################################################
############
##It enables or disables the distinctive ringtones by the Alert-Info SIP
header for account X.0-Disabled,1-Enabled.
##The default value is 0.
account.1.alert_info_url_enable =
##The default value is blank.Values range 256 characters in length
account.1.alert_info =

account.1.ringtone.ring_type =


##############################################################################
############
##                              Conference
##
##############################################################################
############
##It configures the conference type for account X.0-Local Conference,2-
Network Conference.
##The default value is 0.
account.1.conf_type =

##It configures the network conference URI for account X.
##The default value is blank.
account.1.conf_uri = %BWNETWORK-CONFERENCE-SIPURI-1%


##############################################################################
############
##                              CID Source
##
##############################################################################
############
account.1.cid_source =
account.1.cid_source_privacy =
account.1.cid_source_ppi =
account.1.cp_source =


##############################################################################
############
##                              Session Timer
##
##############################################################################
############
account.1.session_timer.enable =
account.1.session_timer.expires =
account.1.session_timer.refresher =


##############################################################################
############
##                              Music on Hold
##
```

```
#########################################################################
#############
##It configures the way on how the phone processes Music On Hold when
placing an active call on hold for account X.
##0-Calling the music server before holding
##1-Calling the music server after holding
##The default value is 0.
account.1.music_on_hold_type =

##It configures the URI of the Music On Hold server for account X.
##The default value is blank.
account.1.music_server_uri =

#########################################################################
#############
##                            Advanced
##
#########################################################################
#############
account.1.auto_answer = %AUTO_ANSWER_BINARY%
account.1.auto_answer_mute_enable =
account.1.missed_calllog =
account.1.100rel_enable =
account.1.enable_user_equal_phone =
account.1.compact_header_enable =




#########################################################################
#############
##        Broadsoft XSI                      ##
#########################################################################
#############
##It configures the user name for XSI authentication for account
X.Example:account.1.xsi.user = 3502@as.iop1.broadworks.net.
##The default value is blank.
account.1.xsi.user =

##It configures the password for XSI authentication for account
X.Example:account.1.xsi.password = 123456.
##The default value is blank.
account.1.xsi.password =

##It configures the access URL of the Xtended Services Platform server for
account X.Example:account.1.xsi.host = xsp1.iop1.broadworks.net.
##The default value is blank.
account.1.xsi.host =

##It configures the server type of the Xtended Services Platform server
for account X.Example:account.1.xsi.server_type = http.
##The default value is http.
account.1.xsi.server_type =
```

```
##It configures the server port of the Xtended Services Platform server
for account X.Example:account.1.xsi.port = 80.
##The default value is 80.Integer from 1 to 65535
account.1.xsi.port =

##########################################################################
#############
##                              Broadsoft Setting
##
##########################################################################
#############
###It enables or disables feature key synchronization.
###0-Disabled,1-Enabled.
###The default value is 1.
bw.feature_key_sync = 1


##########################################################################
#############
##                              Broadsoft Phonebook
##
##########################################################################
#############
###It enables or disables the phone to display the group directory.
###0-Disabled,1-Enabled.
###The default value is 1.
bw_phonebook.group_enable = 1

###It enables or disables the phone to display the personal directory.
###0-Disabled,1-Enabled.
###The default value is 1.
bw_phonebook.personal_enable = 1
###It enables or disables the phone to display the group common directory.
###0-Disabled,1-Enabled.
###The default value is 1.
bw_phonebook.group_common_enable = 1


###It enables or disables the phone to display the enterprise directory.
###0-Disabled,1-Enabled.
###The default value is 1.
bw_phonebook.enterprise_enable = 1
###It enables or disables the phone to display the enterprise common
directory.
###0-Disabled,1-Enabled.
###The default value is 1.
bw_phonebook.enterprise_common_enable = 1
###It configures the display name on the LCD screen for the enterprise
common directory.
###The default value is EnterpriseCommon.
bw_phonebook.enterprise_common_displayname =

###It enables or disables BroadSoft call log feature.
###0-Disabled,1-Enabled.
###The default value is 0.
bw_phonebook.call_log_enable = 1
```

```
###It enables or disables custom directory feature.
###0-Disabled,1-Enabled.
###The default value is 0.
bw_phonebook.custom =

###It configures the display name on the LCD screen for the group
directory.
###The default value is Group.
bw_phonebook.group_displayname = %BWGROUPID-1%
###It configures the display name on the LCD screen for the enterprise
directory.
###The default value is Enterprise.
bw_phonebook.enterprise_displayname = %BWENTERPRISEID-
1%%BWSERVICEPROVIDERID-1%

###It configures the display name on the LCD screen for the personal
directory.
###The default value is Personal.
bw_phonebook.personal_displayname =

bw_phonebook.group_common_displayname =


##It configures the interval (in minutes) for the phone to update the data
of the BroadSoft directory from the BroadSoft server.
##The default value is 60.Integer from 2 to 43200
directory.update_time_interval =


