

VP-2009P & 3CX test plan V1.0

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VP-2009P & 3CX test plan V1.0

1. Overview

It is a Yealink internal test, with the purpose of verifying the interoperability between VP-2009P and 3CX phone system. The test plan is designed mainly based on the end user's experience. It serves as a piece of evidence that VP-2009P users should be able to choose 3CX as SIP server. And 3CX users should be able to choose VP-2009P as SIP video client. Since the operability between server and client has little to do with external calls, the test cases contain only the internal calls. VP2009 is the only SIP terminal in the test plan.

2. Test environment

2.1 SIP server

Provider	Model	Version
3CX	3CX Phone System	v9.0.14507.814

2.2 Device under test

Provider	Model	Firmware Version	MAC
Yealink	VP-2009P	22.30.0.61	0015651a5c53

It is called DUT in the test cases.

2.3 Related devices in test

Provider	Model	Firmware version	MAC
Yealink	VP-2009P	22.30.0.61	0015651b20f1
Yealink	VP-2009P	22.30.0.61	0015651c1cb1

The above 2 devices are used during the test. They are called Phone A and Phone B respectively in the test cases.

2.4 Others

Tester	Robinson
Mail address	robinson@yealink.com
Test date	2010.12.29

3. Conventions

3.1 Definition for test results

Only 2 results are defined. Pass and Fail.

3.1.1 Pass

The certain case is tested and the appearance is identical with it is expected. Under some circumstances, there might be different appearances during the procedure, but if it doesn't cause failure to the function being executed, we call it Pass. Extra remarks should be presented in this case.

3.1.2 Fail

The certain case is tested and the appearance is not identical with it is expected. The function being executed fails to work. Extra remarks must be presented when the test case fails.

3.2 Others

- When it is said a call is made, it always means a video call.

4. Test cases

3 accounts are specified for each of 3 VP-2009P in the test.

4.1 Account Register

Test Case	Test Descriptions	Pass/Fail	Remark
4.1.1	1. DUT submits the register for the right account. 2. Register succeeds, with 200 ok response from server.	Pass	
4.1.2	1. After the first register, the DUT initiates a re-register to the server within the expire time which is fixed in the 200 ok response to former register. 2. Re-register succeeds, with 200 ok response from server.	Pass	
4.1.3	1. DUT submits the log-off of register. 2. Log-off succeeds, with 200 ok response from server.	Pass	

4.2 Video/Audio codec and basic calls

The test in this section is to verify the basic calls using different codecs. The following popular codecs are tested: voice codec G711A, G711U, G729 and video ones H263, H264

Test Case	Test Descriptions	Pass/Fail	Remark
4.2.1	1. DUT enables only G711A and H263 2. DUT calls Phone A 3. Phone A answers 4. Confirm that the call is established with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.2.2	1. DUT enables only G711A and H264 2. DUT calls Phone A 3. Phone A answers 4. Confirm that the call is established	Pass	

	with good video and audio. 5. Confirm that the call can be terminated from either side.		
4.2.3	1. DUT enables only G711U and H263 2. DUT calls Phone A 3. Phone A answers 4. Confirm that the call is established with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.2.4	1. DUT enables only G711U and H264 2. DUT calls Phone A 3. Phone A answers 4. Confirm that the call is established with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.2.5	1. DUT enables only G729 and H263 2. DUT calls Phone A 3. Phone A answers 4. Confirm that the call is established with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.2.6	1. DUT enables only G729 and H264 2. DUT calls Phone A 3. Phone A answers 4. Confirm that the call is established with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.2.7	1. A calls DUT 2. A cancels the call when DUT is ringing 3. Confirm that DUT stops ringing and shows a missed call.	Pass	

4.3 Switching between Video and Audio

The test in this section is to confirm correct functionality when switching between video and audio in a single call. In the test, DUT enables only G711A and H264. Codec for other phones keeps default.

