



Application Notes for Komutel SIT with Avaya Communication Server 1000 - Issue 1.0

Abstract

These Application Notes describe the steps required to integrate the Komutel SIT (Solution for Integrated Telecommunications) Console with Avaya Communication Server 1000. The SIT Console provides a PC based desktop communications center with enhanced control of call handling features. It provides the ability to handle a high volume of calls and offers tools designed to manage telephony functions and Presence Management to monitor the availability of users.

In the compliance test, the SIT Console successfully emulated a Communication Server 1000 IP Softphone using UNISTim protocol. The SIT Console established calls with other telephones, and executed telephony features such as Hold, Transfer, and Conference. In addition, an optional component of the SIT to monitor other telephones that are connected to the Communication Server 1000 was also successfully verified. This feature requires the use of Busy Forward Status key to obtain status information of monitored stations on Communication Server 1000.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the steps required to integrate the Komutel SIT Console (Solution for Integrated Telecommunications) with Avaya Communication Server 1000. The SIT Console provides a PC based communications center with enhanced control of call handling features. It provides the ability to handle a high volume of calls and offers tools designed to manage telephony functions and Presence Management to monitor the availability of users.

In the compliance test, the SIT Console successfully connected with Communication Server 1000 as an IP Softphone using UNISTim protocol, established calls with other telephones, and executed telephony features such as Hold, Transfer, and Conference. In addition, an optional component of the SIT Console to monitor other Communication Server 1000 extensions was also successfully verified. This feature requires the use of Busy Forward Status (BFS) key to obtain status information of monitored stations on Communication Server 1000.

2. General Test Approach and Test Results

To verify interoperability of the SIT Console with Communication Server 1000, calls were made between the SIT Console and Avaya IP, SIP and digital stations while also exercising common telephone features. The telephony features were tested by activating and deactivating phone buttons on the SIT Console. In addition, the SIT Console was able to monitor other extensions on the Communication Server 1000 using the BFS keys.

2.1. Interoperability Compliance Testing

Interoperability compliance testing covered the following features and functionality:

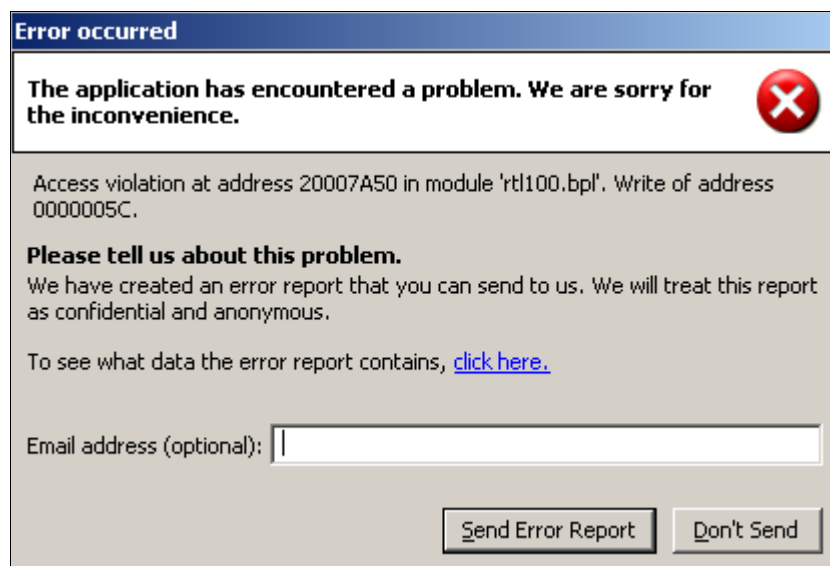
- Successful connection of the SIT Console with Communication Server 1000 using UNISTim protocol.
- Calls between SIT Console and Avaya IP, SIP and digital stations.
- Caller ID display on Avaya and SIT Console.
- Sending of DTMF.
- Basic telephony features including Hold, Mute, Transfer, Forwarding and Conference.
- Buttons to monitor user availability of other Communication Server 1000 extensions, which requires a BFS key.
- Proper system recovery after a restart of the SIT Console and loss of IP connectivity.

2.2. Test Results

Basic test cases were executed and passed with the following observations:

- Pressing the keypad on the SIT Console does not produce the DTMF beep tones, however proper DTMF values are sent.

- If SIT Console has multiple lines, when SIT Console goes off-hook to make a call, by default it picks the line with the higher key number. For example if SIT Console has Key 0 and 1 programmed then Key 1 is picked by default.
- When SIT Console carries out an Assisted Transfer, after Caller and Recipient both hang up, the Assisted Transfer window does not close by default and has to be manually closed.
- Click on the Call Park button on the SIT Console, the call is parked and a park directory number (DN) is returned in the display. The park DN is not stored in the display history.
- If there is network disruption, the SIT Console still shows the status as connected to phone, however trying to dial an extension in this state produces the following error screen:



After network connection is re-established user needs to restart the SIT Console again to make it operational.