#########################################################################
#############
##                                      Features Pickup
##
#########################################################################
#############
##It enables or disables the phone to display the GPickup soft key when
the phone is in the pre-dialing screen.
##0-Disabled,1-Enabled.
##The default value is 0.
features.pickup.group_pickup_enable =

##It configures the group call pickup code.
##The default value is blank.
features.pickup.group_pickup_code = %BWFAC-CALL-PICKUP-1%

##It enables or disables the phone to display the DPickup soft key when
the phone is in the pre-dialing screen.
##0-Disabled,1-Enabled.
##The default value is 0.
features.pickup.direct_pickup_enable =

##It configures the directed call pickup code.
##The default value is blank.
features.pickup.direct_pickup_code = %BWFAC-DIRECTED-CALL-PICKUP-1%
```

```
##########################################################################
#############
##                              Time
##
##########################################################################
#############
##It configures the time zone.For more available time zones, refer to Time
Zones on page 215.
##The default value is +8.
local_time.time_zone = %BWTIMEZONE-1%
##It configures the time zone name.For more available time zone names,
refer to Time Zones on page 215.
##The default time zone name is China(Beijing).
local_time.time_zone_name = %TIMEZONENAME%
local_time.ntp_server1 = %SNTP_SERVER_1%
local_time.ntp_server2 = %SNTP_SERVER_2%
##It configures the update interval (in seconds) when using the NTP
server.
##The default value is 1000.Integer from 15 to 86400
local_time.interval =

##It enables or disables daylight saving time (DST) feature.
##0-Disabled,1-Enabled,2-Automatic.
##The default value is 2.
local_time.summer_time =

##It configures the way DST works when DST feature is enabled.
##0-DST By Date ,1-DST By Week.
##The default value is 0.
local_time.dst_time_type =

##It configures the start time of the DST.
##Value formats are:Month/Day/Hour (for By Date),Month/ Day of Week/ Day
of Week Last in Month/ Hour of Day (for By Week)
##The default value is 1/1/0.
local_time.start_time =

##It configures the end time of the DST.
##Value formats are:Month/Day/Hour (for By Date),Month/ Day of Week/ Day
of Week Last in Month/ Hour of Day (for By Week)
##The default value is 12/31/23.
local_time.end_time =

##It configures the offset time (in minutes).
##The default value is blank.Integer from -300 to 300
local_time.offset_time =

##It configures the time format.0-12 Hour,1-24 Hour.
##The default value is 1.
local_time.time_format =


local_time.date_format =

##It enables or disables the phone to update time with the offset time
obtained from the DHCP server.
```

```
##It is only available to offset from GMT 0.0-Disabled,1-Enabled.
##The default value is 0.
local_time.dhcp_time =

##It configures the phone to obtain time from NTP server or manual
settings.0-Manual,1-NTP
##The default value is 1.
local_time.manual_time_enable =

##It enables or disables the phone to use manually configured NTP server
preferentially.
##0-Disabled (use the NTP server obtained by DHCP preferentially),1-
Enabled.
##The default value is 0.
local_time.manual_ntp_srv_prior =
auto_dst.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%Autodst.xml


###########################################################################
#############
##                                 Tones
##
###########################################################################
#############
voice.tone.country = %COUNTRY%
voice.tone.dial =
voice.tone.ring =
voice.tone.busy =
voice.tone.congestion =
voice.tone.callwaiting =
voice.tone.dialrecall =
voice.tone.info =
voice.tone.stutter =
voice.tone.message =
voice.tone.autoanswer =
###########################################################################
#############
##                             Language Settings
##
###########################################################################
#############
##It configures the language of the web user interface.
##French, Portuguese and Spanish are not applicable to SIP-T19P and SIP-
T21P IP phones.
lang.wui =

##It configures the language of the phone user interface.
##The default value is English.
lang.gui = %BWLANGUAGE-1%

gui_lang.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%%BWLANGUAGE-1%
gui_lang.delete =
```

```
wui_lang.url =
wui_lang_note.url =
wui_lang.delete =




#############################################################################
#############
##                                NETWORK
##
#############################################################################
#############
##It configures the IP address mode.0-IPv4,1-IPv6,2-IPv4&IPv6
##The default value is 0.It takes effect after a reboot.
network.ip_address_mode =

network.ipv6_prefix =
network.ipv6_internet_port.type =
network.ipv6_internet_port.ip =
network.ipv6_internet_port.gateway =
network.ipv6_primary_dns =
network.ipv6_secondary_dns =

network.internet_port.type =
network.internet_port.ip =
network.internet_port.mask =
network.internet_port.gateway =
network.primary_dns= %DNS_SERVER_1%
network.secondary_dns = %DNS_SERVER_2%
```

Default-System File: y000000000037.cfg.def file

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

```
#!version:1.0.0.1

auto_provision.server.url =
http://xsp1.iop1.broadworks.net:80/dms/Yealink-CP860/
auto_provision.dhcp_option.enable = 0

