

Bring Your Own PSTN Acceptance Procedure Webex For Cisco BroadWorks

Test Procedures

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Test Cases Revision

Rev	Changes	Date
1.0	Initial revision	2020/1/7
1.1	Updated Supplementary functions	2020/1/14
1.3	Failover modification	2020/4/6
1.4	Webex Rebranding	2021/07/13
1.5	Removed acronym from title	2021/07/14
1.6	Added High-Level Self-Certification Steps	2022/01/10
1.7	Updated BYoPSTN terminology.	2022/06/15
1.8	Formatting and minor text edits	2022/06/24

Introduction

The system test requirements are based on specifications that cover the areas of Bring Your Own PSTN (BYoPSTN) Webex for Cisco BroadWorks Acceptance Procedure. This includes the conferencing function and features, interoperability and compliance with BYoPSTN VoIP trunking, end to end network redundancy, resiliency confirmation, and impact assessment.

It is important that the results: are recorded in logs, match the Test Case expectations, and are reported accordingly.

High Level Self-Certification Steps

The Webex Meeting PSTN Certification team validates and archives the BYoPSTN partner-provided self-certification results.

- Validation—The Certification team ensures that due diligence items are complete (for example, the trace set must demonstrate the call flows that the test plan requires).
- Archive—The Certification team saves results in the internal **BYoPSTN Onboarding Dashboard** Wiki page for future cross-functional teams to reference. Target is to serve as the baseline in case of escalation.

Following is the current process flow for the Webex Meeting PSTN Certification team boundary to boundary:

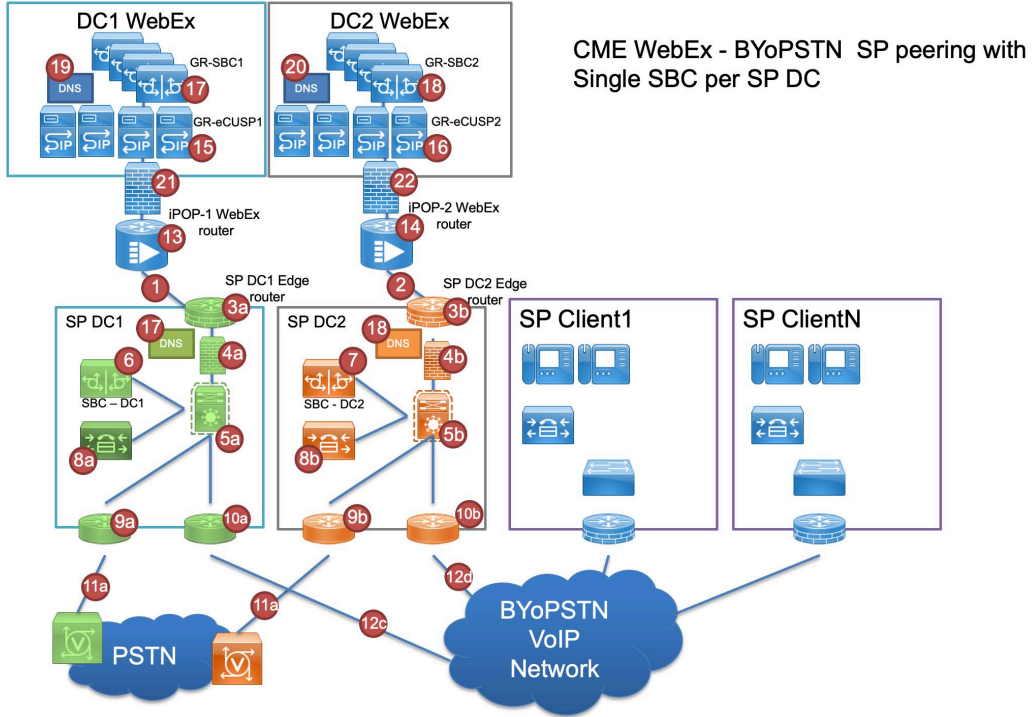
1. The Customer Success Manager creates the external Team space, which includes the following participants:
 - Partner technical contact(s)
 - Technical onboarding
 - Certification team lead

