

Yealink SIP IP Phones Release Notes of Version 73

Table of Contents

Yealink SIP IP Phones Release Note of Version X.73.0.40.....	1
1. Introduction	2
2. New Features	2
3. Optimization.....	3
4. Bug Fixes.....	5
5. New Features Descriptions	5
6. Optimization Descriptions.....	20
7. Configuration Parameters Enhancements	30

Yealink SIP IP Phones Release Notes of Version X.73.0.40

1. Introduction

- Firmware Version:
 - T28P: 2.72.0.80 upgrades to 2.73.0.40.
 - T26P: 6.72.0.80 upgrades to 6.73.0.40.
 - T22P: 7.72.0.80 upgrades to 7.73.0.40.
 - T20P: 9.72.0.80 upgrades to 9.73.0.40.
 - T41P: 36.72.0.55 upgrades to 36.73.0.40.
 - T42G: 29.72.0.55 upgrades to 29.73.0.40.
 - T46G: 28.72.0.45 upgrades to 28.73.0.40.
 - T48G: 35.72.0.30 upgrades to 35.73.0.40.
- Applicable Models: SIP-T28P/T26P/T22P/T20P/T41P/T42G/T46G/T48G
- Release Date: Dec 31th, 2014.

2. New Features

1. Added the feature of Protect Personalized Settings.
2. Added the feature of RTCP-XR.
3. Added the feature of Off-hook hot line dialing.
4. Added the feature of Screen Capture.
5. Added the feature of BSFT XSI.
6. Added the feature of Hybrid Key System.
7. Added the support of wildcards (\$PN and \$MAC) in the provisioning server URL.
8. Added the feature of Paging List.
9. Added the feature to enable or disable voice mail display.
10. Added the feature that user can select different ring tones to distinguish different accounts registered on the phone.
11. Added the support of Russian input method on the phone.

12. Added the feature that user can configure the FAC (Feature Access Code) to be hidden.
13. Added the custom settings of web language, phone language and the input method.
14. Added the feature of Encrypting Configuration Files.
15. Added the feature of Analyzing Configuration File.
16. Added the custom settings of SIP User Agent.
17. Added the feature of configuring the duration time (in seconds) in the ringing or ring back state.
18. Added the FAC mode of Call Park.
19. Add the setting of attempt expired time of auto provision.

3. Optimization

1. Optimized the feature of BLF List.
2. Optimized the feature of Notification Popups.
3. Adjust the order of (Redirection and Provisioning Server) RPS.
4. The Router pattern has been removed.
5. Added the amount of lines on the T4 series.
6. Optimized the mechanism of syslog level.
7. Optimized the Auto Provision Code of URL address/Name/Password on the LCD interface.
8. Added the feature of TR069 on the phone version of T41P/T42G.
9. Removed the feature of SNMP.
10. Optimized the sequence of G722 codec to the highest.
11. Optimized the Remote Phone Book.
12. Optimized User Access Level of Web/Phone User Interface.
13. Optimized the configuration of Anonymous Call Rejection.
14. Optimized the call and incoming call displaying on the phone.
15. Optimized the feature of Prefix.
16. Optimized the feature of default account.
17. Added the support of BLF List and Feature Key Synchronization in the newly version of xx.73.0.40.
18. Optimized the displaying of dialing/pre-dialing interface.
19. Optimized the feature of Time zone.

20. Added splash and silent ring tone to the new version.
21. Optimized the feature of XML Browser.
22. Added the message format of auto answer.
23. Optimized the label is configurable when the Dsskey type was configured as line.
24. Optimized the configuration of DNS.
25. Optimized the security of the SIP Phone.
26. Optimized the label displaying Length of the T48G.
27. Optimized the LLDP feature to be enabled by default.
28. Optimized the request to support enable/disable the LDAP Lookup for Callout in the web interface or auto-provision.
29. Optimized the request to support LDAPs.
30. Optimized the requirement of SIP server support input without special domain.
31. Optimized the language support of Chinese in model of T41P and T42G.
32. Optimized the feature of Call Park.
33. Optimized the support of 3CX platform.
34. Optimized the ACD feature.
35. Optimized the feature of prevent harassment.
36. Optimized the incoming call experience in the T48G LCD during calling.
37. Optimized the ring tone in T41P and T42G.
38. Optimized the display mode of Call log.
39. Optimized the feature of DTMF.
40. Optimized the user experience of softkey displaying.
41. Optimized the displaying of pull-down list of call control.
42. Unified the softkey layout in the talking interface.
43. Optimized the input method at the phone.
44. Optimized the size of dial plan to 1024 characters.
45. Optimized the T9 searching supports with German character.
46. Optimized the request to support input in Czech.
47. Optimized the request to add Call-ID into Action URI.
48. Optimized the request to display phone number in T20P when pressing OK in call log interface.
49. Optimized the request to get the NTP server URL via DHCP option 42.
50. Optimized the request to support obtaining pictures via 180 call info.
51. Optimized the request to forward the incoming call through pressing the TRANSFER before answering.

4. Bug Fixes

1. Fixed the issue that when using the ring group function in Asterisk platform, the original call would be silent while the second call is established.
2. Fixed the time zone name from "France" to "France(Paris)"
3. Fixed the issue that T2X can't support more than one SIP messages in one SIP TCP frame.
4. Fixed the issue that logging onto hoteling/ACD fails occasionally.
5. Fixed the issue that phone displays "registered" although the server send termination message.
6. Fixed the issue that Time Out for Dial-now Rule cannot be set to "0".
7. Fixed the issue that phone plays 180 ringtone and 183 ringtone at the same time after answering the forward call.
8. Fixed the issue that phone with SCA displays "Shared Line Unavailable" occasionally.
9. Fixed the issue that T2X cannot support https when setting URL on Dsskey.
10. Fixed the issue that phone cannot hunt up call when enabling DNS-SRV.
11. Fixed the issue that T4X cannot support deploying more than one forward on Dsskey.
12. Fixed the issue that phone cannot play uploaded ringtone.
13. Fixed the issue that pressing the Park Dsskey during a call will go to hold but not park.
14. Fixed the issue that XML browser cannot play ringtone.
15. Fixed the issue that local would be DND and forward would be invalid when Feature Key Synchronization is enabled.
16. Fixed the issue that simplex call would appear on Yealink phone when the phone opens SRTP.
17. Fixed the issue that caller ID would become garbled in LCD interface when the caller ID including umlaut character like "ö", "ä", "ü" etc.

5. New Features Descriptions

1. Added the feature of Protect Personalized Settings.

Description: In the newly version, the IP phones can remain the personalized settings by updating configurations in the MAC-local.cfg file. This process is

controlled by the value of the parameter “auto_provision.custom.protect”. The personalized settings of the phone configured via the phone or web user interface can be remained after auto provisioning.

The parameters in the auto provision template are described as follows:

auto_provision.custom.upload_method =

auto_provision.custom.sync =

auto_provision.custom.protect =

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

2. Added the feature of RTCP-XR.

Description: Voice quality monitoring feature allows the IP phones to generate various quality metrics for listening and conversational quality. Two mechanisms for voice quality monitoring are supported by Yealink IP phones:

RTCP-XR/VQ-RTCPXR.

To set the RTCP-XR via web user interface:

- Click on Settings-> Voice Monitoring

VQ RTCP-XR Session Report	Disabled	?
VQ RTCP-XR Interval Report	Disabled	?
Period for Interval Report	20	?
Warning threshold for Moslq		?
Critical threshold for Moslq		?
Warning threshold for Delay		?
Critical threshold for Delay		?
Display Report options on Web	Disabled	?
Display Report options on phone	Disabled	?

Report options on phone UI ?

Disabled

- RoundTripDelay
- SymmOneWayDelay

Enabled

- Start Time
- Current Time
- Local User
- Remote User
- Local Codec
- Remote Codec
- Jitter
- JitterBufferMax
- Packets lost
- MOS-LQ

- Click on Account->Advanced

VQ RTCP-XR Collector name		?
VQ RTCP-XR Collector address		?
VQ RTCP-XR Collector port	5060	?

The parameters in the auto provision template are described as follows:

account.X.vq_rtcp_xr.collector_name =

account.X.vq_rtcp_xr.collector_server_host=

account.X.vq_rtcp_xr.collector_server_port=

phone_setting.vq_rtcp_xr.session_report.enable=

phone_setting.vq_rtcp_xr.states_show_on_web.enable =

phone_setting.vq_rtcpnr.states_show_on_gui.enable =
phone_setting.vq_rtcpnr.interval_report.enable =
phone_setting.vq_rtcpnr_delay_threshold_warning =
phone_setting.vq_rtcpnr_moslq_threshold_critical =
phone_setting.vq_rtcpnr_delay_threshold_warning =
phone_setting.vq_rtcpnr_delay_threshold_critical =
phone_setting.vq_rtcpnr_interval_period =
phone_setting.vq_rtcpnr_display_start_time.enable =
phone_setting.vq_rtcpnr_display_stop_time.enable =
phone_setting.vq_rtcpnr_display_local_call_id.enable =
phone_setting.vq_rtcpnr_display_remote_call_id.enable =
phone_setting.vq_rtcpnr_display_local_codec.enable =
phone_setting.vq_rtcpnr_display_remote_codec.enable =
phone_setting.vq_rtcpnr_display_jitter.enable =
phone_setting.vq_rtcpnr_display_jitter_buffer_max.enable =
phone_setting.vq_rtcpnr_display_packets_lost.enable =
phone_setting.vq_rtcpnr_display_moslq.enable =
phone_setting.vq_rtcpnr_display_moscq.enable =
phone_setting.vq_rtcpnr_display_round_trip_delay.enable =
phone_setting.vq_rtcpnr_display_symm_oneway_delay.enable =

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

Note: When using voice quality monitoring feature, some problems will occur:

1. GapDuration always equals to 0 while no burst duration.
2. JitterBufferAdaptive always equals to 2 (non-adaptive/fixed), even if it's configured adaptive.
3. MOSLQ/MOSCQ may be lower or higher than what VQMon calculates sometimes (error of [1, +0.5]).

The problems will be fixed in firmware version 80.

3. Added the feature of Off-hook hot line dialing.

Description: Off hook hot line dialing feature is configurable on a per-line basis and depends on support from a SIP server.