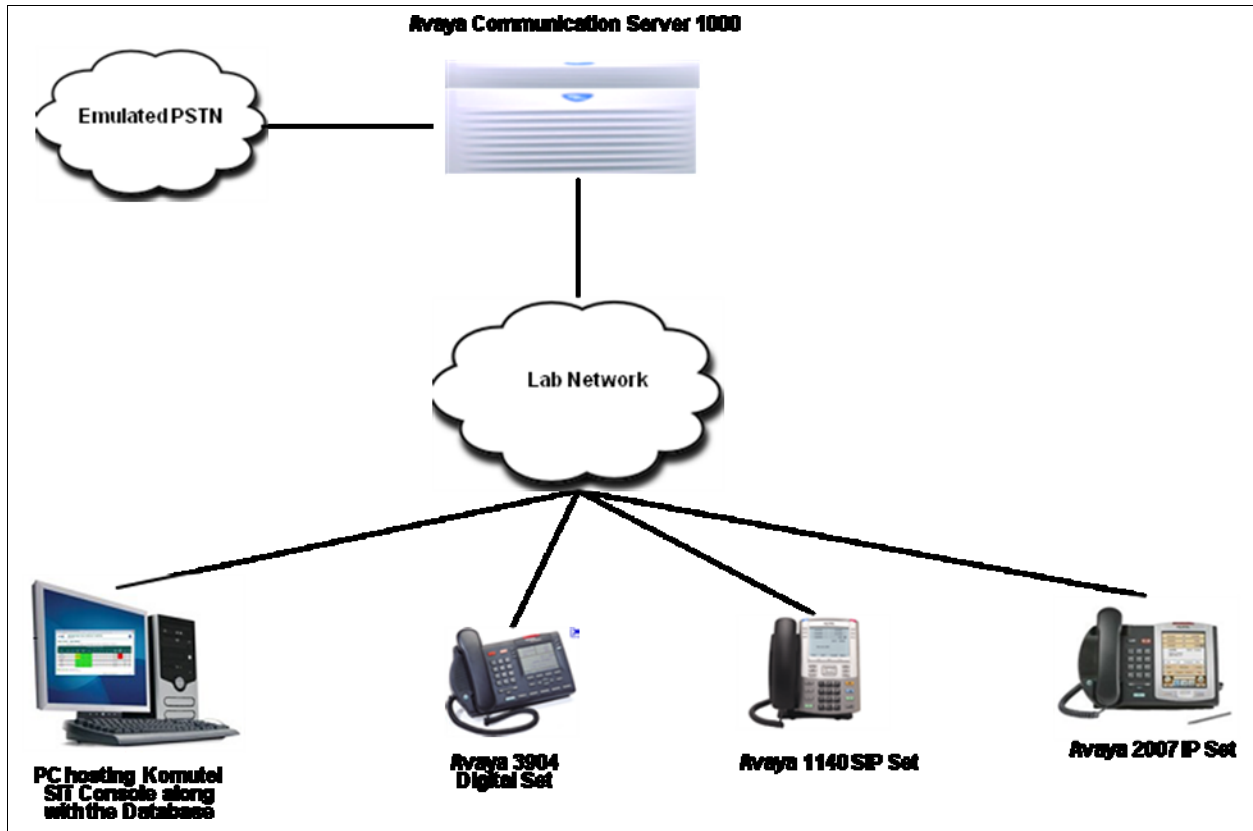
2.3. Support

For technical support on the SIT Console, contact Komutel Support via phone, email, or website.

- **Phone:** (877) 225-9988
- **Email:** service@komutel.com
- **Web:** <http://www.komutel.com>

3. Reference Configuration

The figure below illustrates the lab configuration that was used for compliance testing.



4. Equipment and Software

The following equipment and software were used for the sample configuration provided:

Hardware Component	Version
Avaya Communication Server 1000	7.5
Avaya 1140 SIP Set	04.01.13.00
Avaya 2007 IP Set	0621C8A
Avaya Digital Set	N/A
Komutel SIT Console	2.0.0.8305
Komutel modTelephony_IpSoftphoneCS1000.dll	1.0.0.8297

5. Configure Avaya IP Softphone

This section provides the procedures for configuring an Avaya IP Softphone in the Communication Server 1000 which will be used by the SIT Console.

For detailed information on installation and configuration for Communication Server 1000, refer to **Section 9 [1]**.

Connect to the Communication Server 1000 using PuTTY and access the command line interface (CLI) by entering the proper credentials (not shown).

Overlay 11 (**LD 11**) in CLI is used to configure an IP Softphone. Prompts in red shown in **Figures 1, 2 and 3** below need to be configured by the user. The rest of the values remain at default.

In **Figure 1**, the Key Expansion Module (**KEM**) was configured since it would be used to configure the BFS keys required for monitoring other extensions. During compliance testing a Forward Directory Number (**FDN**) was also configured to test the message waiting feature.

```
TN 096 0 00 02 VIRTUAL
TYPE 2050PC
CDEN 8D
CTYP XDLC
CUST 0
NUID
NHTN
KEM 3
CFG_ZONE 00001
CUR_ZONE 00001
MRT
ERL 0
ECL 0
FDN 58888
TGAR 1
LDN NO
NCOS 7
SGRP 0
RNPG 0
SCI 0
SSU
XLST
SCPW
SFLT NO
CAC MFC 0
```

Figure 1: Configuring an IP Softphone

In **Figure 2** the Class of Service (CLS) Forward No Answer Allowed (**FNA**), Message Waiting Allowed (**MWA**) and Key Expansion Module (**KEM3**) were configured for compliance testing.

```
CAC_MFC 0
CLS CTD FBD WTA LPR MTD FNA HTD TDD HFA CRPD
MWA LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
POD SLKD CCSD SWD LND CNDA
CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBF
ICDD CDMD LLCN MCTD CLBD AUTU
GPUD DPUD DNDD CFXD ARHD CLTD ASCD
CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD
UDI RCC HBTD AHD IPND DDGA NAMA MIND PRSD NRWD NRCD NROD
DRDD EXRO
USMD USRD ULAD CCBD RTDD RBDD RBHD PGND OCBF FLXD FTTC DNDY DNO3 MCBN
FDSD NOVD VOLA VOUD CDMR PRED RECD MCDD T87D SBMD
KEM3 MSNV FRA PKCH MUTA MWTD DVLD CROD ELCD
CPND_LANG ENG
RCO 0
HUNT
PLEV 02
PUID
UPWD
DANI NO
AST
IAPG 0
AACS NO
ITNA NO
DGRP
MLWU_LANG 0
```

Figure 2: Class of Service configured during compliance testing

In **Figure 3**, **Key 00** and **01** were configured so that multi line feature could be tested during compliance testing. Also one **BFS** key was configured so that an extension on Terminal Number (TN) **096 1 00 20** could be monitored by the SIT Console.

```
MLNG ENG
DNR 0
KEY 00 SCR 58103 0      MARP
      CPND
      CPND_LANG ROMAN
      NAME NetIQ 1
      XPLN 13
      DISPLAY_FMT FIRST, LAST
01 SCR 56904 0
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17 TRN
18 AO6
19 CFW 16  58004
20 RGA
21 PRK
22 RNP
23
24 PRS
25 CHG
26 CPN
27
28
29
30
31
KEM 1 PAGE 0
32 BFS 096 1 00 20
33
```

Figure 3: Single Call Ringing and BFS Keys Configuration

6. Configure Komutel SIT Console

This section provides the procedures for configuring the SIT Console. The procedures include the following areas:

- Configure the SIT Console to connect to Communication Server 1000.
- Configure the SIT Console.
- Configure the SIT Console to monitor other desktop phones.

For detailed information on installation and configuration of SIT Console refer to **Section 9 [2]**.