2. The partner works with the technical onboarding and certification teams on how to remove technical obstacles and meet the self-certification evidence requirements. Webex Meeting engineers may be added to the team space to suggest best practices or to facilitate troubleshooting by technical onboarding.
3. Once the partner attests that self-certification is complete, the Customer Success Manager updates the **BYoPSTN Onboarding Dashboard** and uses the BYoPSTN onboarding **template** to create a new BYoPSTN onboarding page dedicated to that partner. The Customer Success Manager also notifies the technical onboarding and certification team leads so that they can invoke the review process.
4. The certification team lead creates a task in GPK2 of the Cisco engineering Jira ticketing system as a backlog task waiting for assignment.
5. The ticket gets assigned to a certification engineer who can validate the submitted material. The assigned engineer is also added to the team space that was created for that partner in step 1.
6. The assigned engineer contacts the partner technical contact(s) to provide comments, feedback or additional inquiries.
7. Once the engineer validates the partner's submitted material successfully, the engineer notifies the Customer Success Manager and the technical onboarding team.
8. The technical onboarding team completes the remaining dashboard requirements, updates the BYoPSTN onboarding page for that partner along with the **BYoPSTN Onboarding Dashboard**.

Prerequisites

BYoPSTN Redundant Network Provisioning

Validate that BYoPSTN has at least dual DC, that connections are reachable over TCP/IP network, and that connections are routed with E.164 format.



BYoPSTN Local DNIS numbers

Validate provisioned DNIS

Table 1

	Country	Prompt	DNIS
1	USA	English	
2	France	French, English UK	
3	Germany	German, English UK	

BYoPSTN phone numbers for acceptance

Table 2

Phone	Function	Forwarded to Webex
1	Caller 1/G722	DID1 – _____
2	Caller 2/G722	DID2 – _____
3	Caller 3/G711a	DID3 – _____
4	Caller 4/G711a	DID4 – _____
5	Caller 5/G711u	DID5 – _____
6	Caller 6/G711u	DID6 – _____
7	Caller 7/G729	DID7 – _____
8	Caller 8/G729	DID8 – _____

Ingress Test Cases

Ingress DTMF/voice verification BYoPSTN trunk group G722

Test Objective

This test case verifies that an ingress call that is sent to the Webex BYoPSTN trunk group accepts the G722 codec, contains the appropriate localized prompts, and that the digits that the user enters after the first prompt get repeated in the appropriate language. Both participants must be able to hear each other.

Test Steps

1. Tester places a call from a BroadWorks device to a BYoPSTN provided number DID1 table.
2. Verify that the first audio prompt response is in the assigned language.
3. Interrupt prompt by valid entry associated to Caller 1: _____# _____#
4. Verify that the prompt about successfully joining the conference is in the appropriate language.
5. The second Tester places a call from a BroadWorks to a BYoPSTN provided number that associates with the localization from table 1.
6. Verify that the first audio prompt responds according to the assigned language.
7. Interrupt prompts by valid entry associated to Caller 2: _____# _____#
8. Verify that prompts about successfully joining the conference is in the assigned language.
9. Verify that both participants can hear each other.
10. Disconnect the call from the originating device.
11. Record the results.

Expected Results

1. Call is placed to a DNIS and is answered with the appropriate localized prompts.
2. After entering the correct conference, ID numbers respond with the appropriate localization prompts.
3. Both participants can hear each other.
4. The call terminates properly.

Ingress DTMF/voice verification BYoPSTN trunk group G711a

Test Objective

This test case verifies that an ingress call that is sent to the Webex BYoPSTN trunk group accepts the G711a codec, contains the appropriate localized prompts, and that the digits that the user enters after the first prompt get repeated in the appropriate language. Both participants must be able to hear each other.