Note:

- Off hook hot line dialing feature limits the Call-out permission of this

account only. When off hook hot line dialing feature is enabled for an account, you can answer an incoming call on this account.

- Off hook hot line dialing feature is not applicable to SIP-T19P/T21P IP phones.

The parameters in the auto provision template are described as follows:

account.X.auto_dial_enable =

account.X.auto_dial_num =

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

4. Added the feature of Screen Capture.

Description: Screen capture feature allows users to capture the current screen that is shown on the phone from the browser window on the computer. This feature is implemented by handling HTTP/HTTPS GET requests sent from the IP address of the computer.

Before using screen capture feature, ensure that the IP address of the computer is included in the trusted IP address of the phone. You can specify one or more trusted IP addresses on the IP phone, or configure the IP phone to receive and handle the URI sent from any IP address.

To configure this feature via web user interface:

- Click on Features->Remote Control-> Action URI allow IP List.
- Enter the IP address or any in the Action URI allow IP List field.

The screenshot shows a configuration window titled "Remote Control". It contains four rows of settings:

- Push XML Server IP Address: A text input field with a question mark icon to its right.
- SIP Notify: A dropdown menu currently set to "Disabled" with a question mark icon to its right.
- Block XML In Calling: A dropdown menu currently set to "Disabled" with a question mark icon to its right.
- Action URI allow IP List: A text input field with a question mark icon to its right. This row is highlighted with a red rectangular border.

At the bottom of the window are two buttons: "Confirm" and "Cancel".

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

5. Added the feature of BSFT XSI.

Description: The Xtended Services Interface (XSI) is an HTTP-based, REST-ful Application Programming Interface (API) available over BroadWorks, targeted to end-user functionalities such as call control, call log lists, directories and end-user service configurations. IP phones interoperate with BroadWorks XSI using HTTP messages.

IP phones interoperating with BroadWorks XSI support the following features:

- Simultaneous Ring Personal
- Line ID Blocking
- Anonymous Call Rejection
- BroadWorks Anywhere
- Remote Office
- BroadSoft Directory
- BroadSoft Call Log
- Call Park

To set the XSI via web user interface:

Click on directory→ Network Directory

XSI: ?		
Allow SIP Authentication for XSI	Disabled	?
Host Server		?
Port	80	?
XSI Server Type	HTTP	?
User ID		?
Password	?

The auto provision template is as follows:

sip.authentication_for_xsi =

6. Added the feature of Hybrid Key System.

Description: The Hybrid Key System is an extension of the SCA feature, you can assign multiple line keys to a registering shared line on all phones.

Added a configuration item to enable or disable the DSS keys to be assigned to line automatically. The number of the DSS keys is determined by the value of the parameter “account.X.number_of_linekey”.

To set the Hybrid Key System via web user interface:

Features->General Information->Auto Linekeys;

Account-> Advanced-> number of linekeys

Tran Send DTMF	<input type="text"/>	?
Send Pound Key	Disabled	?
Fwd International	Enabled	?
Diversion/History-Info	Enabled	?
BLF LED Mode	0	?
Auto-Logout Time(1~1000min)	1000	?
Call Number Filter	,-	?
Allow IP Call	Enabled	?
IP Direct Auto Answer	Disabled	?
Call List Show Number	Disabled	?
Voice Mail Tone	Enabled	?
DHCP Hostname	SIP-T48G	?
Hide Feature Access Codes	Disabled	?
Display Method on Dialing	User Name	?
Auto Linekeys	Enabled	?

SIP Server Type	Default	?
Music Server URI		?
Directed Call Pickup Code		?
Group Call Pickup Code		?
Distinctive Ring Tones	Enabled	?
Unregister When Reboot	Disabled	?
Out Dialog BLF	Disabled	?
VQ RTCP-XR Collector name		?
VQ RTCP-XR Collector address		?
VQ RTCP-XR Collector port	5060	?
Number of line key	1	?
Accept SIP Trust Server Only	Disabled	?

The parameters in the auto provision template are described as follows:

account.X.shared_line_callpull_code =
account.X.number_of_linekey =
features.barge_in_via_username.enable =
features.auto_linekeys.enable =

7. Added the support of wildcards (\$PN and \$MAC) in the provisioning server URL.

Description: When the IP phone obtains a provisioning server URL containing the wildcard \$PN/\$MAC, it automatically replaces the character \$PN/\$MAC in the received URL of the provisioning server. When the IP phone is triggered to perform auto provisioning, it will request to download the configuration files from the identified directory on the provisioning server.

The parameters in the auto provision template are described as follows:

auto_provision.url_wildcard.pn=

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

8. Added the feature of Paging List.

Description: Paging List allows IP Phones to display up to 10 multicast paging group to a paging list. User can access the list by pressing the paging list key, and

choose relevant group to paging.

To configure this feature via web user interface:

Directory-> Multicast IP

Paging List

Number	Paging Address	Label
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	<input type="text"/>
7	<input type="text"/>	<input type="text"/>
8	<input type="text"/>	<input type="text"/>
9	<input type="text"/>	<input type="text"/>
10	<input type="text"/>	<input type="text"/>

The parameters in the auto provision template are described as follows:

multicast.paging_address.X.ip_address =

multicast.paging_address.X.label =

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

9. Added the feature to enable or disable voice mail display.

Description: Added the feature to enable or disable voice mail display.

User can enable or disable the feature from pull-down list of voice mail display, if it was set to disabled, the phone will not prompt anything, and the number of voice mail was zero.

To configure the voice mail display via phone user interface:

Account-> Advanced->Voice Mail Display

Subscribe MWI To Voice Mail	Disabled	<input style="float: right;" type="button" value="?"/>
Voice Mail	*97	<input style="float: right;" type="button" value="?"/>
Voice Mail Display	Enabled	

The parameters in the auto provision template are described as follows:

account.X.display_mwi.enable =

10. Added the feature that user can select different ring tones to distinguish different accounts registered on the phone.

To select a ring tone for the phone via phone user interface:

Press Menu->Settings->Basic Settings ->Sound->Ring Tones (For T2 series)

Press Menu ->Basic Settings ->Sound->Ring Tones (For T4 series)

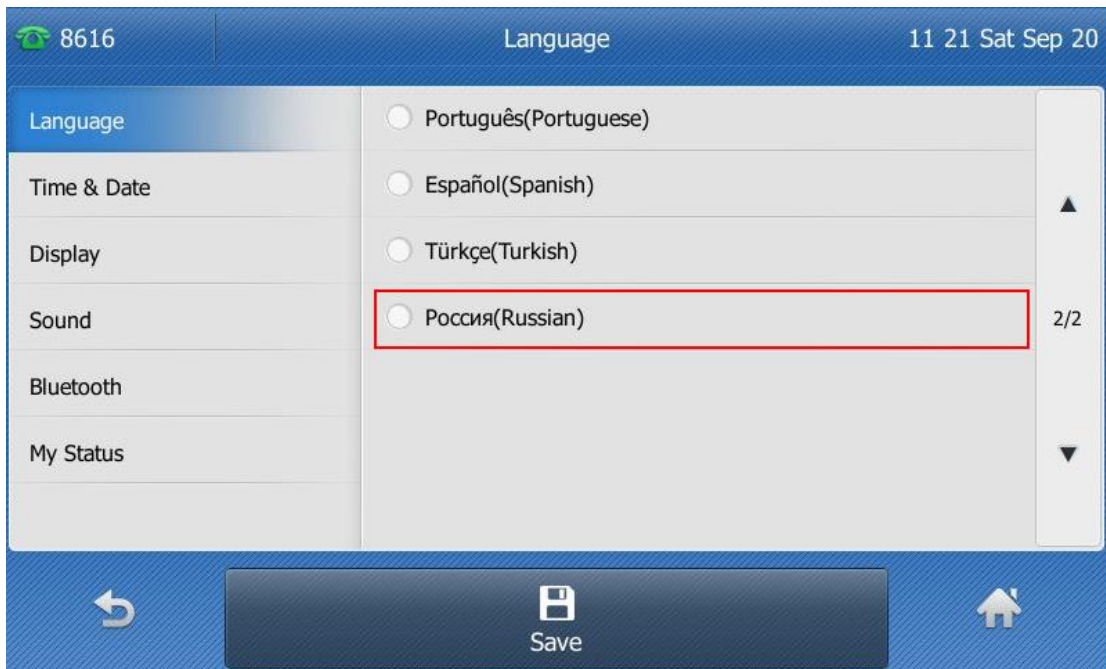


Note: To configure this feature via web interface or Auto provisioning has already been supported in the version before V73.

11. Added the support of Russian input method on the phone.

Description: Added the support of Russian and the input method both to the phone/web user interface.

To configure the language via phone user interface:



To configure the language via phone user interface:

Settings->Preference->Language



12. Added the feature that user can configure the FAC (Feature Access Code) to be hidden.

Description: If it is set to be enabled, the phone will display feature name instead of the feature access code when dialing and in talk.

To use this feature via web user interface:

Features->General Information->Hide Feature Access Codes



The parameters in the auto provision template are described as follows:

features.hide_feature_access_codes.enable =

13. Added the custom settings of web language, phone language and the input method.

Description: Users can customize the web language and the input method via auto provisioning, or to customize the default web language and the input method.

The parameters in the auto provision template are described as follows:

wui_lang.url =

wui_lang_note.url =

lang.wui =

lang.gui =

gui_lang.url =

gui_lang.delete =

wui_lang.delete =

gui_input_method.url =

directory.search_default_input_method =

directory.edit_default_input_method =

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

14. Added the feature of Encrypting Configuration Files.

Description: In the newly version of 73, the configuration files are encrypted for protecting against unauthorized access and tampering of sensitive information.

