AVAYA

Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Amcom IntelliDesk Console Version 7.1 with Avaya Aura ® Contact Center CCT Release 6.3 and Avaya Communication Server 1000 Release 7.6 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Amcom IntelliDesk Console application to successfully interoperate with Avaya Aura® Contact Center Communication Control Toolkit (CCT) Release 6.3 and Avaya Communication Server 1000 Release 7.6. Amcom IntelliDesk is an operator console that simplifies the call handling process for hospital call centers.

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.

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1. Introduction

These Application Notes describe a solution comprised of Avaya Aura® Contact Center Communication Control Toolkit (CCT) Release 6.3, Avaya Communication Server 1000 Release 7.6, and Amcom IntelliDesk Console application (hereafter referred to as IntelliDesk). Amcom IntelliDesk allows a user to operate a physical telephone and view call and telephone display information through a graphical user interface (GUI). Amcom IntelliDesk integrates with the Amcom CTI Layer, which is a middleware between Amcom IntelliDesk and Application Enablement Services, to control and monitor phone states.

The objective of this compliance test was to validate that IntelliDesk successfully interacted with the Contact Center CCT server to control and monitor activities of physical agent phone on the Avaya Communication Server 1000 switch.

2. General Test Approach and Test Results

The general test approach was to verify interoperability feature and serviceability test cases between Amcom IntelliDesk application and Avaya Aura® Contact Center CCT using Avaya CS 1000. All test cases were executed manually.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

The compliance test concentrated on the CCT-based integration of IntelliDesk with Contact Center CCT and CS 1000. The compliance test verified the ability for an operator to:
- Receive and answer ACD calls in queue and regular calls.
- Generate outgoing calls.
- Overdial DTMF on calls.
- Place calls on hold and reconnect.
- Perform blind and supervised transfers to any configured station or PSTN number.
- Perform call conferencing to any configured station or PSTN number.
- Serviceability: restart CCT services and pull out Ethernet cable.

2.2. Test Results

All test cases were executed and passed. There is one note below:
- In the event of losing communication between CCT server and IntelliDesk application such as CCT services restarted, Ethernet cable unplugged...etc the Gen CTI application service on the IntelliDesk server also needs to be restarted to continue controlling the agent phone.

2.3. Support

For technical support on the Amcom IntelliDesk Console product, contact Amcom software support via the website below.

- **Website:** http://www.amcomsoftware.com

3. Reference Configuration

Figure 1 below illustrates the test configuration diagram between Avaya Aura® Contact Center system and Avaya CS 1000 and Amcom IntelliDesk Console server. Avaya CS 1000 switch had the Contact Center attached and agent phones registered to it. The compliance test used Avaya Aura® Messaging for testing DTMF only and it is not a part of the solution. The CS1000 system also had PRI/T1 trunk to PSTN for making and receiving external calls.
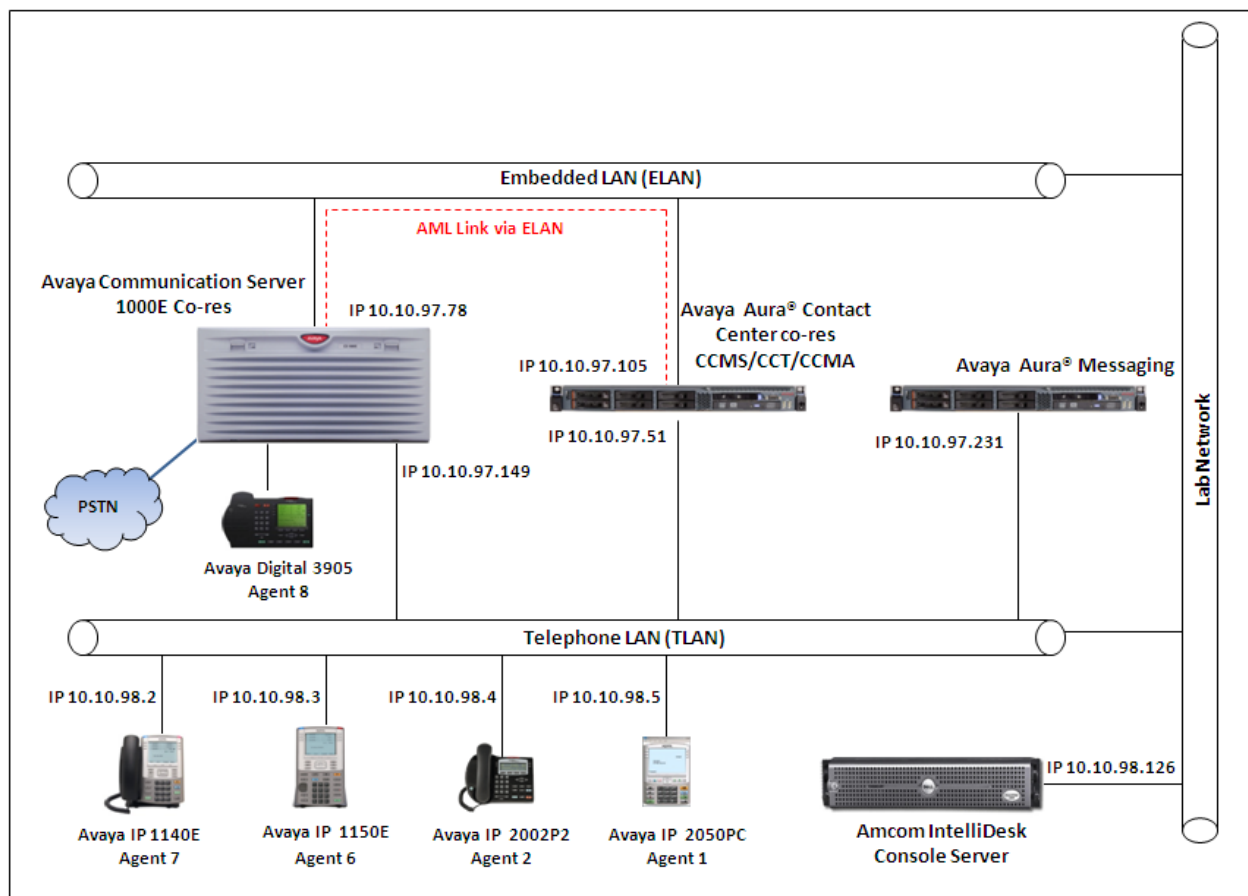
Figure 1: Test Configuration Diagram

4. Equipment and Software Validated

The following equipment and software were used for the compliance test:

Equipment	Software
Avaya S8800 server running Avaya Aura® Contact Center	6.3 SP10
Avaya S8800 server running Avaya Aura® Messaging	6.1 SP2
Avaya Communication Server 1000E/CPPM	Avaya Communication Server Release 7.65 P Deplist 1 (created: 2013-05-28) and Service Update 2
Avaya IP 2050PC	3.4
Avaya IP Unistim Phone 1140E	0x25C8Q
Avaya IP Unistim Phone 1150E	0x27C8Q
Avaya IP Unistim Phone 2002P2	0604DCN
Avaya Digital 3905	-
Amcom Dell Server	Windows 7 64-bit Enterprise SP1
Amcom IntelliDesk Console	7.1.00.17
Amcom IntelliDesk Administration	7.1.005

5. Configure Avaya Communication Server 1000

This document assumes that the Avaya CS 1000 system was properly installed and configured as per the product documents. This section provides the steps on how to provision the CS 1000 to work with Contact Center. For more information about how to install and configure CS 1000, please refer to **Section 10 [1]**.

The following summarizes the tasks that need to be done on CS 1000. This section shows configurations provisioned by using overlay (LD) commands; the same configurations can be also done by using Element Manager.
- Verify Software packages for Contact Center Features.
- Configure ELAN and VAS for Contact Center.
- Configure ACD Queue.
- Configure CDN Number.
- Configure Agent Phone.

5.1. Verify Software Packages for Contact Center Feature

Use overlay LD 22 to print software packages required for Contact Center feature. Make sure the following software packages are equipped in the CS 1000 system.

Prompt	Response	Comment
REQ	PRT	Request print
TYPE	PKG	Type of data: package
BACD	40	Basic Automatic Call Distribution
ACDB	41	Automatic Call Distribution B
ACDC	42	Automatic Call Distribution C
LMAN	43	Automatic Call Distribution Load Management
MUS	44	Music
ACDA	45	Automatic Call Distribution A
ACDD	50	Automatic Call Distribution D
NGCC	311	Symposium Call Center

Use the same overlay LD 22 command to print out allowed numbers of ACD agents, AST and AML.

Prompt	Response	Comment				
REQ SLT		Request software list				
ACD AGENTS		32767	LEFT 32737	USED	30	
AST		32767	LEFT 32717	USED	50	
AML		16	LEFT 10	USED	6	

5.2. Configure ELAN and VAS for Contact Center application

Use overlay LD 17 to create an Application Module over Ethernet (ELAN) for Contact Center application. The below are the prompts that need to be entered, keep pressing Enter key for other prompts to leave it as default.

Prompt	Response	Comment
REQ	CHG	Request change
TYPE	ADAN	Type:
ADAN	NEW ELAN 19	Add a new ELAN 19
CTYP	ELAN	Card type: ELAN
DES	AACC63	Designator

Use overlay LD 17 to create a Value Added Server (VAS) to associate with the ELAN above.
Enter the following information as displayed in the table below.

Prompt	Response	Comment
REQ	CHG	Request change
TYPE	VAS	Type: Value added server
VAS	NEW	Add a new ELAN 19
VSID	19	Card type: ELAN
ELAN	19	ELAN 19 as configured in the step above
SECU	YES	Security the link

5.3. Configure Automatic Call Distribution (ACD) Queue

Use overlay LD 23 to create an ACD queue for Contact Center agent. The important fields are
displayed below, for other fields in the command, keep pressing the "Enter" key on the keyboard
to use default value.

Prompt	Response	Comment
REQ	NEW	Request new
TYPE	ACD	Type: ACD
CUST	0	Customer ID
ACDN	54901	ACD DN
MAXP	50	Maximum of agent for this ACD queue, from 1-120

5.4. Configure Control Directory Number (CDN)

Use overlay LD 23 to create a CDN number for Contact Center. The important fields are
displayed below, for other fields in the command, keep pressing the "Enter" key on the keyboard
to use default value.

Prompt	Response	Comment
REQ	NEW	Request new
TYPE	CDN	Type: CDN
CUST	0	Customer ID
CDN	54900	CDN Directory Number
DFDN	54901	Default DN: assign the ACD DN above to the CDN

5.5. Configure Agent Phone

User overlay LD 11 to create or change the configuration for agent phones. The important fields are displayed below, for other fields in the command keep pressing the "Enter" key on the keyboard to use default values. In the compliance test, 9 agents from agent1 to agent9 created for different phone types were used for testing purpose. This configuration below represents one agent phone type, 1150E.

Prompt	Response	Comment
REQ	NEW	Request new
TYPE	1150	Type: 1150 phone
CUST	0	Customer ID
ZONE	1	Zone for phone it is defined before
AST	00 03	CCT will monitor key 0 and 3
KEY	00 ACD 54901 1005	Key 0 assign to ACD 54901 above
KEY	01 NRD	Key 1 Not Ready
KEY	02 MSB	Key 2 Make Set Busy
Key	03 SCR 54405	KEY 3 secondary DN for agent phone
CPND	NEW	Add a name for agent phone
NAME	Agent6	Enter a name for agent phone

6. Configure Avaya Aura® Contact Center

This section provides steps on how to configure Contact Center to work with Avaya CS 1000 and the Amcom IntelliDesk. This section assumes that Contact Center system is already installed and operated, the section provides steps for configuring the following configurations:
- Verify Contact Center License.
- Configure Contact Center Server Configuration.
- Configure Windows users for CCT Agent.
- Configure CCT Server.
- Configure CDN (Route Point).
- Configure Contact Center Phonesets.
- Configure Contact Center Skillset.
- Configure Contact Center Supervisor.
- Configure Contact Center Agent.
- Configure Scripting.
- Configure CCT Agent.

In the compliance test, the Contact Center system used is a co-resident system which consists of Contact Center Manager Server, Contact Center Manager Administrator, Contact Center Communication Control Toolkit, and Contact Center License Manager.

6.1. Verify Contact Center License

From the Contact Center server in which the License Manager server is installed, navigate to **Start → All Programs → Avaya → Contact Center → License Manger → Configuration**.

The **Contact Center Licensing window** is displayed; make sure **Corporate Open Queue Sessions** and **Corporate CCT Package** are presented in the table as shown below.