6.1. Configure SIT Console to connect to Communication Server 1000

During the end of the SIT installation process, user is presented with the option to configure the SIT Console so that it can connect to the Communication Server 1000 and register as an IP Softphone.

The screen below shows the **Phone system configuration** where **Ip** value is the Node IP address of the Communication Server 1000. Click on **Next** to proceed.

Setup - SIT

Phone system configuration

Server 51

Ip 110.10.10.110

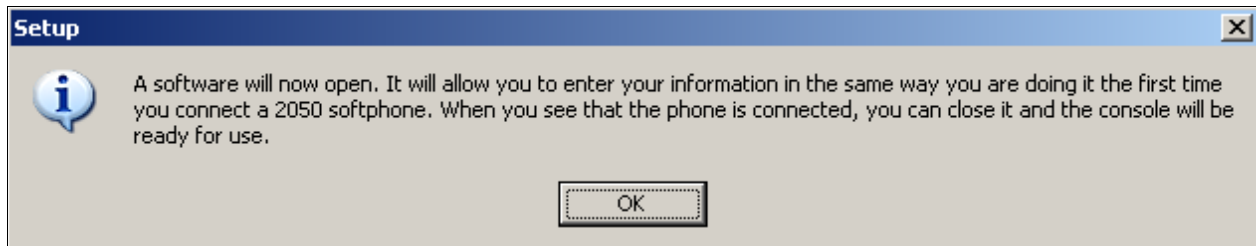
Port 4100

Retries 10

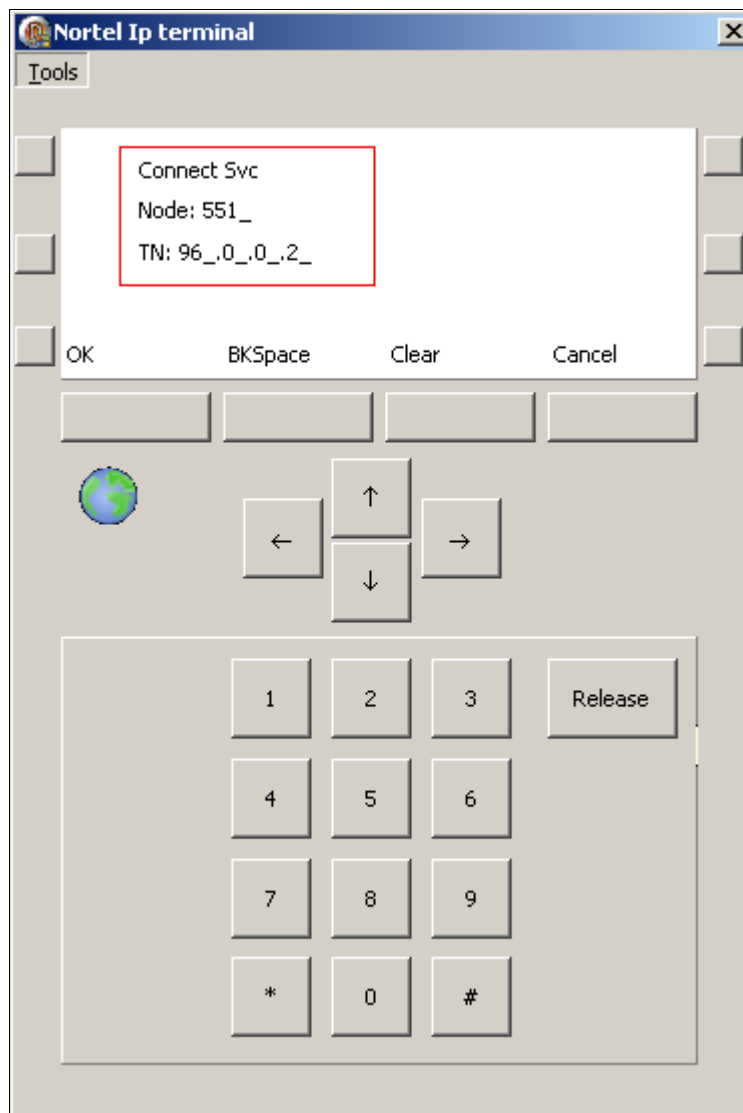
www.komutel.com

Next >

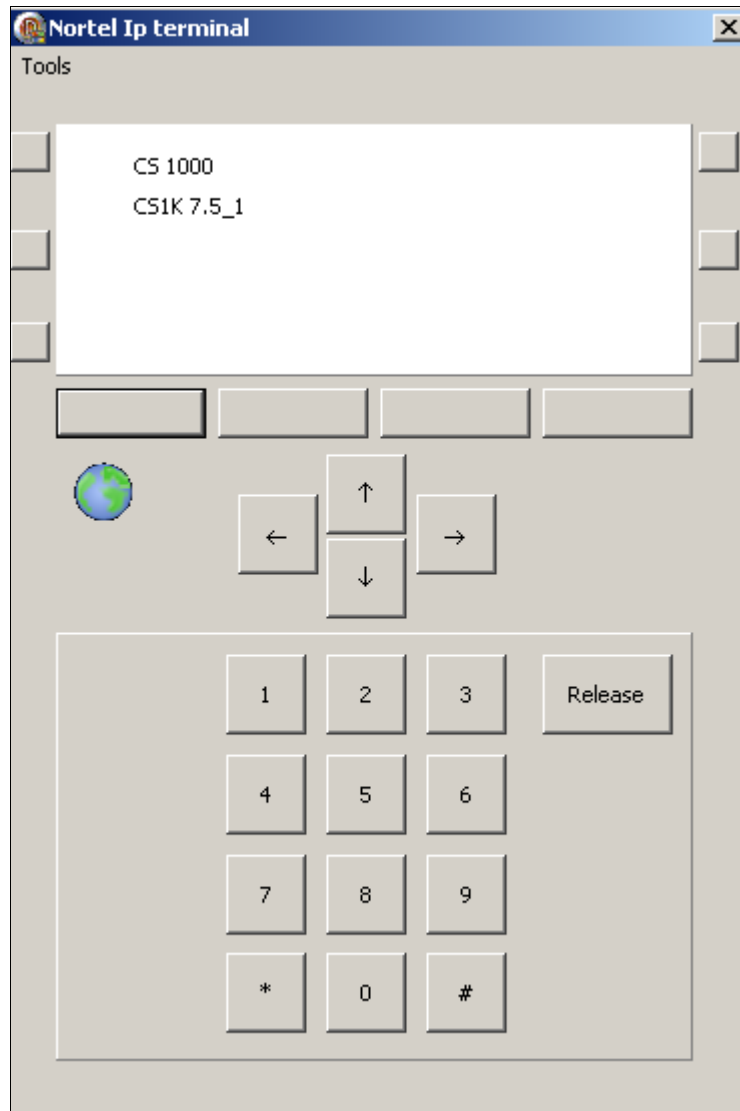
The screen below shows the screen requesting user to proceed to connect to the softphone. Click on **OK** to continue.