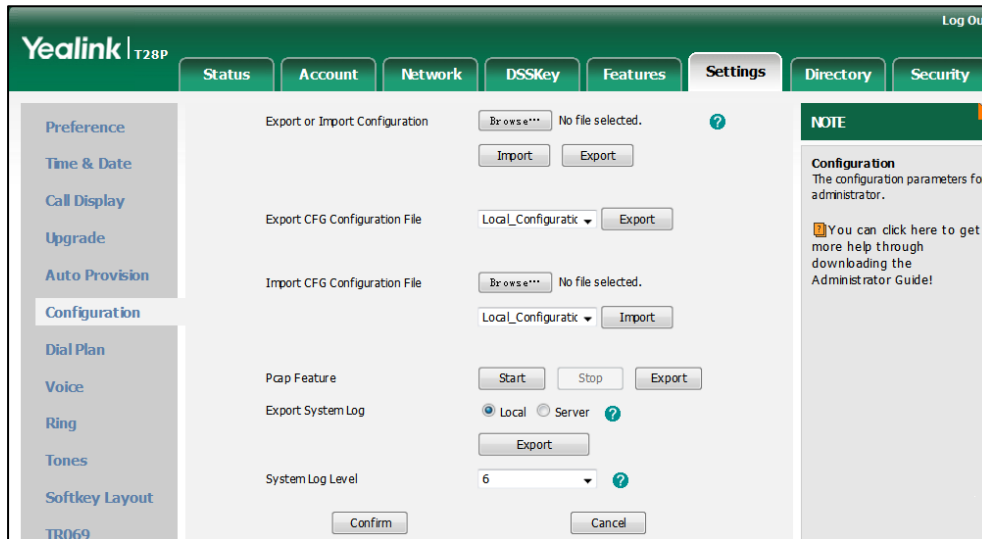
Note: The new firmware is not compatible with old configuration file.

15. Added the feature of Analyzing Configuration File.

Description: Two types of configuration files are added to be exported to your local system: <mac>-all.cfg and <mac>-local.cfg. The <mac>-all.cfg configuration file contains all changes made via phone user interface, web user interface and using configuration files. The <mac>-local.cfg configuration file contains changes made via phone user interface and web user interface.

To export local configuration file via web user interface:

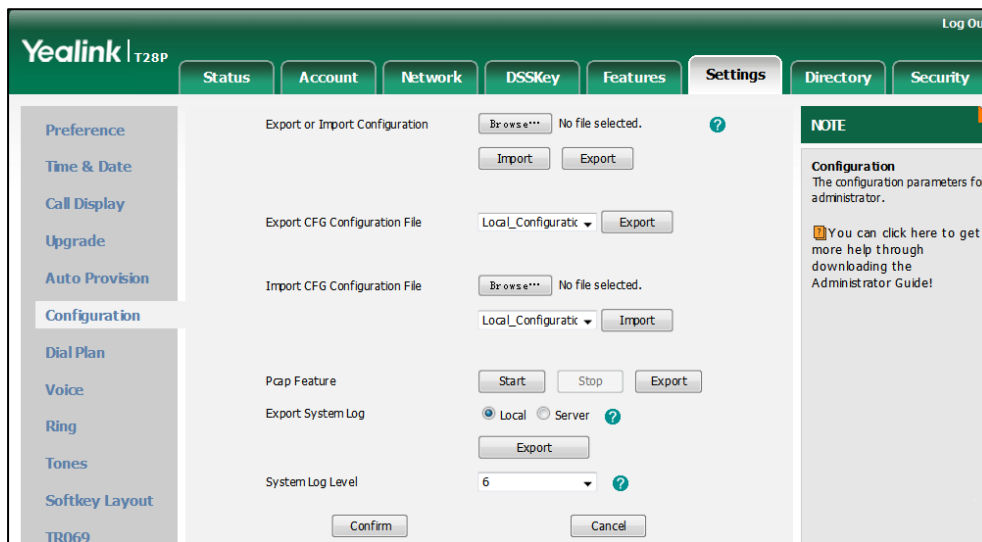
1. Click on Settings->Configuration.
2. In the Local Configuration field, click Export to open file download window, and then save the 001565221229-local.cfg file to the local system.



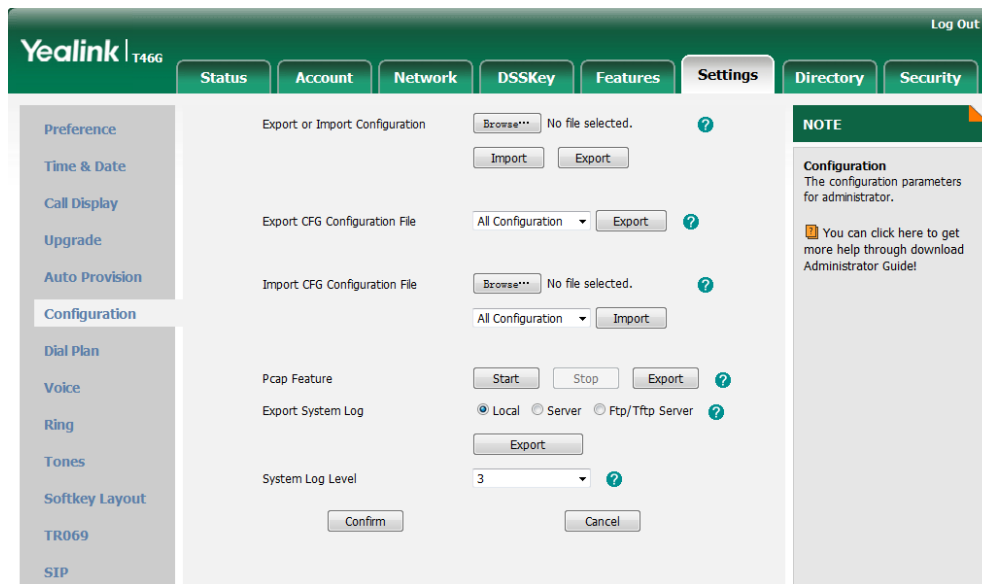
The administrator or user can edit the 001565221229-local.cfg file after exporting.

To import local configuration file via web user interface:

1. Click on Settings->Configuration.
2. In the Local Configuration field, click Browse to locate the 001565221229-local.cfg file from your local system.



In the same way, user can export and import all configuration file via web user interface:



16. Added the custom settings of SIP User Agent.

The parameters in the auto provision template are described as follows:

It configures the suffix of User-Agent in SIP request messages from the IP phone for account X.

The following takes the SIP-T28P IP phone running firmware version 2.73.208.87 as an example.

Default value of User-Agent: Yealink SIP-T28P 2.73.208.87

If it is set to Myphone, the User-Agent appears as below:

Yealink SIP-T28P 2.73.208.87 Myphone

The default value is blank.

17. Added the feature of configuring the duration time (in seconds) in the ringing or ring back state.

Description: User could configure the duration time in the ringing or ring back state.

The parameters in the auto provision template are described as follows:

phone_setting.ringback_timeout =

It configures the duration time (in seconds) in the ringback state. If it is set to 180, the phone will cancel the dialing if the call is not answered within 180s. The default value is 180.

phone_setting.ringing_timeout =

It configures the duration time (in seconds) in the ringing state. If it is set to 180, the phone will reject the incoming call if the call is not answered within 180s. The

default value is 180.

18. Added the FAC mode of Broadsoft Call Park.

Description: Added a new configuration of Call Park Mode to choose the call park mode is configured as FAC or configured as XSI.

To configure this feature via web user interface:

Features->Call Pickup

Call Park Mode	FAC	
Call Park	Disabled	?
Call Park Code		
Group Call Park	Disabled	?
Group Call Park Code		
Park Retrieve Code		
Visual Alert for Parked Call	Disabled	?
Audio Alert for Parked Call	Disabled	?

Confirm Cancel

The parameters in the auto provision template are described as follows:

features.call_park.park_mode =

features.call_park.park_code =

features.call_park.park_retrieve_code =

features.call_park.group_park_code =

19. Add the setting of attempt expired time of auto provision.

Description: Add a configuration item to configures the time (in seconds) to wait after a file transfer fails before retrying the transfer. The default value is 5.

To set the feature via web user interface:

Settings->Auto Provision->Password-> Attempt Expired Time(s)

Auto Provision		
PNP Active	<input checked="" type="radio"/> On <input type="radio"/> Off	?
DHCP Active	<input checked="" type="radio"/> On <input type="radio"/> Off	?
Custom Option(128~254)	<input type="text"/>	?
DHCP Option Value	<input type="text" value="yealink"/>	?
Server URL	<input type="text"/>	?
User Name	<input type="text"/>	?
Password	<input type="password" value="....."/>	?
Attempt Expired Time(s)	<input type="text" value="5"/>	?
Common AES Key	<input type="password" value="....."/>	?
MAC-Oriented AES Key	<input type="password" value="....."/>	?
Zero Active	<input type="text" value="Disabled"/>	?
Wait Time(1~100s)	<input type="text" value="10"/>	?

The parameters in the auto provision template are described as follows:

auto_provision.attempt_expired_time =

6. Optimization Descriptions

1. Optimized the feature of BLF List.

Description: The default order of BLF list keys assigned automatically is Line Key->Memory Key->Ext Key. Meanwhile, the feature of parking and retrieving call parked has been optimized.

To set the BLF List via web user interface:

Click on Account-> Advanced

BLF List URI	<input type="text"/>	?
BLF List Code	<input type="text"/>	?
BLF List Barge In Code	<input type="text"/>	?
BLF List Retrieve call parked Code	<input type="text"/>	

The parameters in the auto provision template are described as follows:

account.X.blf_list_retrieve_call_parked_code =

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

2. Optimized the feature of Notification Popups.

Description: Notification popups feature allows the IP phone to display the pop-up message when it misses a call, forwards an incoming call to other party, receives a new voice mail or new text message.

To set the Notification Popups via web user interface:

- Click on Features→Notification Popups

Notification Popups ?	
Display Voice Mail Popup	Enabled ?
Display Missed Call Popup	Enabled ?
Display Forward Call Popup	Enabled ?
Display Text Message Popup	Enabled ?

Confirm Cancel

The parameters in the auto provision template are described as follows:

features.voice_mail_popup.enable =

features.missed_call_popup.enable =

features.forward_call_popup.enable =

features.text_message_popup.enable =

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

3. Adjusted the order of (Redirection and Provisioning Server) RPS.

Description: The order of RPS was adjusted to the last.

Note: The RPS was enabled by default.

4. The Router pattern has been removed.

5. Added the amount of lines on the T4 series.

Description: In the newly version of 73, the number of the phone lines on the T4 series were added as follow:

T41: Added to 6.

T42: Added to 12.

T46: Added to 16.

T48: Added to 16.

6. Optimized the mechanism of syslog level.

Description: In the newly version, when the user configured the System Log Level

through web interface, the phone would not restart, but when it was configured it by auto provisioning, the phone will still restart.