6.2. Configure Contact Center Manager Server

From the Contact Center Manager Server machine, navigate to **Start → All Programs → Avaya → Contact Center → Manager Server → Server Configuration**. The **Server Configuration** window is displayed, in the left navigation pane of the **Server Configuration** window, select **Local Settings**. The **Local Settings** window is displayed on the right, enter the following highlighted fields:

- **Site Name**: it should be matched with the computer name in CCMS server, e.g. "**AMLAACC62**".
- **RSM IP address**: enter the Real-Time Statistics Multicast IP address in the box, the IP address **234.5.6.10** is the default one in Contact Center when installed. Check with network administrator to assign a proper multicast IP for your contact center.
- **Avaya Server Subnet**: Enter the contact center subnet IP in the box, e.g. **10.10.97.51**.
- **Elan Subnet**: If Elan is used, select the "**Enter the ELAN Subnet IP address**" checkbox and provide the ELAN IP address of Contact Center in the **IP Address** textbox, e.g. **10.10.97.103**.

Click on **Licensing** tab, the **License** window is displayed on the right. Depending on the CCMS license, select the proper CCMS package in the **CCMS Package** section, e.g. "**Corporate Enterprise**". Select the "**Open Queue**" checkbox in the **Optional Packages** window.

Enter the serial number of the CS 1000 system in the **Serial Number** field. The serial number of CS 1000 system can be found by using overlay 22 with REQ ISSP. The **License Server IP Address** section is kept as default, if License Manager server is installed on the same server with CCMS.

Click on the **Switch CS1000** option, the **Switch CS1000** window is displayed on the right. In the **CS1000 Switch Data** section, enter the name of the CS 1000 call server in the **Switch Name** field, e.g. "**cpppm3**", an IP address in the **Switch IP**, e.g. "**10.10.97.78**", and customer number in the **Switch Customer number**, e.g. "**0**". Leave the **Voice Configuration Services** section as **None** if not used.

Note that the switch name must match the host name of the call server. The switch name of CS 1000 system can be found out by using overlay 117 PRT HOST.

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Click on **CCT Sever** option, and leave it as default since the CCT server is installed on the same server with CCMS.

Click **Apply All** button to apply configuration to **Contact Center Server Configuration** and click **Exit** to close the window. The Contact Center CCMS needs a reboot for the changes to take effect.
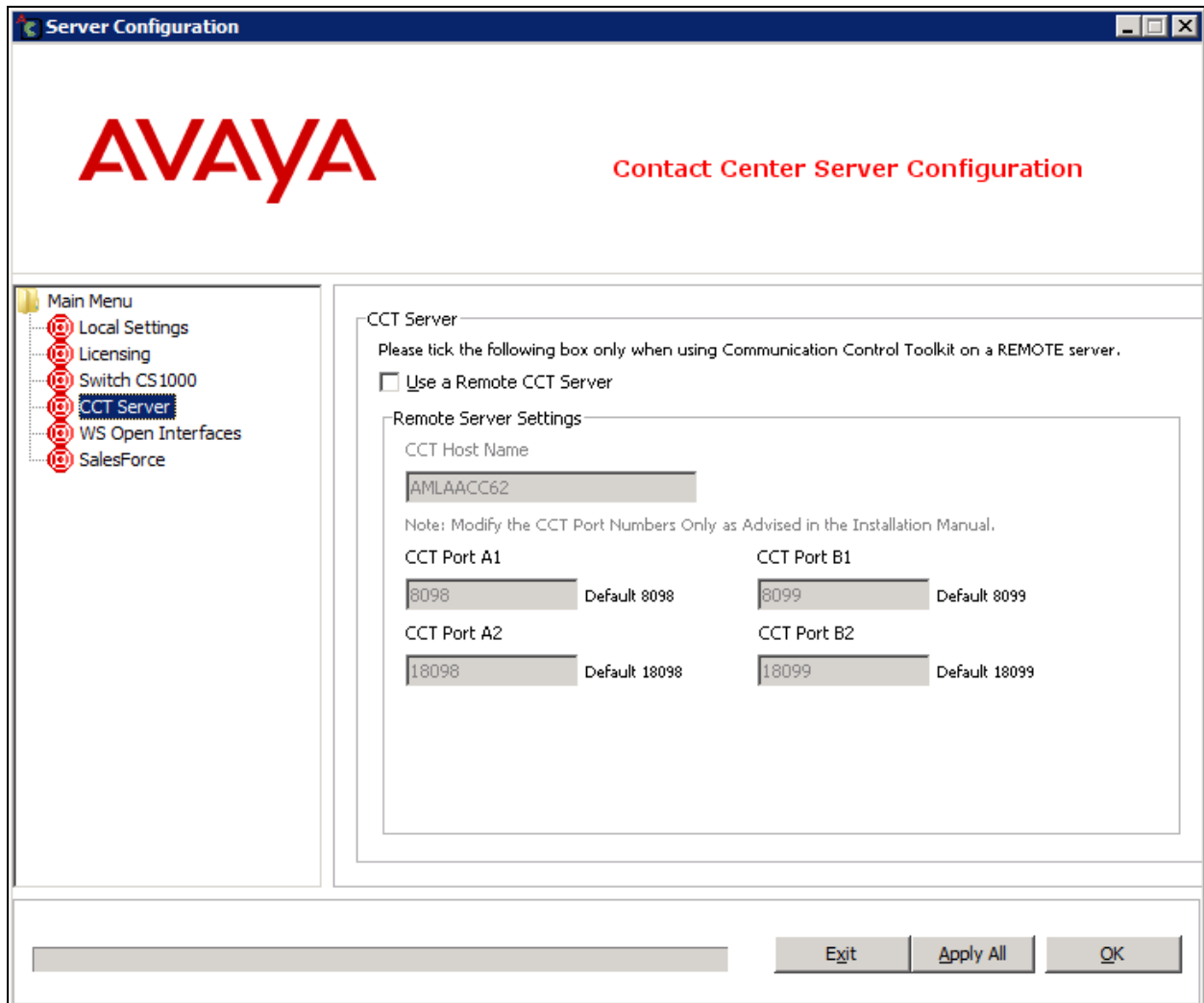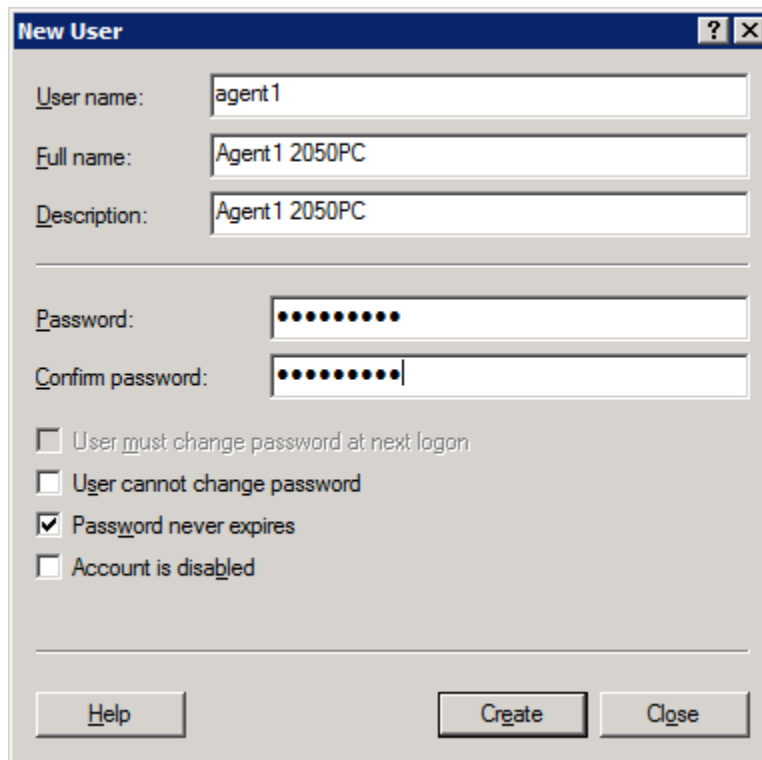
6.3. Configure Windows Users for CCT Agent

