



# Sip Phone Server (SPS) & Ascom VoWiFi i62 Interoperability Test Plan

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Rev. 1	V1.0	28/8/2013	Initial version	Isaac Nitzan	Avi Smirnov
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## **Reasons and Details of Current Revision/Update**

<b>Revision</b>	<b>Reason</b>	<b>Items Effected</b>

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# 1 Introducing SPS Test Plan

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## 1.1 Objective

## 1.2 Test Environment

Table 1-1 and Table 1-2 describe all devices comprising in test environment.

### 1.2.1 SPS Components

	<b>Product</b>	<b>IP Address</b>	<b>Final Version Tested</b>
<b>1</b>	AudioCodes M1k with MSBG modules	10.15.21.15	6.60A.010.006
<b>2</b>	Windows 2008 Server with SPS	10.15.21.12	2.43.1

**Table 1-1: AudioCodes SPS Components**

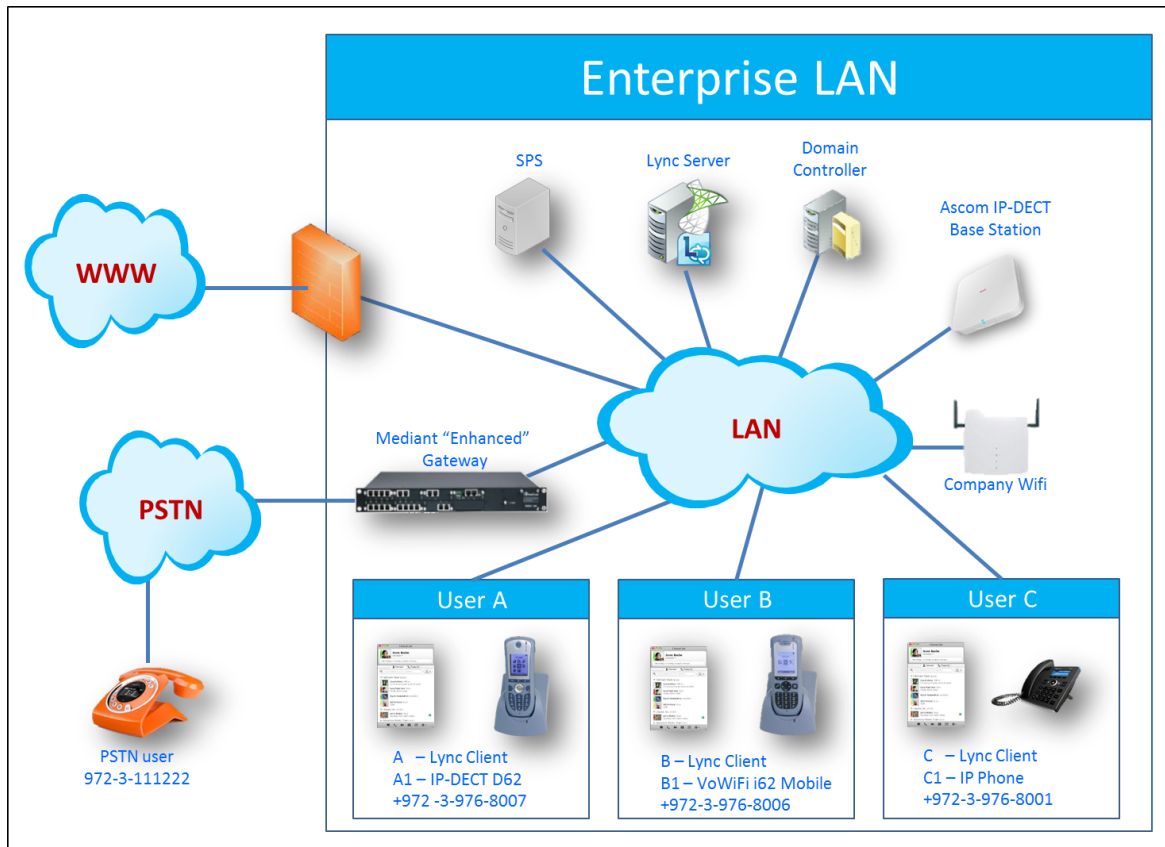
### 1.2.2 Third Party Components

	<b>Company &amp; Product</b>	<b>IP Address</b>	<b>Final Version Tested</b>
<b>1</b>	Ascom IP-DECT Base Station (IPBS2)	10.15.17.40	6.1.0
	Ascom VoWiFi – i62		SIP 4.24
<b>2</b>	PC with Lync Client	10.15.7.7	4.0.7577.253
<b>3</b>	Active directory (DCS)	10.15.21.10	Windows Sever 2008 R2 – Enterprise
<b>4</b>	Lync – Front End to which the SPS will be connected	10.15.21.11	4.0.7577.0

**Table 1-2: Third Party Components**

### 1.2.3 Laboratory Topology

Figure 1-1 shows the layout of the test environment.



**Figure 1-1: Test Lab Environment**

VoWiFi phones are connected to the IP network by WiFi access points infrastructure that are located in the enterprise LAN. The DECT phones as well as the VoWiFi phones are registered to SPS server which connect them to Microsoft Lync environment. Each user in the network have two devices: Lync Soft Client and DECT Mobile or IP-Phone.