The screen below shows the Node ID and the TN values of the softphone that was configured during compliance testing.



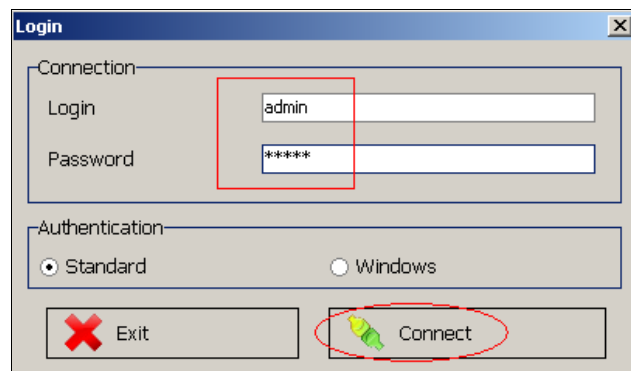
The screen below shows the SIT Console connecting to the Communication Server 1000 as an IP softphone.



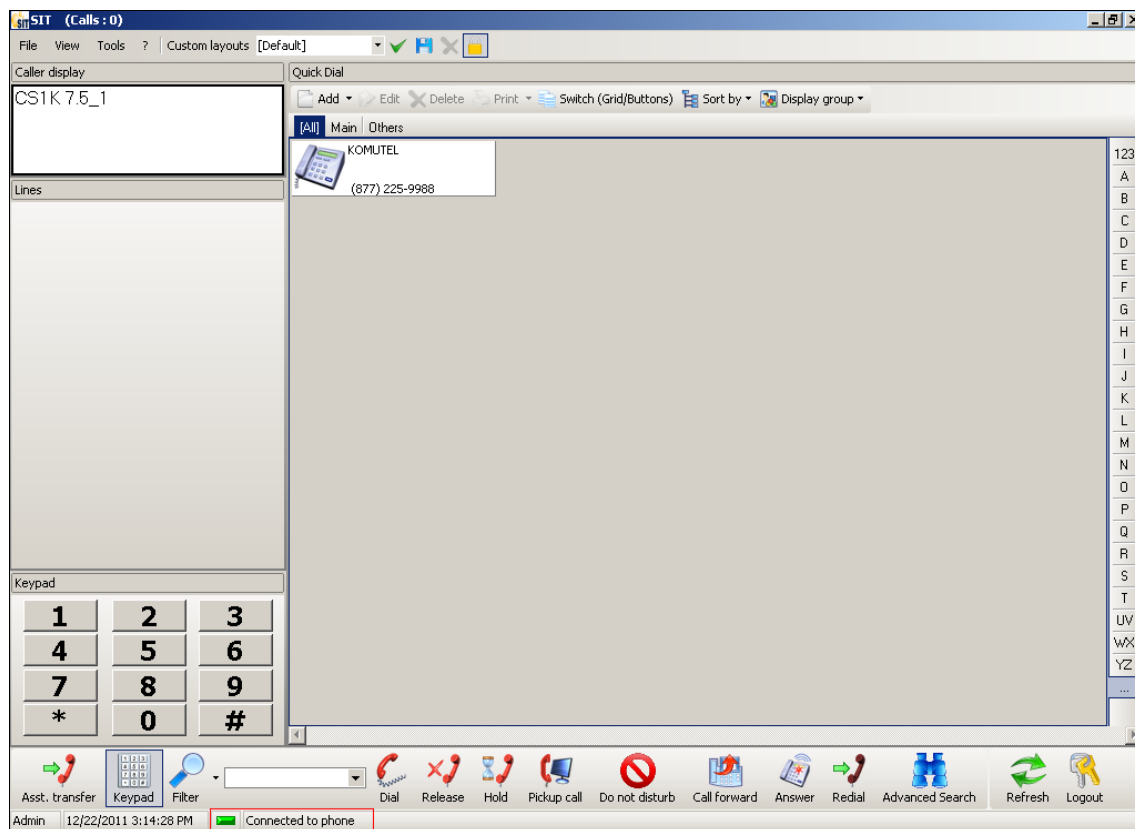
6.2. Configure SIT Console

This section explains the configuration required on the SIT Console so that it can connect as an IP Softphone on the PC. It is assumed that the SIT Console application and database was successfully installed on the PC as discussed in **Section 6.1**.

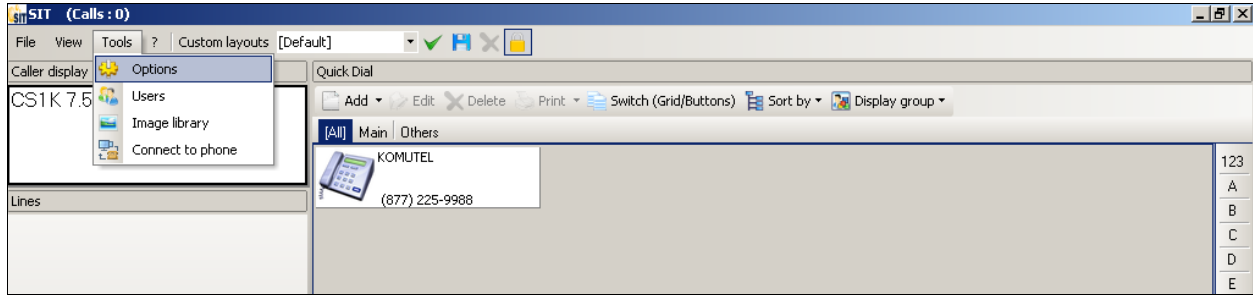
Launch the SIT console on the PC and enter the login credentials as shown in the screen below. Click on **Connect**.