In the compliance test, the Contact Center CCT server is not joined to a Windows domain; therefore, the Windows User used for CCT user login will be created in the local CCT server. In case the CCT server joins a domain, the Windows User needs to be created in the domain controller.

From the Contact Center CCT server, navigate to menu **Start → Administrative Tools → Computer Management**. The **Computer Management** window is displayed. Right click on

Users (not shown) folder under **Local Users and Groups** and then select **New**. The **New User** window is displayed, enter information for user as shown below. Click **Create** button to complete.

The screen below shows the **Computer Management** window with 9 Windows users created from **agent1** to **agent9**.
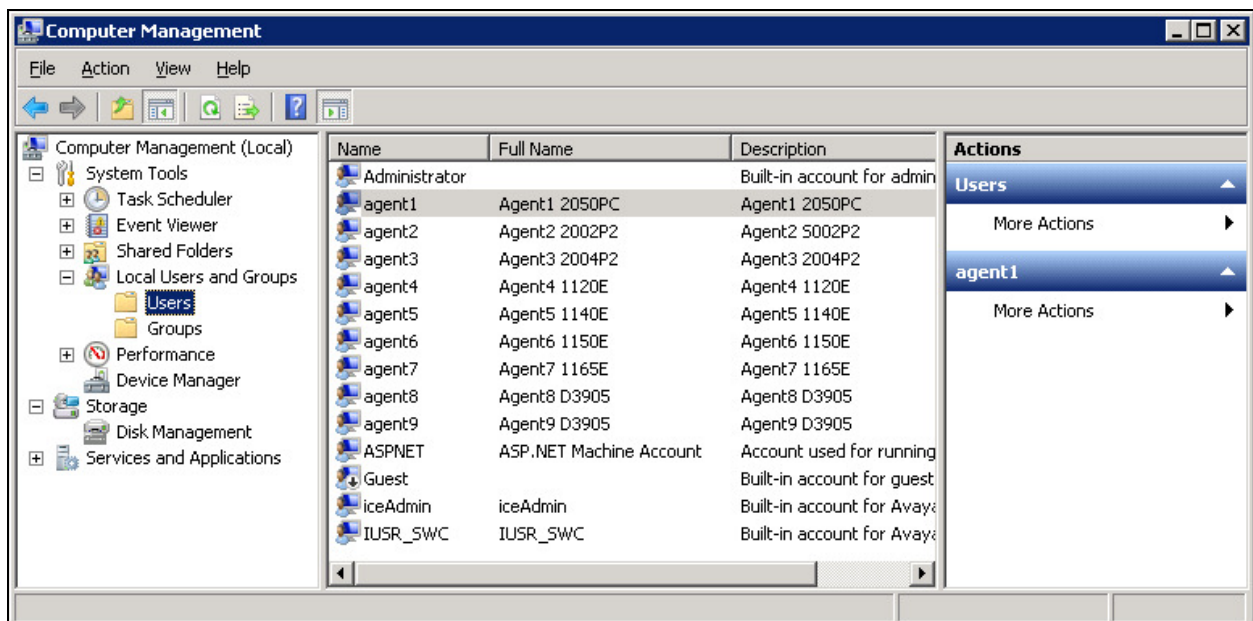
6.4. Configure CCT Server

The CCT server needs to be added into Contact Center, this can be accomplished by using the Contact Center Management Administrator (CCMA) webpage. Log into the CCMA webpage (not shown) and navigate to **Launch Pad → Configuration → Server → Add Server**.

The **Server Properties** window is displayed on the right, enter server name "**AMLAACC62**" in the **Server Name** field, its IP address is automatically filled out in the **IP Address** field because this is a co-resident Contact Center system, enter a display name e.g. "**AMLAACC62_CCT**" for CCT in the **Display Name** field, check on radio option **Associated CCMS Servers**, and keep other fields as default. Click **Submit** button to complete.

The screen below shows the CCT server already added to the Contact Center system.

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Click on **Launch CCT Console** button in the screen above to open CCT Administration webpage. The **CCT Administration** page is displayed as shown below.

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Click on **Passive** item in the left navigation pane. The **Update CCT Provider** is displayed on the right. In the **Basic Provider Name** section, enter the IP address of the CCT server **10.10.97.51** in the **IP Address** field, and keep other fields in this section as default. In the **Provider Configuration** section, select the latest release of CS 1000 in the **CS1000 Software Release** dropdown list, which is **Release 7.0,** and keep other fields in this section as default. Click **Save** button at the bottom to save changes.

6.5. Configure Contact Center CDN (Route Points)

Log into CCMA webpage and navigate to **Launch Pad → Configuration**. The **Configuration** page is displayed, expand the Contact Center CCMS "**AMLAACC62**" in the left navigation pane, and select **CDN (Route Points)**. The **CDN (Route Points)** page is displayed on the right. Enter CDN name in the **Name** field, e.g. "**CDN54800**", CDN number in the **Number** field e.g. "**54800**", and select the **Acquired?** checkbox, and click on next row to update the changes. The screen below shows two CDN numbers **54800** and **54900** are already acquired.