The parameters in the auto provision template are described as follows:

auto_provision.reboot_force.enable =

7. Optimized the Auto Provision Code of URL address/Name/Password on the LCD interface.

Description: Added the autop code feature that the username and password of auto provision URL can now be verified via the LCD interface. At the same time, the web interface will make automatic synchronization of these username and password in the server URL field.

8. Added the feature of TR069 on the phone version of T41P/T42G.

9. Removed the feature of SNMP.

10. Optimized the sequence of G722 codec to the highest.

Description: Optimized the sequence of G722 codec to the highest, the phone will prefer using G722 codec to receive audio and the sound quality is better. And it would not support the GSM codec any more.

11. Optimized the Remote Phone Book.

Description: Optimized the feature that user can enable or disable the IP phone to refresh the local cache of the remote phone book at a time when accessing the remote phone book.

The configuration of "Search Remote Phonebook Name" which on the web UI is now modified as "Incoming/Outgoing Call Lookup"; "Search Flash Time" is now modified as "Update Time Interval".

Index	Remote URL	Display Name
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>

Incoming/Outgoing Call lookup ?

Update Time Interval(Seconds) ?

The parameters in the auto provision template are described as follows:

features.remote_phonebook.enter_update_enable =

12. Optimized User Access Level of Web/Phone User Interface.

Description: In the newly version of 73, the User Access Level configuration of Web/Phone User interface was unified, and it was compatible with old configuration parameters.

For more information, please refer to the file of *Yealink*

SIP-Phone_Configuration_Guide_for_User_Access_Level_V73_40.

13. Optimized the configuration of Anonymous Call Rejection.

Description: In the newly version of 73, the configuration of “*account.X.reject_anonymous_call*” was modified to enable or disable anonymous call rejection feature for account X.

Furthermore, there was a new configuration item of

“*account.X.send_anonymous_rejection_code*” was added to configure what code sent to the server for account X.

To configure this feature via web user interface:

Account->Basic

Account Account 1 ?

Proxy Require ?

Local Anonymous Off ?

Local Anonymous Rejection Off ?

Send Anonymous Code Off Code ?

On Code ?

Off Code ?

Send Anonymous Rejection Code Off Code ?

On Code ?

Off Code ?

Missed Call Log Enabled ?

Auto Answer Disabled ?

Ring Type Common ?

Confirm Cancel

8616 Line 1 11 31 Sat Sep 20

Call Forward

Call Waiting

Auto Answer

DSS Keys 1/2

DND

Intercom

Anonymous

1. Local Anonymous On Off

2. Local Anonymous R... On Off

3. Send Anonymous C... On Code Off Code

4. On Code 1/2

5. Off Code

6. Send Anonymous Re... On Code Off Code

7. On Code

Save

The parameters in the auto provision template are described as follows:

account.X.send_anonymous_rejection_code =

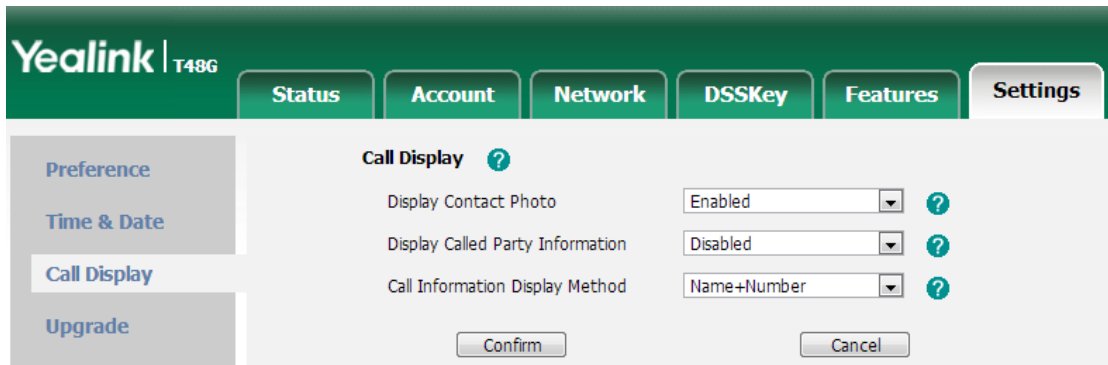
14. Optimized the call and incoming call displaying on the phone.

Description: There are three configuration items were added to the new version of 73:

phone_setting.contact_photo_display.enable =

phone_setting.called_party_info_display.enable =
phone_setting.call_info_display_method =

To configure this feature via web user interface:



15. Optimized the feature of Prefix.

Description: Optimized the functional logic of the Prefix + DSS Key when the phone was on the interface of Idle FWD Transfer New Call and so on.

16. Optimized the feature of default account.

Description: In the newly version, user can configure the default account via auto provisioning.

The parameters in the auto provision template are described as follows:

features.default_account =

17. Added the support of BLF List and Feature Key Synchronization in the newly version of xx.73.0.40.

Description: In the newly version, user can configure the feature of BLF List and Feature Key Synchronization via web UI or auto provisioning.

To configure this feature via web user interface:

Features->General Information



Note: These two features were especially useful for some provisioning server.

18. Optimized the displaying of dialing/pre-dialing interface.

Description: Optimized the label displaying at the pre-dialing interface or dialing

interface. User can configure User name/Display name or Label via web user interface.

To configure the Call Display via web user interface:

Features->General Information->Display Method on Dialing->Label/Display Name/User Name

The parameters in the auto provision template are described as follows:

features.caller_name_type_on_dialing =

19. Optimized the feature of Time zone.

Description: Added all legal time zone to the SIP phone, and the daylight saving time of -7 was modified at the same time.

20. Added splash and silent ring tone to the new version.

21. Optimized the feature of XML Browser.

Description: Unified the resulting response when triggered the object of XML Browser.

22. Added the message format of auto answer.

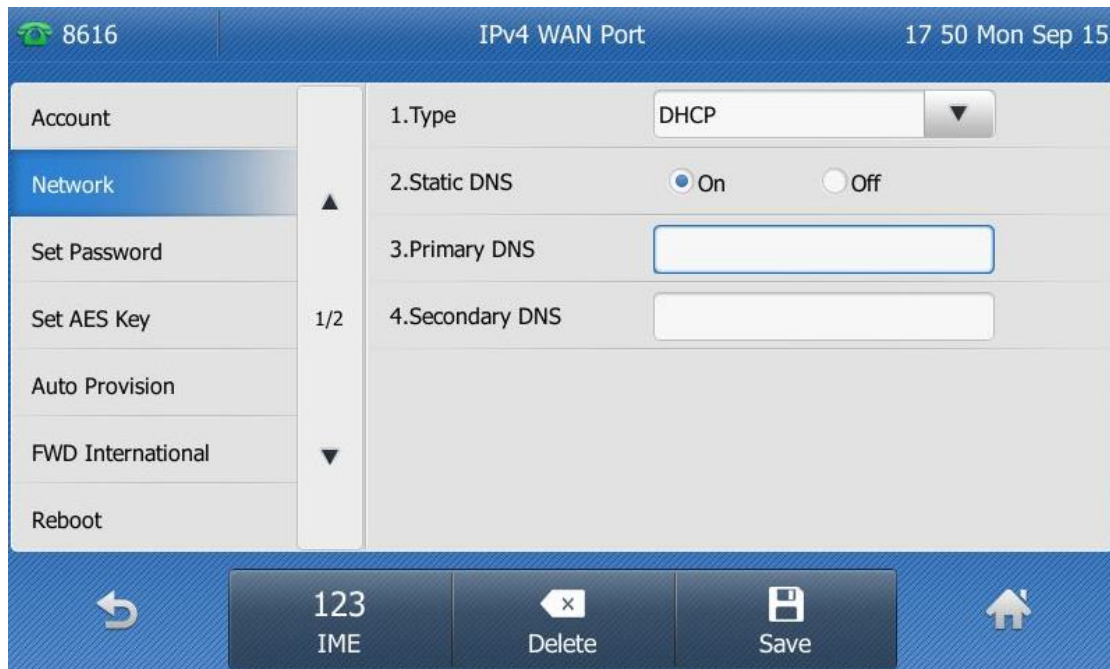
Description: In the newly version the phone was compatible with auto answer message format.

Call-Info:answer-after=X (X represents 0 or nonnegative integer).

23. Optimized the label is configurable when the Dsskey type was configured as line.

24. Optimized the configuration of DNS.

Description: The DNS is configurable when the DHCP was enable.



25. Optimized the security of the SIP Phone.

Description: In the newly version the security line was added to prevent brute-force cracking.

26. Optimized the label displaying Length of the T48G.

Description: Added a configuration “Label Length” to the web user interface of Dsskey, in the pull-down list, user can configure as default or extended, the default value is Default.

The parameters in the auto provision template are described as follows:

features.config_dsskey_length =

27. Optimized the LLDP feature to be enabled by default.

28. Optimized the user experience of softkey displaying.

Description: The user experience has been optimized that the softkey of conference can now be displayed normally when the SCA feature was enable.

29. Optimized the option of pull-down list of call control.

Description: In the newly version of T2 series, the option of DND was added to the pull-down list.

30. Unified the softkey layout in the talking interface.

31. Optimized the input method on the phone.

Description: Unified the inputting of special characters on the phone user interface. Meanwhile, added the support of vowel/inflexion input.

32. Optimized the feature of Call Park.

Description: Description: Optimized the compatibility of Call Park feature in the S2S platform when user configured the server type via auto provisioning.

The parameters in the auto provision template are described as follows:

account.X.sip_server_type =

For more information please refer to the

Yealink_T4X_IP_Phone_Auto_Provisioning_Guide_V73_40

33. Optimized the size of dial plan to 1024 characters.

Description: The input field can enter up to 1024 characters which in the web page of dial plan.

To access the web page of dial plan:

Settings->Dial Plan

Replace Rule				
Index	Prefix	Replace	Account	<input type="checkbox"/>
1				<input type="checkbox"/>
2				<input type="checkbox"/>
3				<input type="checkbox"/>
4				<input type="checkbox"/>
5				<input type="checkbox"/>
6				<input type="checkbox"/>
7				<input type="checkbox"/>
8				<input type="checkbox"/>
9				<input type="checkbox"/>
10				<input type="checkbox"/>

Prefix Replace Account

34. Optimized the ACD feature.

Description: Optimized the compatibility of ACD feature in the S2S platform when user configured the server type via auto provisioning.