### 1.3 Contact Information

	Company	Name	Email	Telephone
1	AudioCodess	Anatoly Kapustian	<a href="mailto:anatoly.kapustian@audiocodes.com">anatoly.kapustian@audiocodes.com</a>	
2				



## 1.4 Test Summary

Table 1-3 below summarize test results according to following criteria:

**FAIL**= Test Failed.

The tested feature is supported by all parties' devices and the appropriate configuration was performed, but the test failed due to (for example: proprietary implementation of the feature by the third party).

**N/T** = Not Tested.

The feature is supported by all parties' devices according to product specifications, but the scenario was not run due to (for example: scope constraints, etc).

**N/S** = Not Supported.

The feature presently is not supported by one of the parties' devices, but future support is possible.

Section	PASS	FAIL	N/T Or N/S	# Issues
2.1 Basic Calls	16		1	
2.2 Hold	11			
2.3 Call Waiting	3			
2.4 Forward	2		2	
2.5 Transfer	10		4	
2.6 3-Way Call	4			
2.7 Message Waiting Indication	1			
2.8 Presence Test			2	
2.9 Directory			1	
<b>TOTAL:</b>	<b>47</b>		<b>10</b>	

**Table 1-3: Test Summary**

### 1.4.1 Summary of Results & Open Issues

- ◆ Indicate which test scenarios failed:

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- ◆ Not supported (N/S) scenarios:

- In band DTMF on i62
- Presence Test

- ◆ List any unusual or unwanted behavior:

- ◆ General notes:

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## 1.5 Conventions

Complete the column 'Refers to' in Table 1-4. If your interoperability test requires it, add more conventions (for example, Third Party Phone 2) define what they refer to.

	<b>Convention</b>	<b>Refers to</b>
1	VM	Voicemail Application
2	Lync	Microsoft Lync Agent
3	DECT	DECT Mobile
4	IPP	IP Phone
5	PSTN	PSTN phone number
6	A	Lync User 7, 8007
7	B	Lync User 6, 8006
8	C	Lync User 1, 8001
9	A1	DECT1 Ascom D62, 8007
10	B1	VoWiFi Ascom i62, 8006
11	C1	AudioCodes IP Phone 320HD, 8001

**Table 1-4: Conventions**

**A** – is Lync user that allocate to DECT A1 user in SPS

**A1** – is DECT user that allocate to Lync user 8007

**B** – is Lync user that allocate to user B in SPS

**B1** – is VoWiFi user that allocate to Lync user 8006

**C** – is Lync user that allocate to IP Phone C1 user in SPS

**C1** – is IPP that allocate to Lync user 8001

## 2 Test Case List

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### 2.1 Basic Calls

The purpose of this section is to verify that basic calls can be originated and terminated by SPS and Lync

#### 2.1.1 Calls from Lync to i62

Prerequisite:

- Lync: define 3 users in the Lync with enterprise voice permission
- SPS: define 3 extensions in the SPS that allocated to the Lync users

##### 2.1.1.1 Call from Lync to i62, answer by i62

###### 2.1.1.1.1 Lync user A dial Number

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1 by dialing number (8006)	B1 ringing Verify that B1 display that call arrive from A	Pass	
2	Answer to the call via B1	Verify that call connected well with 2 way voice (incoming and outgoing )	Pass	
3	Disconnect the call from A	Call disconnected	Pass	

### 2.1.1.1.2 Lync user A1 dial User Name

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1 by dialing user name	B1 ringing. Verify that B1 display that call arrive from A	Pass	
2	Answer to the call via i62 B1	Verify that call connected well with 2 way voice (incoming and outgoing )	Pass	
3	Disconnect the call from Lync (A)	Call disconnected	Pass	

### 2.1.1.2 Call from Lync to i62, not answer

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B1 ringing	Pass	
2	Wait until no answer timer expire	B1 stop to ring In the B1 display missing call from A	Pass	
3	Call back to user A from B1 Chose the number from miss call list	Verify that right number display in the miss call list. Verify that call arrive to A	Pass	

### 2.1.1.3 Call from Lync to user, answer by Lync

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B and B1 ringing in parallel.	Pass	
2	Answer by the Lync B	Verify that call connected well with 2 way voice (incoming and outgoing )	Pass	Verify that A1 is displayed in the miss call list
3	Disconnect the call from A	Call disconnected	Pass	

### 2.1.1.4 Call from Lync to i62 using desktop phone dialer

SPS Desktop Phone Dialer should be installed for user A.