6.6. Configure Contact Center Phonesets

In the **Configuration** page, click **Phonesets and Voice Ports**. The **Phonesets/Voiceports** page is displayed on the right. Enter phoneset name in the **Name** field, e.g. "Agent1150E", Terminal number of phoneset as configured in Section 5.5 in the **Address** field e.g. "**96-0-2-5**", and select the **Acquired?** checkbox, and click on next row to update the changes. The screen below shows some phonesets that were already acquired.

6.7. Configure Contact Center Skillset

In the **Configuration** page, click on **Skillsets** folder. The **Skillsets** page is displayed on the right. In the **Contact Type** column, select "**Voice**" and type skillset name e.g. "**Voice_SK1**" in the **Skillset Name** column and click on next row to update the changes.

6.8. Configure Contact Center Supervisor

Log into CCMA webpage and navigate to **Launch Pad → Contact Center Management**. The **Contact Center Management** page is displayed, navigate to **menu Add → Supervisor**.

The **Supervisor** window is displayed on the right. In the **User Details** section, enter descriptive names in the **First Name** and **Last Name** fields, select **Supervisor** in **User Type** and enter a login ID in the **Login ID** field. In the **Supervisor Information** section, enter a telephone number in the **Telephony/Port** field (screen not shown). The screen below shows an example of Supervisor information.

6.9. Configure Contact Center Agent

Log into CCMA webpage and navigate to **Launch Pad → Contact Center Management**. The **Contact Center Management** page is displayed. In the left navigation pane, expand the Contact Center server "**AMLAACC62**", right-click on the supervisor "**Avaya DevConnect**" as created in **Section 6.8** and select **Add Agent** in the menu.

The **New Agent Details** window is displayed. In the **User Details** section, enter first and last name for the agent in the **First Name** and **Last Name** fields, select **Agent** in the **User Type** field, enter a login ID e.g. **54405** in the **Login ID** field, the Personal DN and ACD Queue fields are optional, and select the **Create CCT Agent** checkbox.

After the **Create CCT Agent** field is checked, the **Associate User Account** field will be displayed. Expand the **Associate User Account**, select the **Search local operating system** radio button, and click on **List All** button. The list of windows users created in **Section 6.3** is displayed, select the **agent6** user.

In the **Agent Information** section, select the supervisor "**Avaya DevConnect**" as configured in **Section 6.8** and keep other fields at default. In the **Contact Types** section, select the **Voice** checkbox.

In the **Skillsets** section, click on the **Assign Skillsets** field, and click on the **List All** button. The list of Skillset Name is displayed below, select priority "**1**" in the **Priority** column for the **Voice_SK1** skillset as configured in **Section 6.7**.

Leave the **Partitions** section as default and click on the Submit button to save and create new contact center agent.

6.10. Configure Contact Center Scripting

Log into CCMA webpage and navigate to **Launch Pad → Scripting**. The Configuration page is displayed. Expand the Contact Center **AMLAACC62** in the left navigation pane, and select **Scripting**. Navigate to **Orchestration Designer → Launch Orchestration**.
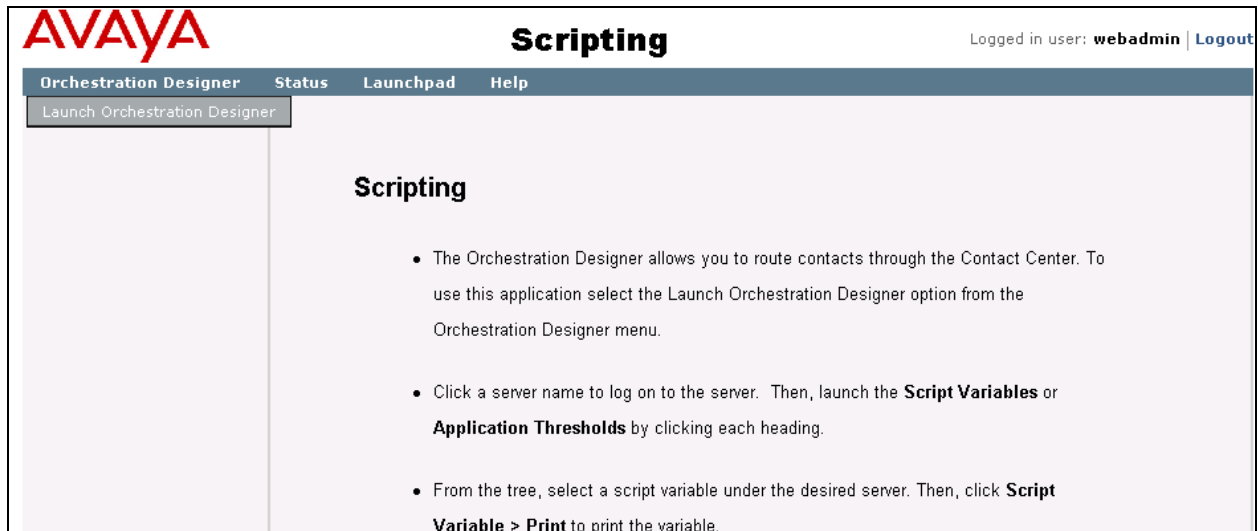
A popup is displayed (not shown) to ask for installing the **Orchestration Designer** application if this is first time it is run. After the Orchestration Designer is installed, navigate again to **Orchestration Designer → Launch Orchestration Designer**. The **Avaya Aura Orchestration Designer** window is displayed. Create a sample script as shown below. This script is configured to connect to Master script. Note that the music route 15 and 16 in the sample script needs to be configured in the **Script Variables** under **Route_Number** before it can be used in the script.
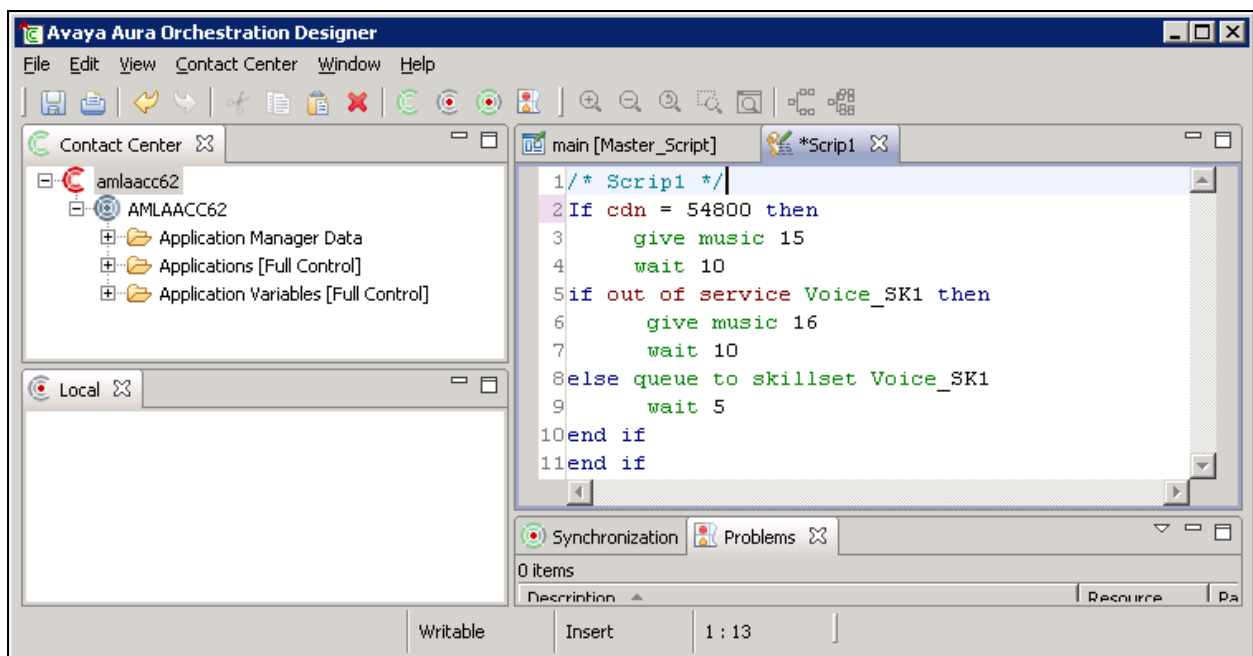
6.11. Configure CCT Agent