For more information please refer to the
Using_Star2Star_ACD_on_Yealink_IP_Phones.docx

35. Optimized the feature of prevent harassment.

Description: Added a new configuration item in the web interface for preventing attacks.

To set the feature via web user interface:

Account-> Advanced Accept->SIP Trust Server Only

Music Server URI	<input type="text"/>	?
Directed Call Pickup Code	<input type="text"/>	?
Group Call Pickup Code	<input type="text"/>	?
Distinctive Ring Tones	Enabled	?
Unregister When Reboot	Disabled	?
Out Dialog BLF	Disabled	?
VQ RTCP-XR Collector name	<input type="text"/>	?
VQ RTCP-XR Collector address	<input type="text"/>	?
VQ RTCP-XR Collector port	5060	?
Number of line key	1	?
Accept SIP Trust Server Only	Disabled	?

36. Optimized the incoming call experience in the T48G LCD during calling.

Description: When the T48G receiving an incoming call during calling, the new caller ID would displayed in the LCD interface.

37. Optimized the ring tone in T41P and T42G.

Description: Added ring6, ring7, ring8 to the T41P and T42G.

38. Optimized the display mode of Call log.

Description: Optimized the feature that user can now configure the IP phone to save either forward-to/transfer-to number or called number in the call log lists.

The parameters in the auto provision template are described as follows:

features.save_init_num_to_history.enable =

39. Optimized the feature of DTMF.

Description: The configuration item of “Autop or SIP INFO” was modified as “RFC2833+SIP INFO” which in the webpage path of Account->Advanced->DTMF Type. DTMF digits are transmitted by RTP Events compliant to RFC 2833 and the SIP INFO messages.

7. Configuration Parameters Enhancements

Auto Provision Template Flies Change Log						
Firmware Version: [x.72.0.x]-[X.73.0.40]						
Feature	Provisioning syntax Comparison		Permitted Values	Action	Description	File
	V73	V72				
PC Port		network.bri dge_mode =	0 or 1	Removed	Configures the PC port mode.	COM
PC Port		network.pc _port.ip =		Removed	Configures the IP address for the PC port when the PC port is configured as Router.	COM
PC Port		network.pc _port.mask =		Removed	Configures the subnet mask for the PC port when the PC port is configured as Router.	COM
PC Port		network.dh cp.start_ip =		Removed	Configures the start IP address that the IP phone assigns for the PC attached to the PC port when the PC port is configured as Router.	COM
PC Port		network.dh cp.end_ip =		Removed	Configures the end IP address that the IP phone assigns for the PC attached to the PC port when the PC port is configured as Router.	COM
Network Advanced		network.pc _port.dhcp_ server =	0 or 1	Removed	Enables or disables the DHCP service for the PC attached to the PC port when the PC port is	COM

					configured as Router.	
Network Advanced	network.dns.tl_enable =		0 or 1	Added	It enables or disables the phone to use TTL in the A record. 0-Disabled 1-Enabled The default value is 1. It takes effect after a reboot.	COM
Network Advanced	network.mtu_value =		Integer from 128 to 1500	Added	It configures the MTU of network card. The default value is 1500. It takes effect after a reboot.	COM
Network Advanced	network.vlan.vlan_change.enable =		0 or 1	Added	It enables or disables the IP phone to obtain IP address with lower preference of VLAN assignment method or disable VLAN feature when the IP phone cannot obtain IP address with the current VLAN assignment method. 0-Disabled 1-Enabled The default value is 0.	COM
Network Advanced	network.802_1x.proxy_eap_logoff.enable =		0 or 1	Added	It enables or disables 802.1x-logoff feature for the PC port. 0-Disabled 1-Enabled The default value is 0. It takes effect after a reboot.	COM
Autop	auto_provision.custom.sync =		0 or 1	Added	It enables or disables the IP phone to periodically (every 5 minutes) upload the <MAC>-local.cfg file to the provisioning server, and download the <MAC>-local.cfg file from the provisioning server during auto provisioning. 0-Disabled 1-Enabled	COM

					<p>If it is set to 1 (Enabled), the IP phone will periodically upload the <MAC>-local.cfg file to the provisioning server. During auto provisioning, the IP phone will download the <MAC>-local.cfg file from the provisioning server.</p> <p>If it is set to 0 (Disabled), the IP phone will not upload the <MAC>-local.cfg file to the provisioning server. During auto provisioning, the IP phone will not download the <MAC>-local.cfg file from the provisioning server.</p> <p>The default value is 0.</p>	
Autop	auto_provision.custom.protect =		0 or 1	Added	<p>Enables or disables the IP phone to protect personalized settings after auto provisioning.</p> <p>0-Disabled 1-Enabled</p> <p>If it is set to 1 (Enabled), personalized settings configured via web or phone user interface will be protected and remained after auto provisioning.</p> <p>Note: It is not applicable to SIP-T19P/T21P IP phones.</p>	COM
Autop	auto_provision.custom.upload_method =		0 or 1	Added	<p>Configures the way the IP phone uploads the <MAC>-local.cfg file to the provisioning server (for HTTP/HTTPS server only).</p> <p>0-PUT 1-POST</p> <p>Note: It works only if the value of the parameter "auto_provision.custom.sync" is set to 1 (Enabled) and is not applicable to SIP-T19P/T21P IP</p>	COM

					phones.	
Autop	auto_provision.reboot_force.enable =		0 or 1	Added	It enables or disables the IP phone to reboot after auto provisioning when there is no specific configuration requiring a reboot. It is especially useful when there is no specific configuration requiring reboot in the configuration files, but you want to force the IP phone to reboot after auto provisioning. 0-Disabled 1-Enabled The default value is 0.	COM
Watch Dog	sip.authentication_for_xsi =		0 or 1	Added	It configures the authentication mechanism for the XSI access. 0-User Login Credentials for XSI Authentication 1-SIP Credentials for XSI Authentication If it is set to 0 (User Login Credentials for XSI Authentication), the IP phone uses the XSI user ID and password for XSI authentication.	COM
Call Park	sip.call_park_without_blf =		0 or 1	Added	It enables or disables the phone to close BLF monitoring feature for call park key. 0-Disabled 1-Enabled The default value is 0. It takes effect after a reboot.	COM
SIP	sip.escape_characters.enable =		0 or 1	Added	It enables or disables the IP phone to convert ASCII characters. 0-Disabled 1-Enabled The default value is 0.	COM
SIP	sip.listen_mo		0, 1or 2	Added	It configures the listening	COM

	de =				<p>mode.</p> <p>0-according to the transport protocol</p> <p>1-listening TCP and UDP</p> <p>2-listening TCP and UDP, and subscribe for BLF List containing transport=TCP in the contact header.</p> <p>The default value is 0.</p>	
SIP	<p>sip.refer_by_header_auto_build =</p>		0 or 1	Added	<p>It configures the constitution of the refer-by header.</p> <p>0-URI in the registration message</p> <p>1-From header in the refer message</p> <p>The default value is 0.</p> <p>It takes effect after a reboot.</p>	COM
SIP	<p>sip.reserve_characters =</p>		<p>-.!~*#'()&=</p> <p>+\$,;?/\0</p>	Added	<p>It configures the special characters reserved in the user name.</p> <p>The default value is blank.</p>	COM
SIP	<p>sip.tcp_port_random_mode =</p>		0, 1 or 2	Added	<p>It configures the listening port mode.</p> <p>0-random source port (non 506x), fixed ports (506x) carried in the contact, via header.</p> <p>1-random source port (non 506x) and other ports (non 506x) carried in the contact, via header.</p> <p>2-fixed source port (506x) and other ports (506x) carried in the contact, via header.</p> <p>The default value is 0.</p> <p>It takes effect after a reboot.</p>	COM
settings	<p>voice.tone.message =</p>		String	Added	<p>It customizes the tone when the IP phone receives a text message or voice message.</p> <p>The value format is Freq/Duration. For more</p>	COM

					<p>information on the value format, refer to the parameter “voice.tone.dial”.</p> <p>The default value is blank.</p> <p>Note: It works only if the value of the parameter “voice.tone.country” is set to Custom.</p>	
Language Settings	wui_lang.url =		URL within 511 characters	Added	<p>It configures the access URL of the custom language file for web user interface.</p> <p>Example: wui_lang.url = tftp://192.168.1.100/English.js.</p> <p>The default value is blank.</p>	COM
Language Settings	wui_lang_note.url =		URL within 511 characters	Added	<p>It configures the access URL of the custom note file for web user interface.</p> <p>The default value is blank.</p>	COM
Language Settings	wui_lang.delete =		URL within 511 characters	Added	<p>It deletes all custom web language files and not language files for web user interface.</p> <p>The valid value is: http://localhost/all</p> <p>The default value is blank.</p>	COM
Remote Phonebook	features.remote_phonebook.flash_time (not applicable to SIP-T20P IP phones)	features.remote_phonebook.flash_time =		Modified	<p>It configures how often to refresh the local cache of the remote phone book. If it is set to 3600, the IP phone will refresh the local cache of the remote phone book every 3600 seconds.</p> <p>The value 0 means that the IP phone will not regularly refresh the local cache of the remote phone book.</p> <p>The default value is 21600.</p>	COM
LDAP	ldap.incoming_call_special_search.enable =		0 or 1	Added	<p>It enables or disables the phone to search for special numbers.</p> <p>0-Disabled</p>	COM

					<p>1-Enabled The default value is 0.</p>	
LDAP	ldap.tls_mode =		0, 1 or 2	Added	<p>It configures the connection mode between the LDAP server and the IP phone.</p> <p>0-LDAP—Unencrypted connection between LDAP server and the IP phone. (port 389 is used by default).</p> <p>1-LDAP TLS Start—TLS/SSL connection between LDAP server and the IP phone (port 389 is used by default).</p> <p>2-LDAPs—TLS/SSL connection between LDAP server and the IP phone (port 636 is used by default).</p> <p>The default value is 0.</p> <p>For more information on LDAP feature, refer to LDAP Phonebook on Yealink IP Phones.</p>	COM
LDAP	ldap.call_out_lookup		0 or 1	Added	<p>It enables or disables the IP phone to perform an LDAP search when dialing an outgoing a call.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 1.</p> <p>For more information on LDAP feature, refer to LDAP Phonebook on Yealink IP Phones.</p>	COM
SIP	features.barge_in_via_username.enable =		0 or 1	Added	<p>It enables or disables the INVITE request with the user name of the account when this account barges in an active call.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 0.</p>	COM