Test Steps

1. First tester places a call from a BroadWorks device to a BYoPSTN provided number DID1 table.
2. Verify that the first audio prompt response is in the assigned language.
3. Interrupt the prompt by valid entry associated to Caller 3: _____# _____#
4. Verify that the prompt about successfully joining the conference is in the assigned language.

5. Second tester places a call from a BroadWorks device to a BYoPSTN provided number, which associates with localization from table 1.
6. Verify that the first audio prompt is in the assigned language.
7. Interrupt the prompt by valid entry associated to Caller 4: _____# _____#
8. Verify that the prompt about successfully joining the conference is in the designated language.
9. Verify that both participants can hear each other.
10. Disconnect the call from the originating device.
11. Record the results.

Expected Results

1. Call placed to a DNIS is answered with appropriate localized prompts.
2. After entering the correct conference, ID number responses are in the appropriate language.
3. Both participants can hear each other.
4. The call terminates properly.

Ingress DTMF/voice verification BYoPSTN trunk group G711u

Test Objective

This test case verifies that an ingress call that is sent to the Webex BYoPSTN trunk group accepts the G711u codec, contains the appropriate localized prompts, and that the digits that the user enters after the first prompt get repeated in the appropriate language. Both participants must be able to hear each other.

Test Steps

1. First tester places a call from BroadWorks device to a BYoPSTN provided number DID1 table.
2. Verify that the first audio prompt is in the appropriate language.
3. Interrupt prompt by valid entry associated to Caller 5: _____# _____#
4. Verify that the prompt about successfully joining a conference is in the appropriate language.
5. Second tester places a call from a BroadWorks device to a BYoPSTN provided number that associates with the localization from table 1.
6. Verify that the first audio prompt is in the assigned language.
7. Interrupt the prompt by valid entry associated to Caller 6: _____# _____#
8. Verify that the prompt about successfully joining a conference is in the assigned language.
9. Verify that both participants can hear each other.
10. Disconnect the call from the originating device.
11. Record the results.

Expected Results

1. Call placed to a DNIS is answered with appropriate localized prompts.
2. After entering the correct conference, ID number responses are in the appropriate language..
3. Both participants can hear each other.
4. The call terminates properly.

Ingress DTMF/voice verification BYoPSTN trunk group G729

Test Objective

This test case verifies that an ingress call that is sent to the Webex BYoPSTN trunk group accepts the G729 codec, contains the appropriate localized prompts, and that the digits that the user enters after the first prompt get repeated in the appropriate language. Both participants must be able to hear each other.

Test Steps

1. First tester places a call from a BroadWorks device to a BYoPSTN provided number DID1 table.
2. Verify that the first audio prompt responds in the assigned language.
3. Interrupt prompt by valid entry associated to Caller 7: _____# _____#
4. Verify that prompt about successfully joining the conference is in the designated language.
5. Second tester places a call from a BroadWorks device to a BYoPSTN-provided number, which associates with the localization from table 1.
6. Verify that the first audio prompt is in the assigned language.
7. Interrupt prompt by valid entry associated to Caller 8: _____# _____#
8. Verify that the prompt about successfully joining the conference is in the assigned language.
9. Verify that both participants can hear each other.
10. Disconnect the call from the originating device.
11. Record the results.

Expected Results

1. Call is placed to a DNIS and is answered with appropriate localized prompts.
2. After entering the correct conference, ID number responses are in the appropriate language.
3. Both participants can hear each other.
4. The call terminates properly.

Egress Test Cases

Egress DTMF/voice verification BYoPSTN G722 subscriber

Test Objective

This test case verifies that an egress G722 call that is sent by Webex into BYoPSTN number subscribers plays the appropriate localized prompts. The responses include localized prompts to press 1 (DTMF digits). Both participants must be able to hear each other.