The terminal number (TN) of physical agent phone needs to be imported or manually added to the CCT database. This section shows the steps on how to import CS 1000 data into the CCT database. Use overlay LD 20 in the call server to print all terminal numbers of CS 1000 call server and copy it to a text file e.g. "**LD20.txt**".

| Prompt	Response	Comment
`REQ`	`PRT`	`Request print`
`TYPE`	`TN`	`Type: Terminal number`
`TN`		`Keep pressing Enter key on the keyboard`

In case of just wanted to print out a specific virtual card in which the agent phones locate, issue the same command but specify the specific virtual terminal number card.

| Prompt	Response	Comment
`REQ`	`PRT`	`Request print`
`TYPE`	`TN`	`Type: Terminal number`
`TN`	`96 0 2`	`All 32 TNs of this card printed`

In the CCT server, navigate to menu **Start → All Program → Avaya → Contact Center → Communication Control Toolkit → CCT Console**. The CCT Console window is displayed. In the left navigation, expand **Communication Control Toolkit → Bulk Provisioning Tools → Import CS 1000 Data**. The **Import CS 1000 Data** window is displayed in the middle. Click on **Input File**, browse to the CS 1000 data file "**LD20.txt**" above, select the "**Automatically import data after conversion**" checkbox, and click on **Convert/Import** in the **Actions** window.