DSSKEY	features.block_linekey_in_menu.enable =		0 or 1	Added	It enables or disables the phone to block line keys when browsing the Menu screen. 0-Disabled 1-Enabled The default value is 0.	COM
DSSKEY	features.flash_url_dsskey_led.enable =		0 or 1	Added	It enables or disables 5 seconds delay for the LED flashing of the URL DSS key. 0-Disabled 1-Enabled The default value is 1.	COM
UI	features.default_account =		Integer from 1 to 16	Added	It configures default account. The default value is 1.	COM
FWD	features.forward_call_popup.enable =		0 or 1	Added	It enables or disables the IP phone to display the pop-up message when the phone forwards an incoming call to other party. 0-Disabled 1-Enabled The default value is 1.	COM
SIP	features.hide_caller_id.enable =			Added	It enables or disables the phone to hide caller ID when it receives an incoming call. 0-Disabled 1-Enabled The default value is 0.	COM
DSSKEY	features.config_dsskey_length =		0 or 1	Added	It enables or disables extended length of the label displayed on the idle LCD screen for the line key. 0-Disabled 1-Enabled The default value is 0.	COM
DSSKEY	features.hide_feature_access_codes.enable =		0 or 1	Added	It enables or disables the IP phone to display feature name instead of the feature access code when dialing and in talk.	COM

					0-Disabled 1-Enabled The default value is 0.	
ZERO TOUCH	features.hide_zero_touch_url.enable =		0 or 1	Added	It enables or disables the phone to hide the provisioning URL item in the Zero Touch screen. 0-Disabled 1-Enabled The default value is 0.	COM
DSSKEY	features.linekey_call_with_default_account =		0 or 1	Added	It enables or disables the phone to dial out using the default account when pressing the line key. 0-Disabled 1-Enabled The default value is 0.	COM
Call log	features.missed_call_popup.enable =		0 or 1	Added	It enables or disables the IP phone to display the pop-up message when the phone misses a call. 0-Disabled 1-Enabled The default value is 1.	COM
Text Message	features.text_message_popup.enable =		0 or 1	Added	It enables or disables the IP phone to display the pop-up message when the phone receives a new text message. 0-Disabled 1-Enabled The default value is 1.	COM
Voice Mail	features.voice_mail_popup.enable =		0 or 1	Added	It enables or disables the IP phone to display the pop-up message when the phone receives a new voice mail. 0-Disabled 1-Enabled The default value is 1.	COM
DSSKEY	features.shorten_linekey_la	features.shorten_linekey	0 or 1	Modified	It enables or disables the phone to shorten the length of the line	COM

	bel.enable =	_label.enable =			key label. The length is within 9 digits. 0-Disabled 1-Enabled The default value is 0.	
Auto Answer	features.special_auto_answer_tone =		0 or 1	Added	It enables or disables the phone to play a warning tone when an incoming call is automatically answered. 0-Disabled 1-Enabled The default value is 1.	COM
Features	features.anonymous_response_code =		Integer from 0 to 65535	Added	It configures the code the phone responds with to the server when it receives an anonymous call. The default value is 433.	COM
Features	features.auto_linekeys.enable		0 or 1	Added	It enables or disables the DSS keys to be assigned automatically. 0-Disabled 1-Enabled The number of the DSS keys is determined by the value of the parameter "account.X.number_of_linekey". Note: It is only applicable to assign Shared Line or Line feature for phones. The default value is 0.	COM
Features	features.save_init_num_to_history.enable		0 or 1	Added	It configures the IP phone to save either forward-to/transfer-to number or called number in the call log lists. 0-Forward-to/transfer-to number 1-Called number The default value is 1.	COM

Features	features.action_uri_force_autop		0 or 1	Added	It enables or disables the IP phone to be forced to end the call for triggering auto provisioning immediately when receiving an HTTP or HTTPS GET request with variable value set to AutoP during a call. 0-Disabled 1-Enabled If it is set to 0 (Disabled), the IP phone will trigger auto provision after the call. The default value is 0.	COM
XML Browser		features.xml_browser_username =		Removed		COM
XML Browser		features.xml_browser_pwd =		Removed		COM
Phone Settings	phone_setting.call_info_display_method =		0, 1, 2, 3 or 4	Added	It configures the call information display method when the IP phone receives an incoming call, dials an outgoing call or engages in a call. 0-Name+Number 1-Number+Name 2-Name 3-Number 4-Full Contact Info (display name< sip:xxx@domain.com>) The default value is 0.	COM
Phone Settings	phone_setting.called_party_info_display.enable =		0 or 1	Added	It enables or disables the IP phone to display the called contact information when it receives an incoming call. 0-Disabled 1-Enabled The default value is 0.	COM
Phone Settings	phone_setting.contact_photo_display.enable =		0 or 1	Added	It enables or disables the IP phone to display the contact avatar when the IP phone receives an incoming call, dials	COM

					<p>an outgoing call or is during an active call.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 1.</p>	
Phone Settings	phone_settings.reserve_certificates_enable =		0 or 1	Added	<p>It enables or disables the IP phone to reserve custom certificates after it is reset to factory defaults.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 0.</p>	COM
Multicast	multicast.paging_address.x.ip_address =		String within 99 characters	Added	<p>It configures the multicast IP address and port number for a paging list key.</p> <p>The default value is blank.</p>	COM
Multicast	multicast.paging_address.x.label =		String	Added	<p>It configures the multicast paging group name for a paging list key.</p> <p>The default value is blank.</p>	COM
Hot Desking	features.auto_exit_logon_wizard.enable =		0 or 1	Added	<p>It enables or disables the IP phone to automatically quit the logon wizard after timeout.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 1.</p>	COM
Action URL	action_url.setup_autop_finish =		URL within 511 characters	Added	<p>It configures the action URL the IP phone sends when completing configuration update via auto provisioning.</p> <p>Example: action_url.transfer_failed = http://192.168.0.20/help.xml?IP=\$ip</p> <p>The default value is blank.</p>	COM
Contact	local_contact.image.url =		URL within 511 characters	Added	<p>It configures the access URL of a TAR contact avatar file.</p> <p>The format of the contact avatar must be *.png, *.jpg, *.bmp.</p>	COM

					<p>The contact avatar file should be compressed as a TAR file in advance and then place it to the provisioning server.</p> <p>The default value is blank.</p> <p>Note: If you want to upload a contact and configure contact avatar for it via auto provisioning, you need to configure the following three parameters:</p> <p>local_contact.image.url local_contact.icon.url local_contact.data.url</p>	
Contact	local_contact.icon.url =		URL within 511 characters	Added	<p>It configures the access URL of a TAR contact icon file.</p> <p>The format of the contact icon must be *.png, *.jpg, *.bmp.</p> <p>The contact icon file should be compressed as a TAR file in advance and then place it to the provisioning server.</p> <p>The default value is blank.</p> <p>Note: If you want to upload a contact and configure contact avatar for it via auto provisioning, you need to configure the following three parameters:</p> <p>local_contact.image.url local_contact.icon.url local_contact.data.url</p>	COM
Custom Input Method	directory.edit_default_input_method =		Abc, 2aB, 123, abc or ABC	Added	<p>It configures the default input method when the user edits contacts in the local directory, LDAP, remote phone book, blacklist or Broadsoft Directory.</p> <p>The default value is Abc.</p>	COM
Custom Input Method	directory.search_default_input_method		Abc, 2aB, 123, abc or ABC	Added	<p>It configures the default input method when the user searches for contacts in the</p>	COM

	=				local directory, LDAP, remote phone book, blacklist or Broadsoft Directory. The default value is Abc.	
UC	phone_setting.dsskey_directory_auto.enable =		0 or 1	Added	It enables or disables Auto Favorite feature. If enabled, the IP phone will download information of favorites from the cloud server and automatically configure UC Favorite keys from the first unused line key (the line key is configured as N/A). If a line key is used, the IP phone will skip to the next unused line key. 0-Disabled 1-Enabled The default value is 1.	COM
Custom Input Method	gui_input_method.url =		URL within 511 characters	Added	It configures the access URL of the custom input method file for phone user interface. The default value is blank.	COM
Remote Phonebook	features.remote_phonebook.enter_update_enable =		0 or 1	Added	It enables or disables the IP phone to refresh the local cache of the remote phone book at a time when accessing the remote phone book. 0-Disabled 1-Enabled The default value is 0.	COM
Autoprovision	auto_provision.custom_protect		0 or 1	Added	Enables or disables the IP phone to protect personalized settings after auto provisioning. 0-Disabled 1-Enabled If it is set to 1 (Enabled), personalized settings configured via web or phone user interface will be protected and remained after auto provisioning.	COM