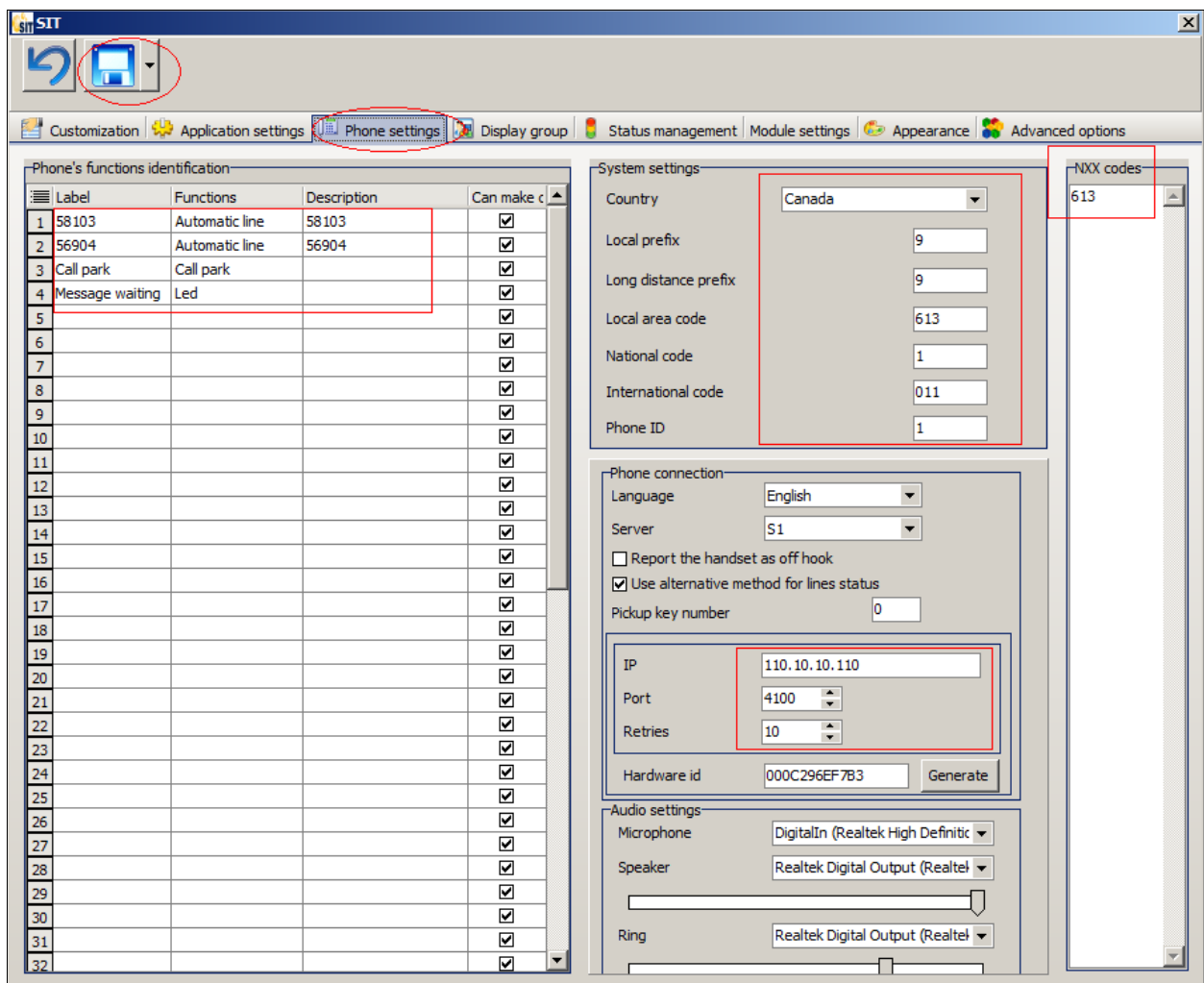
The main SIT Console screen is shown below. Note the **Connected to phone** status on the bottom left hand of the screen.



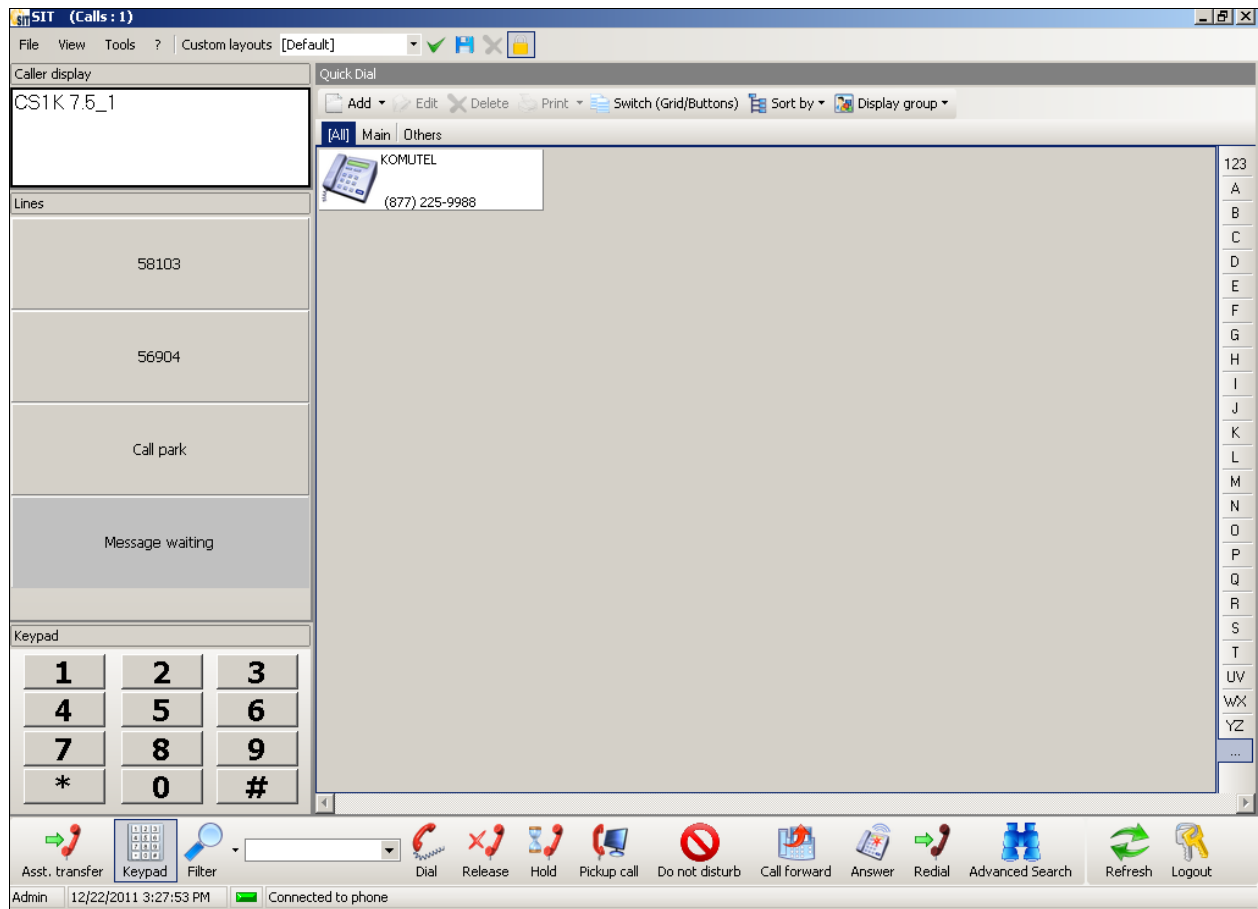
To configure the Lines on the SIT Console, navigate to **Tools > Options** as shown below.