Test Steps

1. Create a Webex conference.
2. First tester requests a callback to BYoPSTN number DID1 (Table 2). The response includes a localized prompt as per table 1.
3. Verify that the audio prompt responds in the appropriate language.
4. Interrupt the prompt by entering 1 (DTMF digit).
5. Verify that the prompt about successfully joining the conference responds in the assigned language.

6. Second tester requests a callback to BYoPSTN number DID2 (Table 2) and responds with prompts localized as per table 1.
7. Verify that the audio prompt is in the appropriate language.
8. Interrupt the prompt by entering 1 (DTMF digit).
9. Verify that the prompt about successfully joining the conference plays in the assigned language.
10. Verify that both participants can hear each other.
11. Disconnect the call from the BYoPSTN number subscribers.
12. Record the results.

Expected Results

1. Call placed to a DID1 and DID2 numbers play with appropriate localized prompts.
2. While joining the conference, both participants hear the appropriate localized prompts.
3. Both participants can hear each other.
4. Calls are terminated successfully.

Egress DTMF/voice verification BYoPSTN G711a subscriber

Test Objective

This test case verifies that an egress G711a call that is sent by Webex into BYoPSTN number subscribers plays the appropriate localized prompts. The response includes localized prompts to press 1 DTMF. Both participants must be able to hear each other.

Test Steps

1. Create a Webex conference.
2. First tester requests a callback to BYoPSTN number DID3 (Table 2) and gets a response that uses the localization from table 1.
3. Verify that the audio prompt is in the appropriate language.
4. Interrupt the prompt by entering 1 (DTMF digit).
5. Verify that the prompt about successfully joining the conference is in the appropriate language.
6. Second tester requests a callback to BYoPSTN number DID4 (Table 2) and responds with a localized prompt from table 1.
7. Verify that the audio prompt is in the appropriate language.
8. Interrupt the prompt by entering 1 (DTMF digit).
9. Verify that the prompt about successfully joining the conference is in the appropriate language.
10. Verify that both participants can hear each other.
11. Disconnect the call from the BYoPSTN number subscribers.
12. Record the results.

Expected Results

1. Call placed to DID3 and DID4 numbers play the appropriate localized prompts.
2. While joining the conference, both participants can hear the appropriate localized prompt.
3. Both participants can hear each other.
4. Calls are terminated successfully.

Egress DTMF/voice verification BYoPSTN G711u subscriber

Test Objective

This test case aims to verify that an egress G711u calls sent by Webex into BYoPSTN number subscribers play the appropriate localized prompts. Responses include localized prompts to press 1 (DTMF). Both participants must be able to hear each other.

Test Steps

1. Create a Webex conference.
2. The first tester requests a callback to BYoPSTN number DID5 (Table 2) and receives a localized response as per localization in table 1.
3. Verify that the audio prompt response plays in the assigned language.
4. Interrupt the prompt by entering 1 (DTMF digit).
5. Verify that the prompt about successfully joining a conference is in the assigned language.
6. The second tester requests a callback to BYoPSTN number DID6 (Table 2). The response plays with a localized prompt as per the localization in table 1.
7. Verify that the audio prompt plays in the designated language.
8. Interrupt the prompt by entering 1 (DTMF digit).
9. Verify that the prompt about successfully joining conference plays in the designated localization.
10. Verify that both participants can hear each other.
11. Disconnect the call from the BYoPSTN number subscribers.
12. Record the results.

Expected Results

1. Call placed to DID5 and DID6 numbers play appropriately localized prompts.
2. While joining the conference, both participants can hear an appropriate localized prompt.
3. Both participants can hear each other.
4. Calls are terminated successfully.

Egress DTMF/voice verification BYoPSTN G729 subscriber

Test Objective

This test case aims to verify that an egress G711 call sent by Webex into BYoPSTN, and transcoded to G729 codec, plays appropriately localized responses. Responses include localized prompts to press 1 (DTMF). Both participants must be able to hear each other.