Test Case	Test Descriptions	Pass/Fail	Remark
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4.3.1	1. DUT calls Phone A 2. Phone A answers 3. DUT switches the call from video to voice, and then switches back to video again. 4. Confirm that the switch is successful and the video and audio are both fine after the switch. 5. Confirm that the call can be terminated from either side.	Pass	
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4.4 Hold

The test in this section is to verify the functionality of call hold and retrieve. In the test, DUT enables only G711A and H264. Codec for other phones keeps default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.4.1	1. DUT calls Phone A 2. Phone A answers 3. DUT holds Phone A, and then retrieves it. 4. Confirm that hold and retrieve work correct and the video and audio keep good after the retrieve. 5. Confirm that the call can be terminated from either side.	Pass	
4.4.2	1. DUT calls Phone A 2. Phone A answers 3. Phone A holds DUT, and then retrieves it 4. Confirm that hold and retrieve work correct and the video and audio keep good after the retrieve. 5. Confirm that the call can be terminated from either side.	Pass	
4.4.3	1. DUT calls Phone A 2. Phone A answers 3. DUT holds A and then retrieves. Keep doing this for 3 times. 4. Confirm that hold and retrieve work correct every time and the video and audio keep good after the retrieve. 5. Confirm that the call can be terminated from either side.	Pass	

4.4.4	1. DUT calls Phone A 2. Phone A answers 3. A holds DUT and then retrieves. Keep doing this for 3 times. 4. Confirm that hold and retrieve work correct every time and the video and audio keep good after the retrieve. 5. Confirm that the call can be terminated from either side.	Pass	
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4.5 Call Forward

The test in this section is to verify the correct functionality during call forward. In the test, DUT enables only G711A and H264. Codec for other phones keep default. In the end of this test, all the forward settings must be set back to default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.5.1	DUT enables Always Forward and the forward destination is set to number of Phone B. After this test, the configuration is set back. 1. Phone A calls DUT 2. Confirm that the call is forwarded to B and B can answer the call with good video and audio. 4. Confirm that the call can be terminated from either side.	Pass	
4.5.2	Phone B enables Always Forward and the forward destination is set to number of DUT. After this test, the configuration is set back. 1. Phone A calls Phone B 2. Confirm that the call is forwarded to DUT and DUT can answer the call with good video and audio. 4. Confirm that the call can be terminated from either side.	Pass	

4.6 Blind Transfer

In order to make a blind transfer, receive a call and press Transfer key, dial the destination number and then press Transfer again or hang up. In the test, DUT enables only G711A and H264. Codec for other phones keep default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.6.1	1. DUT calls Phone A 2. Phone A answers	Pass	

	3. DUT makes a blind transfer to Phone B 4. Confirm that DUT quit to IDLE and the call is established between Phone A and Phone B with good video and audio. 5. Confirm that the call can be terminated from either side.		
4.6.2	1. DUT calls Phone A 2. Phone A answers 3. Phone A makes a blind transfer to Phone B 4. Confirm that Phone A quits to IDLE and the call is established between DUT and Phone B with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.6.3	1. Phone B calls Phone A 2. Phone A answers 3. Phone B makes a blind transfer to DUT 4. Confirm that Phone B quits to IDLE and the call is established between DUT and Phone A with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	

4.7 Attended Transfer

In order to make an attended transfer, receive a call, press Transfer key, dial the destination number, speak to the destination party to confirm they wish to take the call and then press transfer. In the test, DUT enables only G711A and H264. Codec for other phones keep default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.7.1	1. DUT calls Phone A 2. Phone A answers 3. DUT makes an attended transfer to Phone B. 4. Confirm that when B answers the call, the video and audio are good between DUT and Phone B. When the attended transfer is confirmed, the call is established between Phone A and Phone B with good	Pass	

	video and audio. 5. Confirm that the call can be terminated from either side.		
4.7.2	1. DUT calls Phone A 2. Phone A answers 3. Phone A makes an attended transfer to Phone B. 4. Confirm that when B answers the call, the video and audio are good between Phone A and Phone B. When the attended transfer is confirmed, the call is established between DUT and Phone B with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.7.3	1. Phone B calls Phone A 2. Phone A answers 3. Phone B makes an attended transfer to DUT 4. Confirm that when DUT answers the call, the video and audio are good between Phone B and DUT. When the attended transfer is confirmed, the call is established between DUT and Phone A with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	

4.8 Semi-attended Transfer

In order to make a semi-attended transfer, receive a call, press Transfer key, dial the destination number, press transfer key again when the ring back tone is heard. In the test, DUT enables only G711A and H264. Codec for other phones keep default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.8.1	1. DUT calls Phone A 2. Phone A answers 3. DUT makes a semi-attended transfer to Phone B 4. Confirm that DUT quits to IDLE. The call is established between Phone B and Phone A with good video and audio. 5. Confirm that the call can be	Fail	The server doesn't support to make a semi-attended transfer. When the final transfer is pressed, the call will hang up.