					Note: It is not applicable to SIP-T19P/T21P IP phones.	
DSSKEY	features.dsskey_blind_transfer= =		0 or 1	Added	It enables or disables the phone to perform a blind transfer during a call by pressing the predefined DSS key (BLF, BLF List, Speed Dial, Transfer). 0-Disabled 1-Enabled The default value is 1.	COM
Features	features.caller_name_type_on_dialing		1, 2 or 3	Added	It configures the account information displayed on the top left corner of the LCD screen the when the IP phone is in the pre-dialing or dialing screen. 1-Label 2-Display Name 3-User Name The default value is 3.	COM
BLF	features.blf_pickup_only_send_code= end_code=		0 or 1	Added	It enables or disables the phone to dial out feature access code of directed pick up only when performing BLF pickup. 0-Disabled 1-Enabled If it is set to 1 (0), the phone will dial out feature access code of directed pick up plus value configured for BLF key when performing BLF pickup. The default value is 1.	COM
SIP	features.reboot_in_talk_enable= able=		0 or 1	Added	It enables or disables the phone to reboot during a call when it receives a NOTIFY message. 0-Disabled 1-Enabled The default value is 0.	COM
UI	features.show_default_account= show_default_ac		0 or 1	Added	It enables or disables the phone to display the label of the	COM

	count=				default account in the middle bottom of the idle LCD screen. 0-Disabled 1-Enabled The default value is 0. It takes effect after a reboot.	
Autop wildcard	auto_provision.url_wildcard.pn		String within 32 characters	Added	It configures the characters to replace the wildcard \$PN in the received URL of the provisioning server.	COM
DTMF	features.dtmf.volume		Integer from -10~-2 (for SIP-T28P/T26P/T22P/T20P) Integer from -30~0 (for SIP-T4X)	Added	It configures the frequency level of DTMF digits (in db). The default value is -10.	COM
SIP	phone_setting.unregister_account_block_out.enable		0 or 1	Added	It enables or disables the phone to forbid the calling without an account. 0-Disabled 1-Enabled The default value is 0.	COM
SIP	features.upload_server =		IP address	Added	It configures the server address which the DssKey.cfg file is uploaded to when the phone receives an XML command (Command:UploadSystemInfo).	COM
Features	features.reset_by_long_press_enable= 1		0 or 1	Added	It enables or disables the IP phone to reset to factory by long pressing OK. 0-Disabled 1-Enabled The default value is 1.	COM
VPM	features.dtmf.duration = 100		Integer from 40 to 300	Added	It configures the duration time (in milliseconds) for DTMF. The default value is 80.	COM
Dsskey	custom.feature			Added		COM

	es.shorten_linekey_label.enable = 0					
Features	features.show_action_uri_option = 0		0 or 1	Added	It enables or disables the phone to pop up the Allow Remote Control prompt when it receives the action URI requests. 0-Disabled 1-Enabled The default value is 0.	COM
Anywhere	features.show_anywhere_remote_office_enable =		0 or 1	Added	It enables or disables the phone screen to display any where and remote office. 0-Disabled 1-Enabled The default value is 1.	COM
RTCP-XR	phone_setting.rtcp_xr_report.enable =		0 or 1	Added	It enables or disables the IP phone to periodically send RTCP-XR packets to another participating phone during a call. The default value is 0.	COM
RTCP-XR	phone_setting.vq_rtcpxr.interval_report.enable =		0 or 1	Added	It enables or disables the IP phone to send a interval quality report to the central report collector periodically throughout a call. 0-Disabled 1-Enabled The default value is 0.	COM
RTCP-XR	phone_setting.vq_rtcpxr.session_report.enable =		0 or 1	Added	It enables or disables the IP phone to send a session quality report to the central report collector at the end of each call. 0-Disabled 1-Enabled The default value is 0.	COM
RTCP-XR	phone_setting.vq_rtcpxr.st		0 or 1	Added	It enables or disables the voice quality data of the last call or	COM

	ates_show_on_gui.enable =				current call to be displayed on the LCD screen. You can view the voice quality data of the last call by pressing Menu->Status->RTP Status. You can view the voice quality data of the current call by pressing RTP Status soft key during a call. 0-Disabled 1-Enabled The default value is 0.	
RTCP-XR	phone_setting.vq_rtcpxr.states_show_on_web.enable =		0 or 1	Added	It enables or disables the voice quality data of the last call to be displayed on web interface at path Status->RTP Status. 0-Disabled 1-Enabled The default value is 0.	COM
RTCP-XR	phone_setting.vq_rtcpxr_delay_threshold_critical =		10 to 2000	Added	It configures the threshold value of one way delay (in ms) that causes the phone to send a warning alert quality report to the central report collector.	COM
RTCP-XR	phone_setting.vq_rtcpxr_delay_threshold_warning =		10 to 2000	Added	It configures the threshold value of one way delay (in ms) that causes phone to send a critical alert quality report to the central report collector.	COM
RTCP-XR	phone_setting.vq_rtcpxr_display_jitter.enable =		0 or 1	Added	It enables or disables the phone to display Jitter on the LCD screen. 0-Disabled 1-Enabled Note: It works only if the value of the parameter "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to "1". The default value is 1.	COM

RTCP-XR	phone_setting.vq_rtcpxr_display_jitter_buffer_max.enable =		0 or 1	Added	<p>It enables or disables the phone to display JitterBufferMax on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to "1".</p> <p>The default value is 1.</p>	COM
RTCP-XR	phone_setting.vq_rtcpxr_display_local_call_id.enable =		0 or 1	Added	<p>It enables or disables the phone to display Local User on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to "1".</p> <p>The default value is 1.</p>	COM
RTCP-XR	phone_setting.vq_rtcpxr_display_local_codec.enable =		0 or 1	Added	<p>It enables or disables the phone to display Local Codec on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter "phone_setting.vq_rtcpxr.states_show_on_gui.enable" is set to "1".</p> <p>The default value is 1.</p>	COM
RTCP-XR	phone_setting.vq_rtcpxr_display_mos_cq.enable =		0 or 1	Added	<p>It enables or disables the phone to display MOS-CQ on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter</p>	COM

					<p>“phone_setting.vq_rtcpxr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 1.</p>	
RTCP-XR	phone_setting.vq_rtcpxr_display_mosq.enable =		0 or 1	Added	<p>It enables or disables the phone to display MOS-LQ on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcpxr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 1.</p>	COM
RTCP-XR	phone_setting.vq_rtcpxr_display_packets_lost.enable =		0 or 1	Added	<p>It enables or disables the phone to display Packet lost on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcpxr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 1.</p>	COM
RTCP-XR	phone_setting.vq_rtcpxr_display_remote_call_id.enable =		0 or 1	Added	<p>It enables or disables the phone to display Remote User on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcpxr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 1.</p>	COM
RTCP-XR	phone_setting.vq_rtcpxr_display_remote_codec.enable =		0 or 1	Added	<p>It enables or disables the phone to display Remote Codec on the LCD screen.</p>	COM

	le =				<p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcp_xr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 1.</p>	
RTCP-XR	phone_setting.vq_rtcp_xr_display_round_trip_delay.enable =		0 or 1	Added	<p>It enables or disables the phone to display RoundTripDelay on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcp_xr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 0.</p>	COM
RTCP-XR	phone_setting.vq_rtcp_xr_display_start_time.enable =		0 or 1	Added	<p>It enables or disables the phone to display Start Time on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcp_xr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 1.</p>	COM
RTCP-XR	phone_setting.vq_rtcp_xr_display_stop_time.enable =		0 or 1	Added	<p>It enables or disables the phone to display Current Time or Stop Time on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcp_xr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 1.</p>	COM

RTCP-XR	phone_setting.vq_rtcp_xr_display_symm_oneway_delay.enable =		0 or 1	Added	<p>It enables or disables the phone to display SymmOneWayDelay on the LCD screen.</p> <p>0-Disabled 1-Enabled</p> <p>Note: It works only if the value of the parameter “phone_setting.vq_rtcp_xr.states_show_on_gui.enable” is set to “1”.</p> <p>The default value is 0.</p>	COM
RTCP-XR	phone_setting.vq_rtcp_xr_interval_period =		Integer from 5 to 20	Added	<p>It configures the interval (in seconds) for the IP phone to send an interval quality report to the central report collector periodically throughout a call.</p> <p>The default value is 20.</p>	COM
RTCP-XR	phone_setting.vq_rtcp_xr_mos_lq_threshold_critical =		15 to 40	Added	<p>It configures the desired threshold value of listening MOS score (MOS-LQ) multiplied by 10. The threshold value of MOS-LQ causes the phone to send a critical alert quality report to the central report collector.</p> <p>For example, a configured value of 28 corresponds to the MOS score 2.8. When the MOS-LQ value computed by the phone is less than or equal to 2.8, the phone will send a critical alert quality report to the central report collector. When the MOS-LQ value computed by the phone is greater than 2.8, the phone will not send a critical alert quality report to the central report collector.</p> <p>If it is set to blank, critical alerts are not generated due to MOS-LQ.</p> <p>The default value is blank.</p>	COM

RTCP-XR	phone_setting.vq_rtcpxr_delay_threshold_warning		10 to 2000	Added	<p>It configures the threshold value of one way delay (in ms) that causes the phone to send a warning alert quality report to the central report collector.</p> <p>For example, If it is set to 500, when the value of one way delay computed by the phone is less than or equal to 500, the phone will send a warning alert quality report to the central report collector; when the value of one way delay computed by the phone is greater than 500, the phone will not send a warning alert quality report to the central report collector.</p> <p>If it is set to blank, warning alerts are not generated due to one way delay. One-way delay includes both network delay and end system delay.</p> <p>The default value is blank.</p>	COM
Features	features.call_log_show_number		0 or 1	Added	<p>It enables or disables the IP phone to show the caller's phone number in the call history list.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 0.</p>	COM
Broadsoft Phonebook	bw_phonebook.group_common_displayname =	bw_phonebook.common_displayname =	String within 99 characters	Modified	<p>It configures the display name on the LCD screen for the group common directory.</p> <p>The default value is GroupCommon.</p> <p>Note: It works only if XSI is configured for account 1.</p>	COM
DNS	dns_cache_a.X.ip =	account.X.dns_cache_a.X.ip =	IP address	Modified	<p>It configures the IP address that the domain name in A record X maps to.</p>	COM

					<p>The default value is blank.</p> <p>It takes effect after a reboot.</p>	
DNS	dns_cache_a.X.name =	account.X.dns_cache_a.Y.name =	Domain name	Modified	<p>It configures the domain name in A record X.</p> <p>The default value is blank.</p> <p>It takes effect after a reboot.</p> <p>For more information, refer to Server Redundancy on Yealink IP Phones.</p>	COM
DNS	dns_cache_a.X.ttl =	account.X.dns_cache_a.Y.ttl =	Integer from 30 to 2147483647	Modified	<p>It configures the time interval (in seconds) that A record X may be cached before the record should be consulted again.</p> <p>The default value is 300.</p> <p>It takes effect after a reboot.</p> <p>For more information, refer to Server Redundancy on Yealink IP Phones.</p>	COM
DNS	dns_cache_naptr.X.flags =	account.X.dns_cache_naptr.Y.flags =	S, A, U or P	Modified	<p>It configures the flag of NAPTR record X. (Always "s" for SIP, which means to do an SRV lookup on whatever is in the replacement field)</p> <p>S-Do an SRV lookup next.</p> <p>A-Do an A lookup next.</p> <p>U-No need to do a DNS query next.</p> <p>P-Service customized by the user</p> <p>The default value is blank.</p> <p>It takes effect after a reboot.</p> <p>For more information, refer to Server Redundancy on Yealink IP Phones.</p>	COM
DNS	dns_cache_naptr.X.name =	account.X.dns_cache_naptr.Y.name =	Domain name	Modified	<p>It configures the domain name to which NAPTR record X refers.</p> <p>The default value is blank.</p>	COM