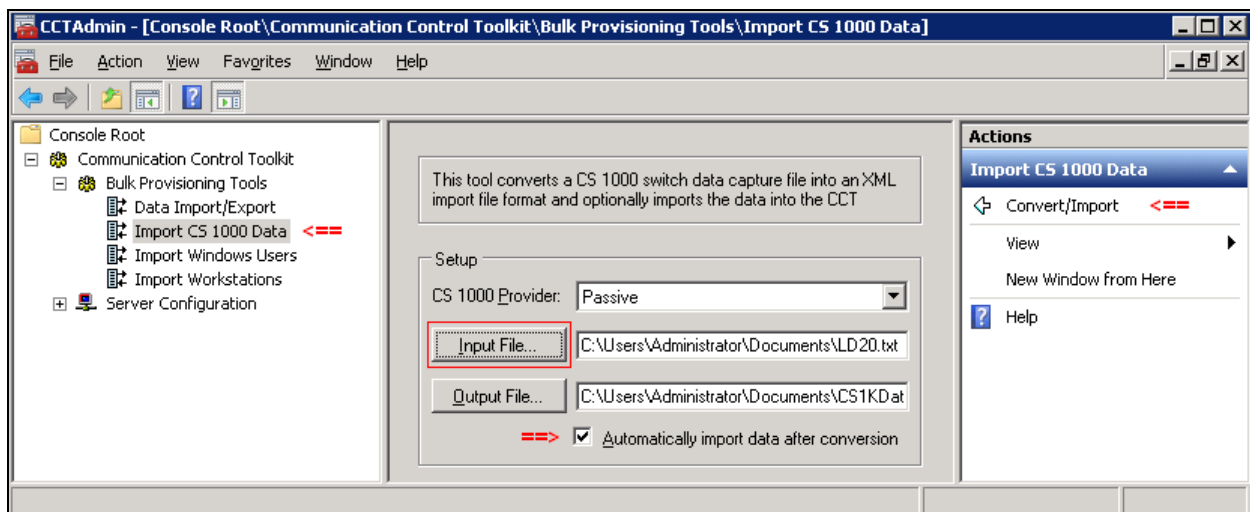
The screen below shows the **CCT Console** after the "**LD20.txt**" was successfully imported to CCT database. It shows that import completed and 24 TNs and 47 DNs imported. Note that only Terminal Number (TN) with **AST** field set with **00 03** imported.
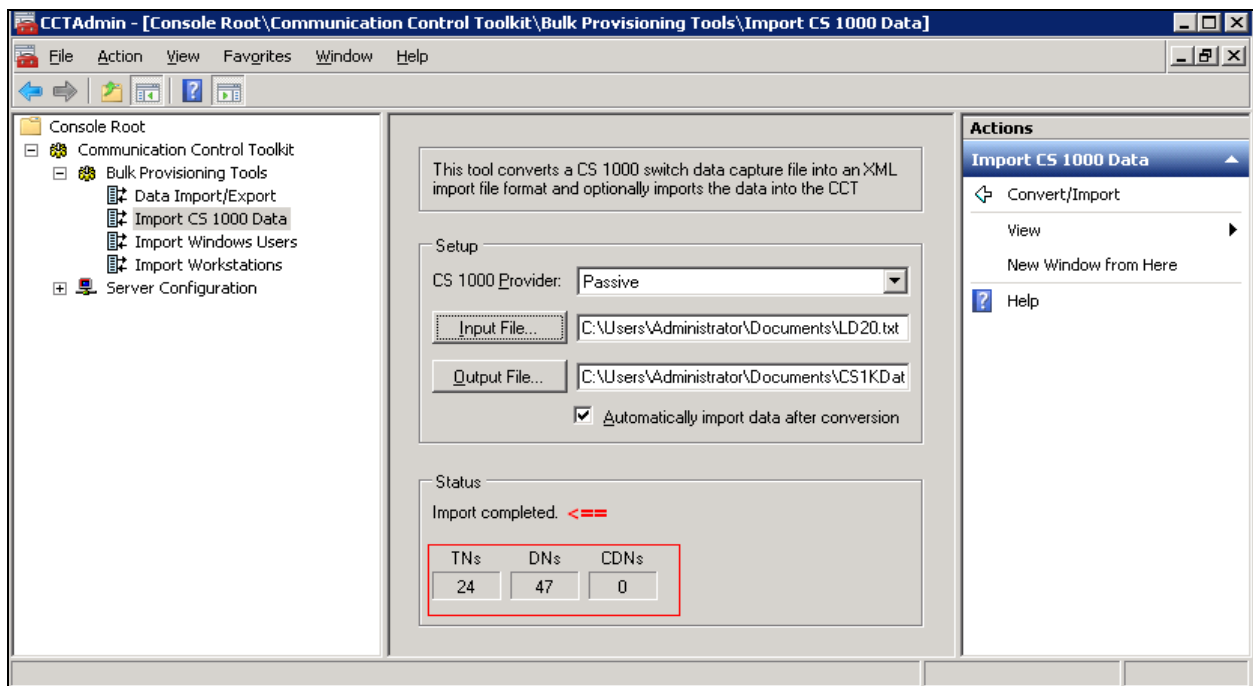
Launch **CCT Administrator** webpage. In the left navigation pane, select **Users** tab. The **CCT Users** page is displayed on the right. Select the user name that needs to be configured, e.g. **agent6**.
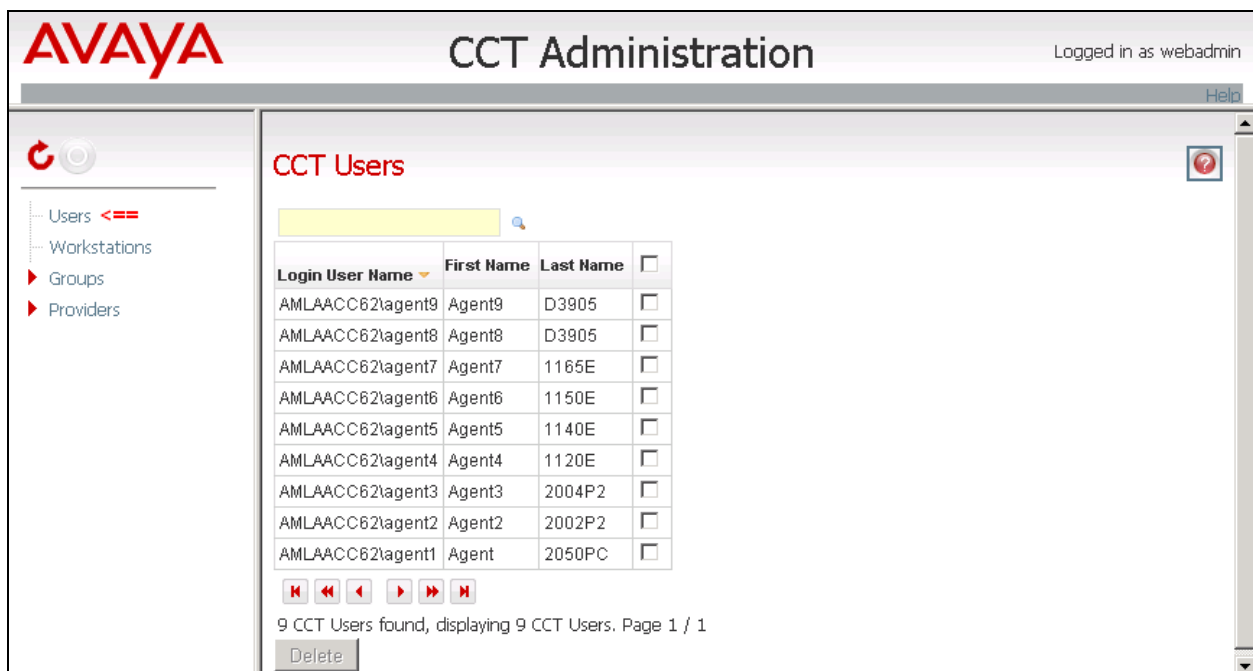
The **Update CCT User** for the **agent6** user is displayed. In the **Terminal Assignments** section, select and add terminal number **Line 96.0.2.5** which is terminal number of the **agent6** from **Available Resources** to **Assigned Resources** and click on the **Save** button at the bottom of the page to save changes.

7. Configure Amcom IntelliDesk Console

This document assumes that the Amcom CTI Layer and IntelliDesk application were properly installed and configured by the Amcom engineer. This section only provides the steps on how to configure the Amcom CTI Layer and the IntelliDesk console, working with Contact Center CCT.