Test Steps

1. Create a Webex conference.
2. The first tester requests a callback to BYoPSTN number DID7 (Table 2). The response plays a localized prompt using localization from table 1.
3. Verify that the audio prompt response is in the assigned language.
4. Interrupt the prompt by entering 1 (DTMF digits).
5. Verify that the prompt about successfully joining a conference is in the assigned language.

6. The second tester requests a callback to BYoPSTN number DID8 (Table 2). The response plays a localized prompt using localization settings from table 1.
7. Verify that the audio prompt response plays in the appropriate language.
8. Interrupt the prompt by entering 1 (DTMF digit).
9. Verify that the prompt about successfully joining the conference plays in the appropriate language.
10. Verify that both participants can hear each other.
11. Disconnect the call from the BYoPSTN number subscribers.
12. Record the results.

Expected Results

1. Call placed to a DID7 and DID8 numbers plays appropriate localized prompts.
2. While joining the conference, both participants can hear an appropriate localized prompt.
3. Both participants can hear each other.
4. Calls are terminated successfully.

Failover Test Cases

Ingress – Primary Webex DC Outage

Test Objective

This test case aims to verify that during a DC outage, an ingress call into Webex is successful and that both participants can hear each other in a conference.

Test Steps

1. Primary Webex DC Invoke BGP failover.
2. First tester places a call from a BroadWorks device to a BYoPSTN provided number DID1 table.
3. Verify that first audio prompt plays in the appropriate language.
4. Interrupt the prompt by valid entry associated to Caller 1: _____# ____#
5. Verify that the prompt about successfully joining the conference plays in the appropriate language.
6. The second tester places a call from a BroadWorks device to a BYoPSTN provided number that associates with localization from table 1.
7. Verify that the first audio prompt plays in the appropriate language.
8. Interrupt the prompt by entering the following associated to Caller 2: _____# ____#
9. Verify that the prompt about successfully joining the conference plays in the appropriate language.
10. Verify that both participants can hear each other.
11. Disconnect the call from the originating device.
12. Recover BGP routes.
13. Record the results.

Expected Results

1. Call is placed to a DNIS and is answered with appropriate localized prompts.
2. After entering the correct conference, ID number response plays in the appropriate language.

3. Both participants can hear each other.
4. Call terminates properly.

Egress - Primary BYoPSTN DC Outage

Test Objective

This test case aims to verify that during a DC outage, an egress call into BYoPSTN can be successfully made, and that both participants can hear each other in a conference.

Test Steps

1. Primary BYoPSTN DC Invoke BGP failover.
2. Create a Webex conference.
3. The first tester requests a callback to BYoPSTN number DID1 (Table 2) and responds using prompts that are localized according to table 1.
4. Verify that the audio prompt response plays in the appropriate language.
5. Interrupt the prompt by entering 1 (DTMF digit).
6. Verify that the prompt about successfully joining the conference plays in the appropriate language.
7. The second tester requests a callback to BYoPSTN number DID2 (Table 2). The response plays using the appropriate language as per table 1.
8. Verify that the audio prompt plays in the appropriate language.
9. Interrupt the prompt by entering 1 (DTMF digit).
10. Verify that the prompt about successfully joining a conference plays in the appropriate language.
11. Verify that both participants can hear each other.
12. Disconnect the call from the BYoPSTN number subscribers.
13. Recover BGP routes.
14. Record the results.

Expected Results

1. Call is placed to a DID1 and DID2 numbers and plays appropriate localized prompts.
2. While joining the conference, both participants can hear an appropriately localized prompt.
3. Both participants can hear each other.
4. Calls are terminated successfully.

Supplementary functions

Ingress – On Hold G722

Test Objective

The objective of this test case is to verify that in the event of changing media, BYoPSTN provided provider consumes the re-Invite.