					It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	
DNS	dns_cache_naptr.X.order =	account.X.dns_cache_naptr.Y.order =	Integer from 0 to 65535	Modified	It configures the order of NAPTR record X. NAPTR record with lower order is more preferred. The default value is 0. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	COM
DNS	dns_cache_naptr.X.preference =	account.X.dns_cache_naptr.Y.preference =	Integer from 0 to 65535	Modified	It configures the preference of NAPTR record X. NAPTR record with lower preference is more preferred. The default value is 0. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	COM
DNS	dns_cache_naptr.X.replace =	account.X.dns_cache_naptr.Y.replace =	Domain name	Modified	It configures a domain name to be used for the next SRV query in NAPTR record X. The default value is blank. It takes effect after a reboot.	COM
DNS	dns_cache_naptr.X.service =	account.X.dns_cache_naptr.Y.service =	String within 32 characters	Modified	It configures the transport protocol available for the SIP server in NAPTR record X. The default value is blank. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	COM
DNS	dns_cache_naptr.X.ttl =	account.X.dns_cache_naptr.Y.ttl =	Integer from 30 to 2147483647	Modified	It configures the time interval (in seconds) that NAPTR record X may be cached before the record should be consulted	COM

					again. The default value is 300. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	
DNS	dns_cache_srv .X.name =	account.X.dn s_cache_srv. Y.name =	Domain name	Modified	It configures the domain name in SRV record X. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	COM
DNS	dns_cache_srv .X.port =	account.X.dn s_cache_srv. Y.port =	Integer from 0 to 65535	Modified	It configures the port to be used in SRV record X. The default value is 0. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	COM
DNS	dns_cache_srv .X.priority =	account.X.dn s_cache_srv. Y.priority =	Integer from 0 to 65535	Modified	It configures the priority for the target host in SRV record X. Lower priority is more preferred. The default value is 0. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	COM
DNS	dns_cache_srv .X.target =	account.X.dn s_cache_srv. Y.target =	Domain name	Modified	It configures the domain name of the target host for an A query in SRV record X. The default value is blank. It takes effect after a reboot. For more information, refer to Server Redundancy on Yealink IP Phones.	COM
DNS	dns_cache_srv .X.ttl =	account.X.dn s_cache_srv. Y.ttl =	Integer from 30 to 214748364	Modified	It configures the time interval (in seconds) that SRV record X may be cached before the	COM

			7		<p>record should be consulted again.</p> <p>The default value is 300.</p> <p>It takes effect after a reboot.</p> <p>For more information, refer to Server Redundancy on Yealink IP Phones.</p>	
DNS	dns_cache_srv.X.weight =	account.X.dns_cache_srv.Y.weight =	Integer from 0 to 65535	Modified	<p>It configures the weight of the target host in SRV record X.</p> <p>When priorities are equal, weight is used to differentiate the preference.</p> <p>Higher weight is more preferred.</p> <p>The default value is 0.</p> <p>It takes effect after a reboot.</p> <p>For more information, refer to Server Redundancy on Yealink IP Phones.</p>	COM
Autoprovision	auto_provision.attempt_expired_time =		Integer from 1 to 300	Added	<p>It configures the time (in seconds) to wait after a file transfer fails before retrying the transfer.</p> <p>The default value is 5.</p>	COM
Phone Settings	phone_setting.ringing_timeout =		Integer from 0 to 3600	Added	<p>It configures the duration time (in seconds) in the ringing state.</p> <p>If it is set to 180, the phone will reject the incoming call if the call is not answered within 180s.</p> <p>The default value is 180.</p>	COM
SIP	account.x.register_expires_overlap =	account.x.register_period_reduce =	Positive integer	Modified	<p>It configures the renewal time (in seconds) away from the subscription lease.</p> <p>The default value is -1.</p> <p>It takes effect after a reboot.</p>	MAC
SIP	account.x.subscribe_expires_overlap =	account.x.subscribe_period_reduce =	Positive integer	Modified	<p>It configures the renewal time away from the registration lease.</p>	MAC

					<p>The default value is -1.</p> <p>It takes effect after a reboot.</p>	
Auto Dial	account.x.auto_dial_enable =		0 or 1	Added	<p>It enables or disables the IP phone to first dial out a pre-configured number when a user dials out a call using account X.</p> <p>0-Disabled 1-Enabled</p> <p>If it is set to 1(Enabled), the phone will first dial out a pre-configured number (configured by the parameter "account.X.auto_dial_num") when a user dials out a call using account X.</p> <p>The default value is 0.</p>	MAC
Auto Dial	account.x.auto_dial_num =		String within 32 characters	Added	<p>It configures the number that the IP phone first dials out when a user dials out a call using account X.</p> <p>The default value is blank.</p>	MAC
Advanced	account.X.custom_ua =		String within 128 characters	Added	<p>It configures the suffix of User-Agent in SIP request messages from the IP phone for account X.</p> <p>The following takes the SIP-T28P IP phone running firmware version 2.73.208.87 as an example.</p> <p>Default value of User-Agent: Yealink SIP-T28P 2.73.208.87</p> <p>If it is set to Myphone, the User-Agent appears as below: Yealink SIP-T28P 2.73.208.87 Myphone</p> <p>The default value is blank.</p>	MAC
SIP	account.x.call_id_mode =		0, 1 or 2	Added	<p>It configures the constitution of call ID.</p> <p>0-Use random digits</p>	MAC

					<p>1–Use the combination of the digits and letters</p> <p>2–Use random digits plus MAC address</p> <p>The default value is 2.</p>	
SIP	account.x.call_info =		String within 256 characters	Added	<p>It configures the Call-Info header.</p> <p>The default value is blank.</p>	MAC
SIP	phone_setting.ringback_timeout =		Integer from 0 to 3600	Added	<p>It configures the duration time (in seconds) in the ringback state.</p> <p>If it is set to 180, the phone will cancel the dialing if the call is not answered within 180s.</p> <p>The default value is 180.</p>	MAC
Voice Mail	account.x.display_mwi.enable =		0 or 1	Added	<p>It enables or disables the IP phone to present audio and visual MWI when it receives new voice mails.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 1.</p>	MAC
SIP	account.x.mwi_parse_terminated =		0 or 1	Added	<p>It enables or disables the phone to parse the Terminated attribute in the received MWI NOTIFY message.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 0.</p>	MAC
Alert-Info	account.X.alert_info =		0 or 1	Added	<p>It enables or disables the IP phone to download the ring tone from the URL contained in the Alert-Info header for account X.</p> <p>0-Disabled 1-Enabled</p> <p>The default value is 0.</p>	MAC
SCA	account.x.shared_line_callp	account.1.shared_line_	String within 32	Modified	It configures the call pull	MAC

	ull_code =	callpull_fac =	characters		feature access code to retrieve an existing call from another shared location for account X. The default value is *11.	
SCA	account.x.number_of_linekey =	account.1.shared_line_number_of_linekey =	String within 32 characters	Modified	It configures the number of DSS keys from the first unused DSS key (The default order of shared line and private line keys assigned automatically is Line Key->Memory Key->Ext Key). The default value is 1. Note: It works only if the value of the parameter "features.auto_linekeys.enable" is set to 1 (Enabled).	MAC
Call park	account.x.callpark_enable =	account.6.callpark_enable =	0 or 1	Modified	It enables or disables call park subscription for account X. 0-Disabled 1-Enabled The default value is 0.	MAC
SIP	account.X.srtpp_auth_tag_mode = 0		0, 1 or 2	Added	It configures the encryption algorithm carried in the SIP message when using voice encryption service for account X. 0-AES-80&&AES-32 1-AES-80 2-AES-32	MAC
Anonymous Call	account.X.send_anonymous_rejection_code =		0 or 1	Added	It configures the IP phone to send anonymous call rejection on/off code to activate/deactivate the server-side anonymous call rejection feature for account X. 0-Off Code 1-On Code If it is set to 0 (Off Code), the IP phone will send anonymous rejection off code to deactivate the server-side anonymous call	MAC

					<p>rejection feature.</p> <p>If it is set to 1 (On Code), the IP phone will send anonymous rejection on code to activate the server-side anonymous call rejection feature.</p> <p>The default value is 0.</p>	
BLF List	account.x.blf_list_retrieve_call_parked_code =		String within 32 characters	Added	<p>It configures the feature access code for the Call Park Retrieve (default: *88) for account X.</p> <p>The default value is blank.</p>	MAC
S2S ACD	account.X.acd.call_information =		URL within 511 characters	Added	<p>It configures the string the phone dials out when the ACD agent logs into/logs out of the ACD system (you press the Login/out soft key on the phone).</p> <p>The default value is Blank.</p> <p>For more information on ACD, refer to Using_Star2Star_ACD_on_Yealink_IP_Phones.</p>	MAC
S2S ACD	account.X.acd.refresh_url =		URL within 511 characters	Added	<p>It configures the URL the phone sends when the ACD agent logs into/logs out of the ACD system, or refreshes the status (you press the Login/out or Refresh soft key on the phone).</p> <p>The default value is Blank.</p> <p>For more information on ACD, refer to Using_Star2Star_ACD_on_Yealink_IP_Phones.</p>	MAC
S2S ACD	account.X.acd.away_url =		URL within 511 characters	Added	<p>It configures the URL the phone sends when the ACD agent changes the status to away (you press the Away soft key on the phone).</p> <p>The default value is Blank.</p> <p>For more information on ACD, refer to Using_Star2Star_ACD_on_Yeali</p>	MAC

					nk_IP_Phones.	
Broadsoft Phonebook		bw.calllog_and_dir =		Removed		MAC
S2S ACD	account.X.acd.available_url =		URL within 511 characters	Added	<p>It configures the URL the phone sends when the ACD agent changes the status to available (you press the Avail soft key on the phone).</p> <p>The default value is Blank.</p> <p>For more information on ACD, refer to Using_Star2Star_ACD_on_Yealink_IP_Phones.</p>	MAC