	terminated from either side.		
4.8.2	1. DUT calls Phone A 2. Phone A answers 3. Phone A makes a semi-attended transfer to Phone B 4. Confirm that Phone A quits to IDLE. The call is established between DUT and Phone B with good video and audio. 5. Confirm that the call can be terminated from either side.	Fail	The server doesn't support to make a semi-attended transfer. When the final transfer is pressed, the call will hang up.
4.8.3	1. Phone B calls Phone A 2. Phone A answers 3. Phone B makes a semi-attended transfer to DUT. 4. Confirm that Phone B quits to IDLE. The call is established between DUT and Phone A with good video and audio. 5. Confirm that the call can be terminated from either side.	Fail	The server doesn't support to make a semi-attended transfer. When the final transfer is pressed, the call will hang up.

4.9 Call Waiting

Call waiting must be enabled on DUT.

Test Case	Test Descriptions	Pass/Fail	Remark
4.9.1	1. Phone A calls DUT 2. DUT answers 3. Phone B calls DUT 4. DUT indicates the call from Phone B and it answers. 5. DUT switches to talk to A and B. Keep doing this for 3 times. 6. Confirm that call has good video and audio every time. 7. Confirm that the call can be terminated from either side.	Pass	

4.10 MWI

The test in this section is to verify the MWI indicator works correct. subscribe MWI must be enabled on DUT.

Test Case	Test Descriptions	Pass/Fail	Remark
4.10.1	1. Phone A calls DUT 2. DUT rejects, which takes Phone A to go to message IVR system	Pass	

	3. Phone A leaves a message 4. Confirm that the MWI LED on DUT is lighted when the message is left successfully		
4.10.2	Following the pervious case: 1. DUT retrieves the message 2. Confirm that the MWI LED on DUT goes off	Pass	

4.11 Call Pickup

In the test, DUT enables only G711A and H264. Codec for other phones keep default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.11.1	1. Phone A calls Phone B 2. DUT dials “pickup code + number of Phone B” to pick up the call 4. Phone B stops ringing and doesn’t show missed call. The call is established between DUT and Phone A with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	
4.11.2	1. Phone A calls DUT 2. Phone B dials “pickup code + number of DUT” to pick up the call 4. DUT stops ringing and doesn’t show missed call. The call is established between Phone B and Phone A with good video and audio. 5. Confirm that the call can be terminated from either side.	Pass	

4.12 Call Park/Call Park Retrieve

Note that the operations for call park may differ on different server. The test case is just for reference. In the test, DUT enables only G711A and H264. Codec for other phones keep default.

Test Case	Test Description	Pass/Fail	Remark
4.12.1	1. Phone A calls DUT 2. DUT answers 3. DUT initiates a new call to “Call park feature code + parking orbit” 4. Confirm that Phone A is in waiting	Pass	
4.12.2	Following the previous case: 1. Phone B dials “Park retrieve feature code + parking orbit” to	Pass	

	pick up the call 2. Confirm that the call is established between Phone B and A with good video and audio 3. Confirm that the call can be terminated from either side.		
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4.13 Intercom

In the test, DUT enables only G711A and H264. Codec for other phones keep default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.13.1	1. Phone A dials "Intercom feature code + number of DUT" 2. DUT auto answers the call with good video and audio 3. Confirm that the call can be terminated from either side.	Pass	

4.14 DTMF

DTMF is set to RFC2833 on DUT. Normally when there is IVR system, there is DTMF in use.

Voice mail IVR is referred to in this test case.

Test Case	Test Descriptions	Pass/Fail	Remark
4.14.1	1. DUT goes to its own mailbox 2. DUT presses the certain number as the system indicates. 3. Confirm that the phone gets correct response due to key presses.	Pass	

4.15 Reliability

In this section there are mainly stress test and abnormal test. In the test, DUT enables only G711A and H264. Codec for other phones keep default.

Test Case	Test Descriptions	Pass/Fail	Remark
4.15.1	1. DUT calls Phone A 2. Phone A answers and keeps the call active for 24 hours. 3. Confirm that there is always good video and audio 4. Confirm that the call can be terminated from either side.	Pass	
4.15.2	1. DUT calls Phone A 2. Phone A answers 3. Force a reboot on DUT 4. Phone A disconnect the call 5. Confirm that when DUT boot up, the register becomes available and it	Pass	

	can make call to Phone A with good video and audio, and can hang up successfully.		
4.15.3	1. Reboot the server 2. When the server becomes available, make a call from DUT to Phone A 3. Confirm that the call can be established with good video and audio, and can hang up successfully.	Pass	