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1 using desktop phone dialer	A1 ringing	Pass	
2	Pick-up DECT handset of A1	B1 start ringing		Verify ringback tone in A1 before B1 picked-up
3	Answer by B1	Verify that call connected well with 2 way voice (incoming and outgoing )	Pass	
4	Disconnect the call from A1	Call disconnected	Pass	

### 2.1.1.5 Calls from i62 to Lync

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A	A and A1 ringing in parallel.	Pass	
2	Answer in A	Call connected	Pass	2 way voice is OK.
3	Disconnect the call from B1	Verify that call disconnected in B1 and A	Pass	

### 2.1.1.6 Calls from i62 to Lync – 12 minuts call

#	Description	Expected Results	Result	Remarks
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1	Make call from B1 to A	A and A1 ringing in parallel.	Pass	
2	Answer in A	Call connected	Pass	Verify that call connected with 2 way voice
3	Leave the call open for 12 minuts		Pass	Verify that call connected with 2 way voice
4	Disconnect the call from B1	Verify that call disconnected in B1 and A1	Pass	

## 2.1.2 Calls from i62 to DECT

### 2.1.2.1 Call from i62 to DECT, answer in DECT

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	A and A1 ringing in parallel.	Pass	
2	Answer in A1	Call connected	Pass	Verify that call connected well with 2 way voice
3	Disconnect the call from A1	Call disconnected	Pass	

### 2.1.2.2 Call from i62 to DECT, not answer

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	A and A1 ringing in parallel.	Pass	
2	Wait until no answer timer expire	DECT A1 and A stops to ringing	Pass	Verify that B1 is displayed in the miss call list
3	Call back to user B1 from miss call list that display in DECT A1	B1 ringing.	Pass	
4	Disconnect the call from B1	A1 stop ringing	Pass	

## 2.1.3 Call from PSTN to i62/Lync

### 2.1.3.1 User answer in i62

#	Description	Expected Results	Result	Remarks
1	Make call from PSTN phone to B1	B and B1 ringing in parallel.	Pass	
2	Answer in B1	Call connected	Pass	Verify that call connected well with 2 way voice
3	Disconnect the call from B1	Verify that call disconnected	Pass	

### 2.1.3.2 User answer in Lync user

#	Description	Expected Results	Result	Remarks
1	Make call from PSTN phone to B1	B and B1 ringing in parallel	Pass	
2	Answer in B	Verify that call connected well with 2 way voice	Pass	Verify that PSTN phone display in the miss call list
3	Disconnect the call from B	Call disconnected	Pass	

### 2.1.3.3 User does not answer the call, and calls back from i62

#	Description	Expected Results	Result	Remarks
1	Make call from PSTN number to B1	B and B1 ringing in parallel	Pass	
2	Wait until no answer timer expire	Miss call display on i62 and Lync	Pass	
3	Call back from i62 to the number that displayed in the miss call list	Call arrive to PSTN phone	Pass	
4	Answer in the PSTN phone	Call connected	Pass	Verify that call connected well
5	Disconnect the call from the i62		Pass	



### 2.1.4 Call from i62 to PSTN

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to PSTN number	Call arrive to PSTN phone	Pass	
2	Answer in the PSTN phone	Call connected	Pass	
3	Disconnect the call from PSTN phone	Call disconnected	Pass	

### 2.1.5 Call from Lync to PSTN using desktop phone dialer

SPS Desktop Phone Dialer should be installed for user A.

#	Description	Expected Results	Result	Remarks
1	Make call from B to PSTN number using desktop phone dialer	B1 ringing	Pass	
2	Pick-up handset of B1	PSTN phone start ringing		Verify ringback tone in B1 before PSTN phone picked-up
3	Answer in the PSTN phone	Verify that call connected well with 2 way voice (incoming and outgoing )	Pass	
4	Disconnect the call from B1	Call disconnected	Pass	

## 2.1.6 Basic Call, DTMF

The purpose of this section is to verify that an i62 user can send DTMF signals in different ways.

### 2.1.6.1 Basic Call, DTMF sent through RTP (RFC2833)

#	Description	Expected Results	Result	Remarks
1	On i62 parameter config: VOIP>SIP>Send DTMF to "RFC2833"			
2	Make call from B1 to external number with digit collect capability		Pass	
3	Following instructions, press appropriated digits	Verify that DTMF digits are correctly assembled	Pass	Verify that DTMF digits being sent as RTP payload (RTP Events). Was tested with Wire shark.
4	Disconnect the call from B1	Call disconnected	Pass	

### 2.1.6.2 Basic Call, DTMF sent over signaling channel (SIP INFO)

#	Description	Expected Results	Result	Remarks
1	On i62 parameter config: VOIP>SIP>Send DTMF to "RFC2833"			
2	Make call from B1 to external number with digit collect capability		Pass	
3	Following instructions, press appropriated digits	Verify that DTMF digits are correctly assembled	Pass	Verify that DTMF digits being sent over signaling channel (SIP INFO). Was tested with Wireshark.
4	Disconnect the call from B1	Call disconnected	Pass	

## 2.2 Hold

### 2.2.1 Hold/Resume call from i62 when remote side is DECT or Lync

#### 2.2.1.1 Hold/Resume call from DECT when remote side is Lync user

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A	A and A1 ringing in parallel	Pass	
2	Answer in A	Call connected	Pass	
3	Press hold in B1	A hear the music on hold	Pass	
4	Resume the call from B1	Call connected between B1 and A	Pass	