From the **Phone settings** tab configure the required values. The screen below shows the values configured during compliance testing. Click on the **Save** button to save the configured values.



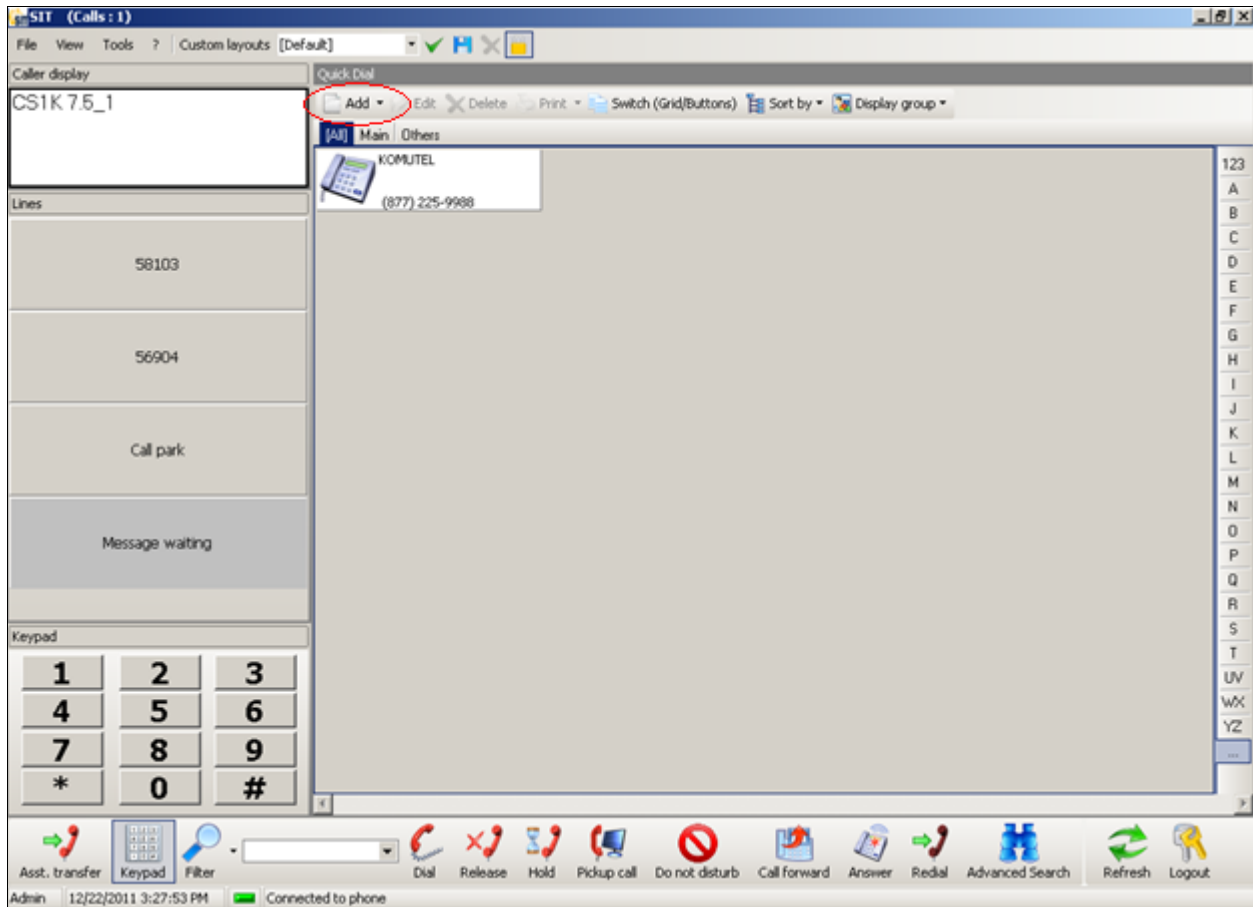
The screen below shows the SIT Console with the **Lines** configured and the status **Connected to phone**. The SIT is now ready to make and receive calls.



6.3. Configure SIT Console to monitor other desktop phones

This section explains the configuration required on the SIT Console to monitor other available extensions on the Communication Server 1000.

To add a button to monitor an extension, click on **Add** as shown below.



The screen below shows the **Firstname** and **Lastname** fields populated in the **Contact** tab.

Contact

← Add button

Contact Phone numbers Other Button 1

Firstname 58020

Lastname 58020

Title

Salutation Mister

Department

Address 1

Address 2

City Default Prov / State New York

Country USA Postal / Zip

Hobby

Email

Website

Service date

Last modification date

No picture

The screen below shows the phone number to be monitored. During compliance testing DN **58020** was used.

Contact

Phone numbers

Location	Phone number	Ext.	Note
Work	58020		
Home 1			
Home 2			
Cellphone			
Carphone			
Pager			
Phone 7			
Phone 8			
Phone 9			
Phone 10			
Phone 11			
Phone 12			
Phone 13			
Phone 14			
Phone 15			

Additional information

Home info. A:

Home info. B:

Assistant info.:

From the **Button 1** tab enter the **Phone id**, **Blf no** and select the **Default phone number**. Note that the Blf number is **32** as configured in **Figure 3** in Section 5.