Test Steps

1. First tester places a call from the BroadWorks device to a BYoPSTN provided number DID1 table.
2. Verify that the first audio prompt plays in the appropriate language.
3. Interrupt the prompt by entering following info associated to Caller 1: _____# _____#
4. Verify that the prompt about successfully joining conference plays in the appropriate language.
5. The second tester places a call from the BroadWorks device to a BYoPSTN provided number, which associates with localization from table 1.
6. Verify that the first audio prompt plays in the appropriate language.
7. Interrupt the prompt by valid entry associated to Caller 2: _____# _____#
8. Verify that the prompt about successfully joining conference plays in the appropriate language.
9. Verify that both participants can hear each other.
10. Place call from DID3 to DID1.
11. Caller 1 places conference call on hold.
12. Caller 1 hangs up the call with DID3 and resumes the conference call.
13. Verify that both Caller 1 and Caller 2 participants can hear each other.
14. Disconnect the call from the originating device.
15. Record the results.

Expected Results

1. Call is placed to a DNIS and is answered with appropriate combination of localized prompts.
2. After entering the correct conference, ID number responses play appropriately localized prompts.
3. Both participants can hear each other before call is placed on hold and after resume.
4. Call terminates properly.

Ingress – G722 Muted for extended period of time

Test Objective

The objective of this test case is to verify that the BYoPSTN provided for codec G722 can continuously transmit RTP stream (30 min) without interruption and doesn't use packet suppression.

Test Steps

1. First tester places a call from the BroadWorks device to a BYoPSTN provided number DID1 table.
2. Verify that the first audio prompt plays in the appropriate language.
3. Interrupt the prompt by valid entry associated to Caller 1: _____# _____#
4. Verify that the prompt about successfully joining conference plays in the appropriate language.
5. The second tester places a call from the BroadWorks device to a BYoPSTN provided number, which associates with localization from table 1.
6. Verify that the first audio prompt plays in the appropriate language.
7. Interrupt the prompt by valid entry associated to Caller 2: _____# _____#
8. Verify that the prompt about successfully joining conference plays in the appropriate language.
9. Verify that both participants can hear each other.
10. Caller 1 places conference call device on Mute.
11. Caller 1 resumes conference call device from Mute.
12. Verify that both Caller 1 and Caller 2 participants can hear each other.
13. Disconnect the call from the originating device.
14. Record the results.

Expected Results

1. Call is placed to a DNIS and is answered with appropriate combination of localized prompts.
2. After entering the correct conference, ID number responses play using appropriately localized prompts.
3. Both participants can hear each other before the call is muted and after resume.
4. The call terminates properly.

Ingress – G711a Muted for extended period of time

Test Objective

The objective of this test case is to verify that BYoPSTN for codec G711a can continuously transmit RTP stream (30 min) without interruption and doesn't use packet suppression.

Test Steps

1. First tester places a call from the BroadWorks device to a BYoPSTN provided number DID1 table.
2. Verify that the first audio prompt plays in the appropriate language.
3. Interrupt the prompt by valid entry associated to Caller 3: _____# _____#
4. Verify that the prompt about successfully joining conference plays in the appropriate language.
5. The second tester places a call from the BroadWorks to a BYoPSTN provided number, which associates with localization from table 1.
6. Verify that the first audio prompt plays in the appropriate language.
7. Interrupt the prompt by valid entry associated to Caller 4: _____# _____#
8. Verify that the prompt about successfully joining conference plays in the appropriate language.
9. Verify that both participants can hear each other.
10. Caller 3 places conference call device on Mute.

11. Caller 3 resumes conference call device from Mute.
12. Verify that both Caller 3 and Caller 4 participants can hear each other.
13. Disconnect the call from the originating device.
14. Record the results.

Expected Results

1. Call is placed to a DNIS and is answered with appropriate combination of localized prompts.
2. After entering the correct conference, ID number responses use appropriately localized prompts.
3. Both participants can hear each other before call is muted and after resume.
4. Call terminates properly.