#### 2.2.1.2 Hold/Resume call from i62 when remote side is DECT user

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	A and A1 ringing in parallel	Pass	
2	Answer in A1	Call connected	Pass	
3	Press hold in B1	A1 hear the music on hold	Pass	
4	Resume the call from B1	Call connected between B1 and A1	Pass	

#### 2.2.1.3 i62 that initiate the call, disconnected the call during the hold

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	A and A1 ringing in parallel	Pass	
2	Answer in A1	Call connected	Pass	
3	Press hold in B1	A1 hear the music on hold	Pass	
4	Disconnect the call from B1	Call disconnected between B1 to A1	Pass	

#### 2.2.1.4 Called party disconnect the call during the hold

#	Description	Expected Results	Result	Remarks
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1	Make call from B1 to A1	A and A1 ringing in parallel	Pass	
2	Answer in A1	Call connected	Pass	
3	Press hold in B1	A1 hear the music on hold	Pass	
4	Disconnect the call from A1	Call disconnected between B1 to A1	Pass	

### 2.2.1.5 Hold/Resume call from i62, Hold for 180 seconds

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	A and A1 ringing in parallel	Pass	
2	Answer in A1	Call connected	Pass	
3	Press hold in B1	A hear the music on hold	Pass	
4	Leave the call in Hold for 180 Seconds		Pass	
	Resume the call from B1	Call connected between B1 and A	Pass	

### 2.2.2 Hold/Resume call from Lync when remote side is i62

#### 2.2.2.1 Hold/Resume call from Lync when remote side is i62 user

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B1 ringing	Pass	
2	Answer in B1	Call connected between A to B1	Pass	
3	Press hold in A	B1 hear the music on hold	Pass	
4	Resume the call from A	Call connected again between A to B1	Pass	
5	Disconnect the call from A	Call disconnected between A to B1	Pass	

### 2.2.2.2 Lync user that initiate the call, disconnect the call during the hold

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B1 ringing	Pass	
2	Answer in B1	Call connected between A to B1	Pass	
3	Press hold in A	B1 hear the music on hold	Pass	Lync does not play music to remote site
4	Disconnect the call from A	Call disconnected between A to B1	Pass	Verify that B1 stop to hear the music on hold and call disconnected

### 2.2.2.3 Called party disconnect the call during the hold

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B1 ringing	Pass	
2	Answer in B1	Call connected between A to B1	Pass	
3	Press hold in A	B1 hear the music on hold	Pass	
4	Disconnect the call from B1	Call disconnected between A to B1	Pass	

## 2.2.3 Able to get 2 calls and switch between them by using hold and resume

### 2.2.3.1 Switch between the call on i62 side

#	Description	Expected Results	Result	Remarks
1	Make call from A1 to B1	B and B1 ringing in parallel	Pass	
2	Answer in B1	Call connected between A1 to B1	Pass	
3	Make additional call from C1 to B1	B and B1 ringing in parallel B –display new call B1-hear call waiting tone and see that call	Pass	

		arrive to line 2		
4	Answer to the call from C1 via B1 –	call connected between C1 and B1 A1-hear music on hold	Pass	
5	Switch between the calls in B1	call connected between B1 to A1 C1- hear the music on hold	Pass	
6	Disconnect the call between B1 to A1	Call connected again between B1 to C1	Pass	
7	Disconnect the call from C1	All the call disconnected	Pass	

### 2.2.3.2 Switch between the call in Lync side

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	A and A1 ringing in parallel	Pass	
2	Answer in A	Call connected between B1 to A	Pass	
3	Make additional call from C1 to A1	A and A1 ringing in parallel	Pass	
4	Answer to the call from C1 via Lync A	call connected between C1 and A B1-hear music on hold	Pass	
5	Resume the call between B1 to A	call connected between A to B1 C1- hear the music on hold	Pass	
6	Disconnect the call between A to B1	Call connected again between A to C1	Pass	
7	Disconnect the call from C1	All the call disconnected	Pass	

### 2.2.3.3 Call to PSTN – Switch between the call on i62 side

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to PSTN	PSTN ringing	Pass	

2	Answer in PSTN	Call connected between PSTN to B1	Pass	
3	Make additional call from C1 to B1	C1 ringing in parallel B –display new call B1-hear call waiting tone and see that call arrive to line 2	Pass	
4	Answer to the call from C1 via B1	call connected between C1 and B1 PSTN hear music on hold	Pass	
5	Switch between the calls in B1	call connected between B1 to PSTN C1- hear the music on hold	Pass	
6	Disconnect the call between PSTN to B1	Call connected again between B1 to C1	Pass	
7	Disconnect the call from C1	All the call disconnected	Pass	



## 2.3 Call Waiting

### 2.3.1 Call waiting tone

#### 2.3.1.1 Call waiting in i62 side

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B1 ringing	Pass	
2	Answer in B1	Call connected between A to B1	Pass	
3	Make additional call from C1 to B1	B ringing B1 hear the call waiting tone	Pass	
4	Answer to the call from B1	Call connected between B1 and A	Pass	

#### 2.3.1.2 Call waiting in Lync side

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A	A and A1 ringing in parallel	Pass	
2	Answer in A	Call connected between A to B1	Pass	
3	Make additional call from C1 to A	A1 ringing and A hear the call waiting tone	Pass	

#### 2.3.1.3 Call waiting from PSTN in i62 side

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	B1 ringing	Pass	
2	Answer in A1	Call connected between A1 to B1	Pass	
3	Make additional call from PSTN to B1	B ringing B1 hear the call waiting tone	Pass	

## 2.4 Forward

### 2.4.1 Unconditional forward from the i62 to another user

#### 2.4.1.1 Forward from i62

**Prerequisite:** Need to configure the device with unconditional forward, it can be done via the Web interface of the device or via the device itself.