Contact

Button 1

Display

Assign a display group:

Button order:

Customization: ☐ Color not sele:

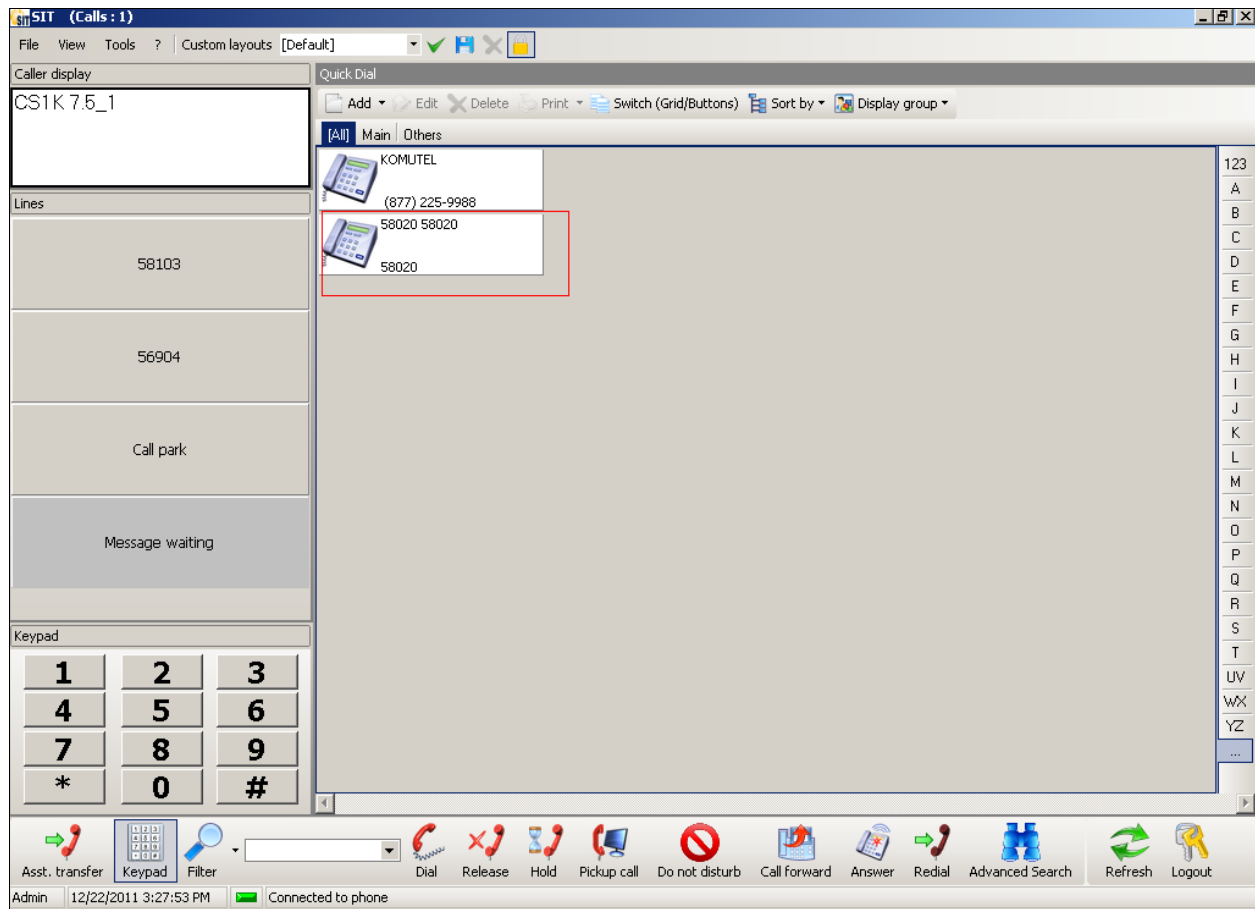
Additional configuration

Phone id:

Blf no:

Default phone number:

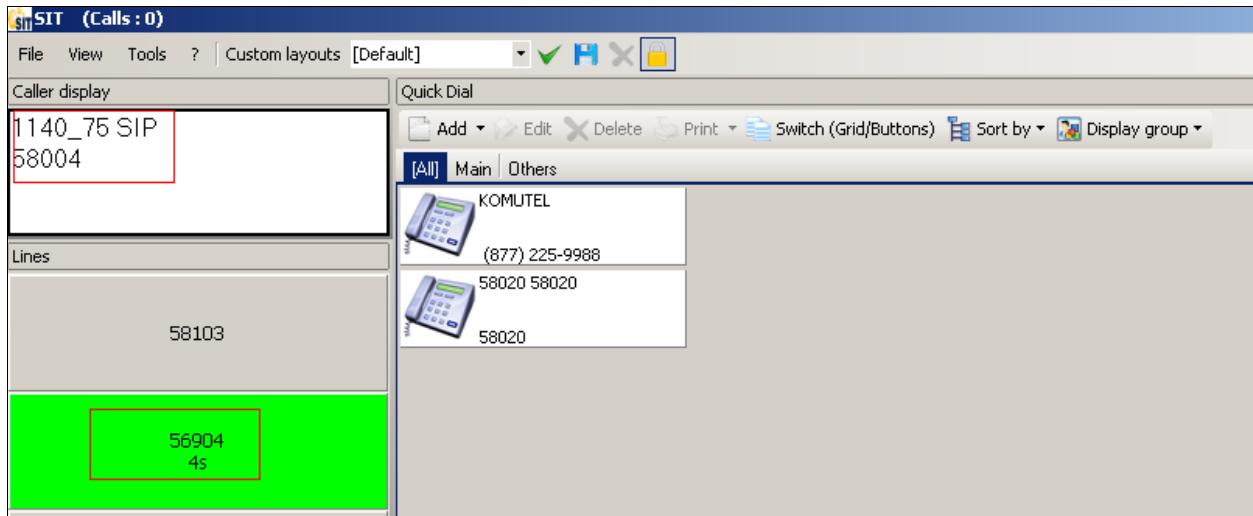
The screen below shows the SIT Console with the extension that is being monitored.