#auto_provision.server.url =
http://%BWDEVICEACCESSFQDN%:%BWDEVICEACCESSPORT%/%BWDMSCONTEXT%/%BWDEVICEA
CCESSURI%
#auto_provision.server.username = %BWDEVICEUSERNAME%
#auto_provision.server.password = %DEVICE_ACCESS_PWD%
```

Appendix B: TIMEZONENAME Values

Time Zone	Time Zone Name
−11:00	Samoa
−10:00	United States-Hawaii-Aleutian
−10:00	United States-Alaska-Aleutian
−09:00	United States-Alaska Time
−08:00	Canada (Vancouver, Whitehorse)
−08:00	Mexico (Tijuana, Mexicali)
−08:00	United States-Pacific Time
−07:00	Canada (Edmonton, Calgary)
−07:00	Mexico (Mazatlan, Chihuahua)
−07:00	United States-Mountain Time
−07:00	United States-MST no DST
−06:00	Canada-Manitoba (Winnipeg)
−06:00	Chile (Easter Islands)
−06:00	Mexico (Mexico City, Acapulco)
−06:00	United States-Central Time
−05:00	Bahamas (Nassau)
−05:00	Canada (Montreal, Ottawa, Quebec)
−05:00	Cuba (Havana)
−05:00	United States-Eastern Time
−04:30	Venezuela (Caracas)
−04:00	Canada (Halifax, Saint John)
−04:00	Chile (Santiago)
−04:00	Paraguay (Asuncion)
−04:00	United Kingdom-Bermuda (Bermuda)
−04:00	United Kingdom (Falkland Islands)
−04:00	Trinidad&Tobago
−03:30	Canada-New Foundland (St.Johns)
−03:00	Denmark-Greenland (Nuuk)
−03:00	Argentina (Buenos Aires)
−03:00	Brazil (no DST)
−03:00	Brazil (DST)
−02:00	Brazil (no DST)

Time Zone	Time Zone Name
−01:00	Portugal (Azores)
0	GMT
0	Greenland
0	Denmark-Faroe Islands (Torshavn)
0	Ireland (Dublin)
0	Portugal (Lisboa, Porto, Funchal)
0	Spain-Canary Islands (Las Palmas) Administrator's Guide for SIP-CP860 IP Phones
0	United Kingdom (London)
0	Morocco
+01:00	Albania (Tirane)
+01:00	Austria (Vienna)
+01:00	Belgium (Brussels)
+01:00	Caicos
+01:00	Chad
+01:00	Croatia (Zagreb)
+01:00	Czech Republic (Prague)
+01:00	Denmark (Kopenhagen)
+01:00	France (Paris)
+01:00	Germany (Berlin)
+01:00	Hungary (Budapest)
+01:00	Italy (Rome)
+01:00	Luxembourg (Luxembourg)
+01:00	Macedonia (Skopje)
+01:00	Netherlands (Amsterdam)
+01:00	Namibia (Windhoek)
+02:00	Estonia (Tallinn)
+02:00	Finland (Helsinki)
+02:00	Gaza Strip (Gaza)
+02:00	Greece (Athens)
+02:00	Israel (Tel Aviv)
+02:00	Jordan (Amman)
+02:00	Latvia (Riga)
+02:00	Lebanon (Beirut)

Time Zone	Time Zone Name
+02:00	Moldova (Kishinev)
+02:00	Russia (Kaliningrad)
+02:00	Romania (Bucharest)
+02:00	Syria (Damascus)
+02:00	Turkey (Ankara)
+02:00	Ukraine (Kyiv, Odessa)
+03:00	East Africa Time
+03:00	Iraq (Baghdad)
+03:00	Russia (Moscow)
+03:30	Iran (Teheran)
+04:00	Armenia (Yerevan)
+04:00	Azerbaijan (Baku)
+04:00	Georgia (Tbilisi)
+04:00	Kazakhstan (Aktau)
+04:00	Russia (Samara)
+04:30	Afghanistan
+05:00	Kazakhstan (Aqtobe)
+05:00	Kyrgyzstan (Bishkek)
+05:00	Pakistan (Islamabad)
+05:00	Russia (Chelyabinsk)
+05:30	India (Calcutta)
+06:00	Kazakhstan (Astana, Almaty)
+06:00	Russia (Novosibirsk, Omsk)
+07:00	Russia (Krasnoyarsk)
+07:00	Thailand (Bangkok)
+08:00	China (Beijing)
+08:00	Singapore (Singapore)
+08:00	Australia (Perth)
+09:00	Korea (Seoul)
+09:00	Japan (Tokyo)
+09:30	Australia (Adelaide)
+09:30	Australia (Darwin)
+10:00	Australia (Sydney, Melbourne, Canberra)
+10:00	Australia (Brisbane)

Time Zone	Time Zone Name
+10:00	Australia (Hobart)
+10:00	Russia (Vladivostok)
+10:30	Australia (Lord Howe Islands)
+11:00	New Caledonia (Noumea)
+12:00	New Zealand (Wellington, Auckland)
+12:45	New Zealand (Chatham Islands)
+13:00	Tonga (Nukualofa)

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