**Note:** The 302 message back are sending from the i62.

#	Description	Expected Results	Result	Remarks
1	Configure B1 to forward the call to A1	Display in the B1 (on the screen) forward to A1	Pass	
2	Make call from C1 to B1	A and A1 ringing in parallel	Pass	
3	Answer in A	Call connected between C1 to A	Pass	

#### 2.4.1.2 Forward from Lync to i62

**Prerequisite:** need to configure the Lync with unconditional forward:

In the Lync Client setting (Tools→Call-Forwarding Settings)  
Choose 'Forward my call to:' – insert the number that you want forward to.

#	Description	Expected Results	Result	Remarks
1	Configure A to forward the calls to B1	Display in the Lync Setting	Pass	
2	Make call from C1 to A1	B1 ringing	Pass	
3	Answer in B1	Call connected between C1 to B1	Pass	

### 2.4.1.3 Forward from i62 to PSTN

#	Description	Expected Results	Result	Remarks
2	Configure B1 to forward the calls to PSTN	Display in the B1 (on the screen) forward to PSTN	Pass	
3	Make call from A1 to B1	PSTN ringing	Pass	
4	Answer in PSTN	Call connected between A1 to PSTN	Pass	

### 2.4.1.4 Forward from Lync to PSTN

#	Description	Expected Results	Result	Remarks
1	Configure A to forward the call to PSTN	Display in the Lync Setting	Pass	
2	Make call from B1 to A1	PSTN ringing	Pass	
3	Answer in PSTN	Call connected between B1 to PSTN	Pass	

## 2.5 Transfer

### 2.5.1 Blind Transfer

#### 2.5.1.1 Call from DECT A1 to B1. B1 Transfers the call to IPP C1

#	Description	Expected Results	Result	Remarks
1	Make call from A1 to B1	B and b1 ringing in parallel	Pass	
2	Answer in b1	Call connected between A1 to B1	Pass	
3	Make Blind transfer from B1 to C1	B1 disconnected C1 Ringing	Pass	Verify that C1 display A1 number
4	Answer in C1	Call connected between A1 to C1	Pass	Validate 2 way voice
5	Disconnect the call	A1 and C1 disconnected	Pass	

#### 2.5.1.2 Call from IPP C1 to B1. B1 Transfer the call to Lync A

#	Description	Expected Results	Result	Remarks
1	Make call from C1 to B1	B1 ringing	Pass	
2	Answer in B1	Call connected between C1 to B1	Pass	
3	Make Blind transfer from B1 to A	B1 disconnected A and A1 ringing in parallel	Pass	Verify that A display C1 number
4	Answer in A	Call connected between C1 to A	Pass	Validate 2 way voice
5	Disconnect from A	A and C1 disconnected	Pass	

#### 2.5.1.3 Call from Lync A to B1. B1 Transfer the call to →IPP C1

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B1 ringing	Pass	
2	Answer in B1	Call connected between A to B1	Pass	
3	Make blind Transfer from B1 to	C and C1 ringing in	Pass	Verify that C1 display

	C1	parallel		A number
4	Answer in C1	Call connected between A to C1	Pass	Validate 2 way voice
5	Disconnect the call from C1	A and C1 disconnected	Pass	

#### 2.5.1.4 Call from DECT A1 to B1. B1 Transfer the call to PSTN

#	Description	Expected Results	Result	Remarks
1	Make call from A1 to B1	B1 ringing	Pass	
2	Answer in B1	Call connected between B1 to A1	Pass	
3	Make Blind transfer from B1 to PSTN	B1 disconnected PSTN ringing	Pass	
4	Answer in PSTN	Call connected between A1 to PSTN	Pass	Validate 2 way voice
5	Disconnect from PSTN	PSTN and A1 disconnected	Pass	

#### 2.5.1.5 Call from B1 to Lync A. Lync A Transfer the call to PSTN

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A	A ringing	Pass	
2	Answer in A	Call connected between B1 to A	Pass	
3	Make Blind transfer from A to PSTN	A disconnected PSTN ringing	Pass	
4	Answer in PSTN	Call connected between B1 to PSTN	Pass	Validate 2 way voice
5	Disconnect from PSTN	PSTN and B1 disconnected	Pass	

#### 2.5.1.6 Call from PSTN to B1. DECT A1 Transfer the call to B1

#	Description	Expected Results	Result	Remarks
1	Make call from PSTN to B1	A1 ringing	Pass	
2	Answer in B1	Call connected between PSTN to B1	Pass	