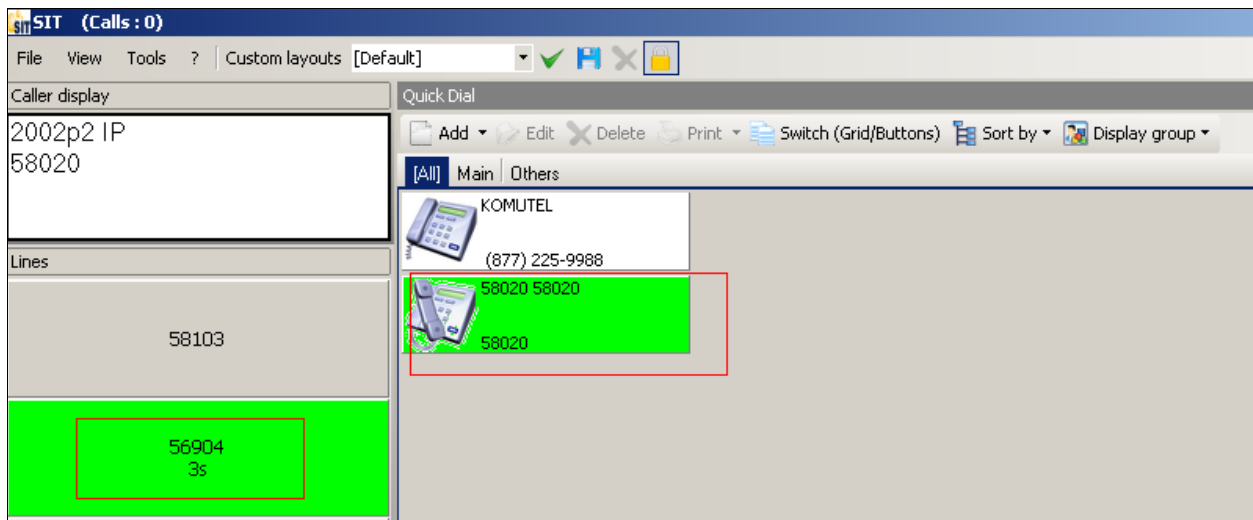
7. Verification Steps

This section provides the tests that can be performed to verify that the SIT Console can register as an IP Softphone and therefore make and receive calls.

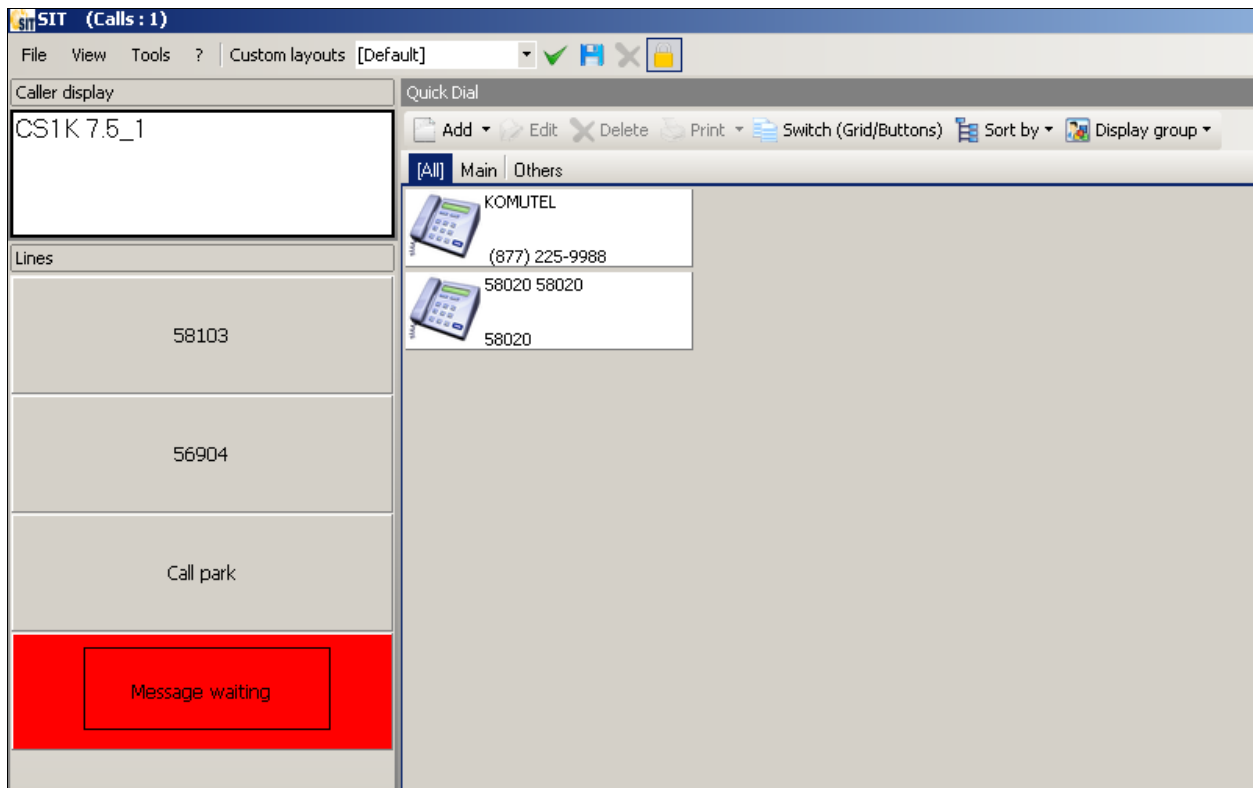
The screen below shows the call being made from the SIT Console Line DN 56904 to another extension 58004.



The screen below shows the status of the extension that is being monitored from the SIT Console. For example status of extension 58020 shows that it is in conversation with extension 56904.



The screen below shows the Message Waiting Line in Red color which means that there is a message waiting to be accessed for the SIT Console.



Other basic telephony functionalities like Transfer, Assisted Transfer, Link (Conference), Hold, Redial, Release, Do not Disturb, Call Forward, Call Park and DTMF were also verified.

8. Conclusion

These Application Notes describe the configuration steps on a SIT Console for it to operate as an IP Softphone on the Communication Server 1000. The SIT Console was able to successfully register as an IP Softphone using UNISTIM protocol and execute the basic telephony features. In addition, the SIT Console was able to monitor the availability and status of other extensions on the Communication Server 1000 using the BFS key feature. All basic test cases passed.

9. References

This section references the product documentation relevant to these Application Notes.

[1] *Avaya Communication Server 1000 Installation, Migrations, Upgrades and Configurations* documents, available at <http://support.avaya.com>.

[2] *Komutel Manager's and User Guide for SIT PC Attendant Console*, documents available by contacting Komutel.

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