3	Make Blind transfer from B1 to A1	B1 disconnected A1 ringing	Pass	Verify that B1 display PSTN number
4	Answer in A1	Call connected between A1 to PSTN	Pass	Validate 2 way voice
5	Disconnect from A1	PSTN and A1 disconnected	Pass	

### 2.5.1.7 Call from PSTN to Lync A. Lync A Transfer the call to B1

#	Description	Expected Results	Result	Remarks
1	Make call from PSTN to A	A ringing	Pass	
2	Answer in A	Call connected between PSTN to A	Pass	
3	Make Blind transfer from A to B1	A disconnected B1 ringing	Pass	Verify that B1 display PSTN number
4	Answer in B1	Call connected between B1 to PSTN	Pass	Validate 2 way voice
5	Disconnect from B1	PSTN and B1 disconnected	Pass	

## 2.5.2 Consulting Transfer

### 2.5.2.1 Call from DECT A1 to B1. B1 Transfer the call to IPP C1

#	Description	Expected Results	Result	Remarks
1	Make call from A1 to B1	B and B1 ringing in parallel	Pass	
2	Answer in B1	Call connected between A1 to B1	Pass	
3	Make Consulting Transfer from B1 to C1	A1 hear music on hold C and C1 ringing in parallel	Pass	Verify that C1 display B1 number
4	Answer in C1	B1 and C1 connected A1 hear music on hold	Pass	Verify that B1 and C1 connected well with 2 way voice
5	Press on transfer button on B1	B1 disconnected A1 and C1 in call	Pass	Verify that A1 and C1 connected well with 2 way voice

6	Disconnect the call from A1	A1 and C1 disconnected	Pass	
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### 2.5.2.2 Call from IPP C1 to B1. B1 Transfer the call to Lync A

#	Description	Expected Results	Result	Remarks
1	Make call from C1 to B1	B and B1 ringing in parallel	Pass	
2	Answer in B1	Call connected between C1 to B1	Pass	
3	Make Consulting Transfer from B1 to A	C1 hear music on hold A and A1 ringing in parallel	Pass	
4	Answer in A	B1 and A connected C1 hear music on hold	Pass	Verify that B1 and A connected well with 2 way voice
5	Press on transfer button on B1	B1 disconnected C1 and A in call	Pass	Verify that C1 and A connected well with 2 way voice
6	Disconnect the call from A	C1 and A disconnected	Pass	

### 2.5.2.3 Call from Lync A to B1. B1 Transfer the call to IPP C1

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B and B1 ringing in parallel	Pass	
2	Answer in B1	Call connected between A to B1	Pass	
3	Make Consulting Transfer from B1 to C1	A hear music on hold C and C1 ringing in parallel	Pass	
4	Answer in C1	B1 and C1 connected A hear music on hold	Pass	Verify that B1 and C1 connected well with 2 way voice
5	Press on transfer button on B1	B1 disconnected A and C1 in call	Pass	Verify that A and C1 connected well with 2 way voice IPP C1 show B1

				connected and not A
	Disconnect the call from C1	A and C1 disconnected	Pass	

#### 2.5.2.4 Call from B1 to A1. A1 Transfer the call to PSTN

#	Description	Expected Results	Result	Remarks
1	Make call from A1 to B1	B and B1 ringing in parallel	Pass	
2	Answer in B1	Call connected between A1 to B1	Pass	
3	Make Consulting Transfer from B1 to PSTN	A1 hear music on hold PSTN ringing	Pass	
4	Answer in PSTN	B1 and PSTN connected A1 hear music on hold	Pass	Verify that A1 and PSTN connected well with 2 way voice
5	Press on transfer button on B1	B1 disconnected A1 and PSTN in call	Pass	Verify that A1 and PSTN connected well with 2 way voice
6	Disconnect the call from PSTN	B1 and PSTN disconnected	Pass	

#### 2.5.2.5 Call from B1 to Lync A. Lync A Transfer the call to PSTN

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A	A and A1 ringing in parallel	Pass	
2	Answer in A	Call connected between A to B1	Pass	
3	Make Consulting Transfer from A to PSTN	B1 hear music on hold PSTN ringing	Pass	
4	Answer in PSTN	A and PSTN connected B1 hear music on hold	Pass	Verify that A and PSTN connected well with 2 way voice
5	Press on transfer button on A	A disconnected B1 and PSTN in call	Pass	Verify that B1 and PSTN connected well with 2 way voice
6	Disconnect the call from PSTN	B1 and PSTN disconnected	Pass	



### 2.5.2.6 Call from PSTN to A1. A1 Transfer the call to B1

#	Description	Expected Results	Result	Remarks
1	Make call from PSTN to A1	A and A1 ringing in parallel	Pass	
2	Answer in A1	Call connected between A1 to PSTN	Pass	
3	Make Consulting Transfer from A1 to B1	PSTN hear music on hold B1 ringing	Pass	
4	Answer in B1	A1 and B1 connected PSTN hear music on hold	Pass	Verify that A1 and B1 connected well with 2 way voice
5	Press on transfer button on A1	A1 disconnected B1 and PSTN in call	Pass	Verify that B1 and PSTN connected well with 2 way voice
6	Disconnect the call from PSTN	B1 and PSTN disconnected	Pass	

### 2.5.2.7 Call from PSTN to Lync A. Lync A Transfer the call to B1

#	Description	Expected Results	Result	Remarks
1	Make call from PSTN to A	A and A1 ringing in parallel	Pass	
2	Answer in A	Call connected between A to PSTN	Pass	
3	Make Consulting Transfer from A to B1	PSTN hear music on hold B1 ringing	Pass	
4	Answer in B1	A and B1 connected PSTN hear music on hold	Pass	Verify that A and B1 connected well with 2 way voice
5	Press on transfer button on A	A disconnected B1 and PSTN in call	Pass	Verify that B1 and PSTN connected well with 2 way voice
	Disconnect the call from B1	B1 and PSTN disconnected	Pass	

## 2.6 3-Way Call

### 2.6.1 DECT B1→ A1→ IPP C1

B1 initiate the 3-way call and disconnect the call.

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A1	A and A1 ringing in parallel	Pass	
2	Answer in A1	Call connected between A1 to B1	Pass	
3	Make additional call from B1 to C1	C and C1 ringing in parallel	Pass	
4	Answer in C1	call connected between B1 to C1 A1 hear music on hold	Pass	
5	Press on B1 on conf button	All the participants need to be connected in same call (A1,B1,C1)	Pass	Validate 2 way voice between A1, B1 and C1
6	Disconnect C1 from the call	C1 disconnected A1 and B1 in call	Pass	
7	Make additional call from B1 to C1	C and C1 ringing in parallel	Pass	C is not ringing
8	Answer in C1	call connected between B1 to C1 A1 hear music on hold	Pass	
9	Press on B1 on conf button	All the participants need to be connected in same call(A1,B1,C1)	Pass	Validate 2 way voice between A1, B1 and C1
10	Disconnect the call from B1	All the participants disconnected	Pass	

### 2.6.2 B1 → Lync A → IPP C1

B1 initiate the 3-way call and disconnect the call.

#	Description	Expected Results	Result	Remarks
1	Make call from B1 to A	A and A1 ringing in parallel	Pass	
2	Answer in A	Call connected between B1 to A	Pass	
3	Make additional call from B1 to C1	C and Cn1 ringing in parallel	Pass	
4	Answer in C1	call connected between B1 to C1 A hear music on hold	Pass	
5	Press on B1 on conf button	All the participants need to be connected in same call (B1,A,C1)	Pass	Validate 2 way voice between B1, A and C1
6	Disconnect C1 from the call	C1 disconnected B1 and A in call	Pass	
7	Make additional call from B1 to C1	C and C1 ringing in parallel	Pass	
8	Answer in C1	call connected between B1 to C1 A hear music on hold	Pass	
9	Press on B1 on conf button	All the participants need to be connected in same call (B1,A,C1)	Pass	Validate 2 way voice between B1, A and C1
10	Disconnect the call from B1	All the participants disconnected	Pass	

### 2.6.3 Lync A → B1 → IPP C1

Lync A initiate the 3-way call and disconnect the call.

Note: Need to configure conf service on LYNC

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B and B1 ringing in parallel	Pass	
2	Answer in B1	Call connected between A to B1	Pass	

3	Make additional call from A to C1	C and C1 ringing in parallel	Pass	
4	Answer in C1	call connected between A to C1 B1 hear music on hold	Pass	
5	Make 3 way call from A between C1 and B1	All the participants need to be connected in same call (A,B1,C1)	Pass	Validate 2 way voice between A, B1 and C1
6	Disconnect C1 from the call	C1 disconnected A1 and B1 in call	Pass	
7	Make additional call from A to C1	C and C1 ringing in parallel	Pass	
8	Answer in C1	call connected between A to C1 B1 hear music on hold	Pass	
9	Make 3 way call from A between C1 and B1	All the participants need to be connected in same call (A,B1,C1)	Pass	Validate 2 way voice between A, B1 and C1
10	Disconnect the 3 way call from A	All the participants disconnected	Pass	

#### 2.6.4 Lync A → B1 → PSTN

Lync A initiate the 3-way call and disconnect the call.

#	Description	Expected Results	Result	Remarks
1	Make call from A to B1	B and B1 ringing in parallel	Pass	
2	Answer in B1	Call connected between A to B1	Pass	
3	Make additional call from A to PSTN	PSTN	Pass	
4	Answer in PSTN	call connected between A to PSTN B1 hear music on hold	Pass	
5	Make 3 way call from A between PSTN and B1	All the participants need to be connected in same call(A,B1, PSTN)	Pass	Validate 2 way voice between A, B1 and PSTN
6	Disconnect PSTN from the call	PSTN disconnected	Pass	

		A1 and B1 in call		
7	Make additional call from A to PSTN	PSTN ringing	Pass	
8	Answer in PSTN	call connected between A to PSTN B1 hear music on hold	Pass	
9	Make 3 way call from A between PSTN and B1	All the participants need to be connected in same call (A,B1, PSTN)	Pass	Validate 2 way voice between A, B1 and PSTN
10	Disconnect the 3 way call from A	All the participants disconnected	Pass	266.pcap

## 2.7 Message Waiting Indication (MWI)

The purpose of this section to verify that the Message Waiting Indication (MWI) on the i62 mobile phone is activated correctly when a new message is stored.

### Prerequisite:

- Need to configure the Voice Mail setting for the user
- MWI mode should be enabled for the device.

### 2.7.1 Message Waiting Indication (MWI)

#	Description	Expected Results	Result	Remarks
1	Make call from A1 to B1	B and B1 ringing in parallel	Pass	
2	Don't answer to the call on B1	Verify that call redirected to the Voice Mail System	Pass	
3	Leave the message and hang up the A1	Message waiting indication is received on both B and B1. Indication should indicate that there is one message waiting.	Pass	
4	B1 calls its voice mail inbox and deletes the message left by A1 and hang up.	Message waiting indication on B1's display should be deleted.	Pass	

## 2.8 Presence Test

**Prerequisite:** need to configure the BLF setting in all the IPP with following order:

Led1 - user A1

Led2 - user B1

Led3 - user C1

In all the Lync clients (A,B,C) need to define the contact list with users A,B,C

### 2.8.1 Call status

#	Description	Expected Results	Result	Remarks
1	<b>Prerequisite:</b> A,B,C Register to Lync Status=available A1,B1,C1 Register to SPS			
2	Make call from A1 to B1	<b>IPP Status</b> A1-led1-red Led2-red Led3-green B1-led1-red Led2-red Led3-green C1-led1-red Led2-red Led3-green <b>Lync status</b> Lync A A-in call B-in call C-available		
3	Disconnect the call from A1	A1-led1-green Led2-green Led3-green B1-led1-green		

		Led2-green Led3-green <b>Lync status</b> Lync A A-available B- available C-available		
4	After 5 minutes of inactivity	A1/A and B1/B state changes to "inactive"		
5	After 15 additional minutes of inactivity	A1/A and B1/B state changes to "away"	N/S	

**Note:** See Appendix A for more information regarding SPS presence

## 2.8.2 Manual Presence update

#	Description	Expected Results	Result	Remarks
	<p>A user can manually change presence by dialing special configured number.</p> <p>Available statuses: Available, Busy, DND (Do Not Disturb), Be right back, Away, Reset status.</p> <p>Default numbers: **0, **1, **2, **3, **4, **5</p> <p>**0 → AVAILABLE</p> <p>**1 → BUSY</p> <p>**2 → DND</p> <p>**3 → BE RIGHT BACK</p> <p>**4 → AWAY</p> <p>**5 → RESET THE STATUS (CHANGE TO AVAILABLE)</p>			
	<b>Prerequisite:</b> A,B,C Register to Lync Status=available A1,B1,C1 Register to SPS			
1	dial from A1 **1	In Lync A,B,C the status change to "Busy"	Pass	
2	dial from A1 **2	In Lync A,B,C the status	Pass	



		change to "DND"		
3	dial from A1 **3	In Lync A,B,C the status change to "Be right back"	Pass	
4	dial from A1 **4	In Lync A,B,C the status change to "Away"	Pass	
5	dial from A1 **5	In Lync A,B,C the status change to "available"	Pass	

## 2.9 Directory

#	Description	Expected Results	Result	Remarks
1	B1 call to C1 from Local Directory		Pass	
2	B1 call to PSTN from Local Directory		Pass	

## Appendix A: SPS Presence

The presence icon represents a user's availability and willingness to communicate.

**Available** is the only state in which a user is both available and willing to communicate. In all other cases, a user is either willing or available to communicate, but not both. For example, a user may be online but not willing to communicate, as is the case when a user has set his or her presence status to **Do Not Disturb**.

A user's presence status provides contextual information to help others decide if they should try to contact the user and whether to use IM, phone, or e-mail. Presence encourages instant communication when possible, but also provides information about whether a user is in a meeting or out of the office, indicating that instant communication is not possible.

To deliver an accurate representation of a user's presence status, Microsoft Lync Server 2010 collects input from various sources, including devices, user settings, applications, and user activities, and then aggregates the data into a presence status. The aggregated presence status for a user is exposed as a presence icon in Lync Server 2010 and other presence-aware applications in the 2010 Microsoft Office system, including the Outlook® messaging and collaboration client, SharePoint® technologies, Word, and Excel. The presence icon for a user represents the user's current availability and willingness to communicate.

SPS conforms to Lync presence behavior by:

- A registered phone initially publishes: Machine state = available, Capabilities = voice only
- After 5 minutes of inactivity, the machine state changes to "inactive"
- After 15 additional minutes of inactivity, the machine state changes to "away"
- At call start SPS publishes:
  - o Phone state = busy
  - o Machine state = available (!)
- At call end SPS expires the phone state

Example of Lync presence aggregation:

- If a user has both Lync Client and SPS phone, and SPS publishes machine state "away" but user is active on PC, then LYNC publishes "available" status.
- If user has SPS only then LYNC publishes status "away"