Edit the **gencct62.ini** file from the folder C:\Program Files\Amcom\GenCCT62 in the server which the Amcom CTI Layer and IntelliDesk application are installed. Open this file by notepad application and scroll to CCT section. Enter the CCT IP address 10.10.97.51 in the Server field, the username "agent6" and its password as configured in **Section 6.3** in the User and Password fields and Terminal number line of the agent in the Terminal field as shown in the screen below.
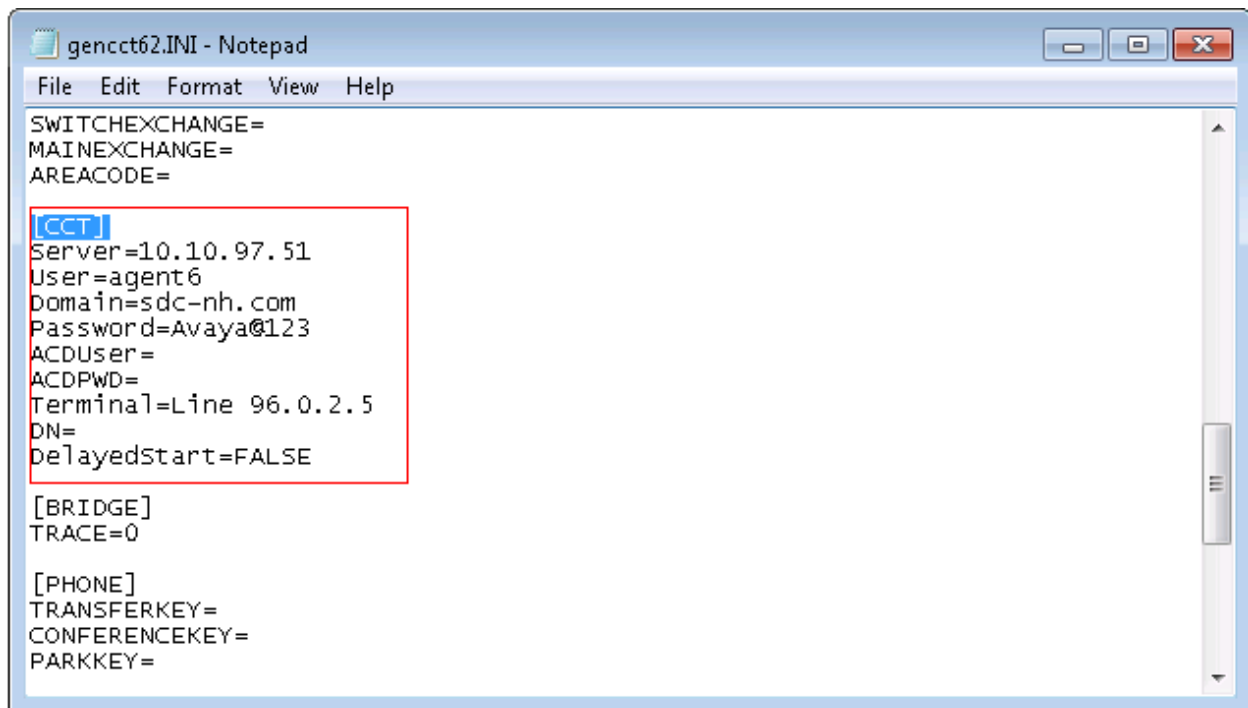
Open the Gen2CTI Service Utility from menu **Start→All Programs→Amcom Software** and Edit the Line Appearances entering the correct information for that console. Note: Leave the line and button numbers as is.

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Launch the IntelliDesk Console application from menu **Start → All Programs → IntelliDesk 7 → IntelliDesk Console**. The IntelliDesk Console login window is displayed, enter correct credentials in the Operator Username and Password boxes to log in.

The screen below shows the IntelliDesk Console window after logged in. There are two line appearances ACD and OUT that are in IDLE state.

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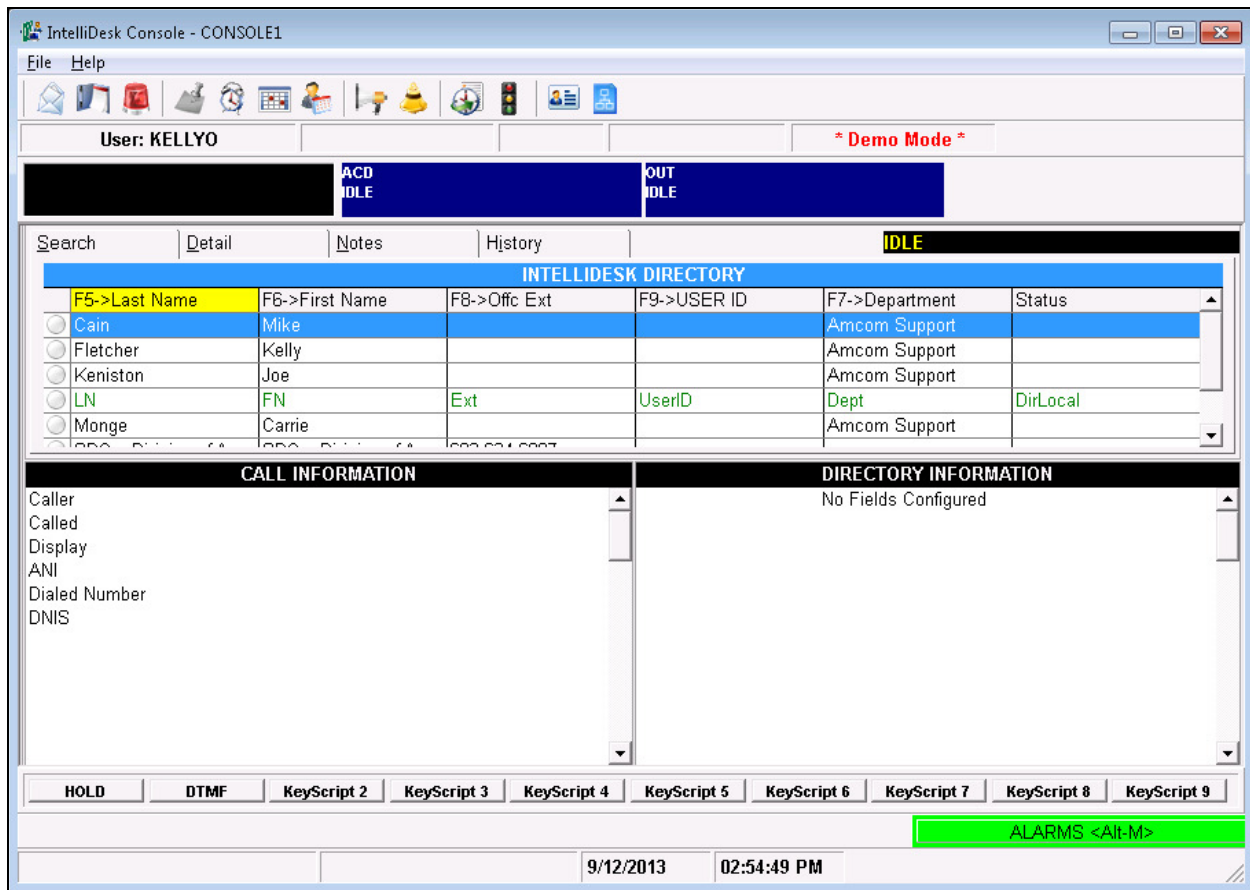
8. Verification Steps

The following are typical steps to verify that Amcom IntelliDesk works with Contact Center CCT in controlling the physical agent phone.

1. Log in the agent phone and place the agent in the queue.
2. Place a call to contact center CDN number. The call is then queued to the skillset Voice_SK1 and come to available agent6.
3. When the ACD call comes to the agent phone, the line appearance ACD on the IntelliDesk application is also alerted and changes the state from IDLE to RINGING.
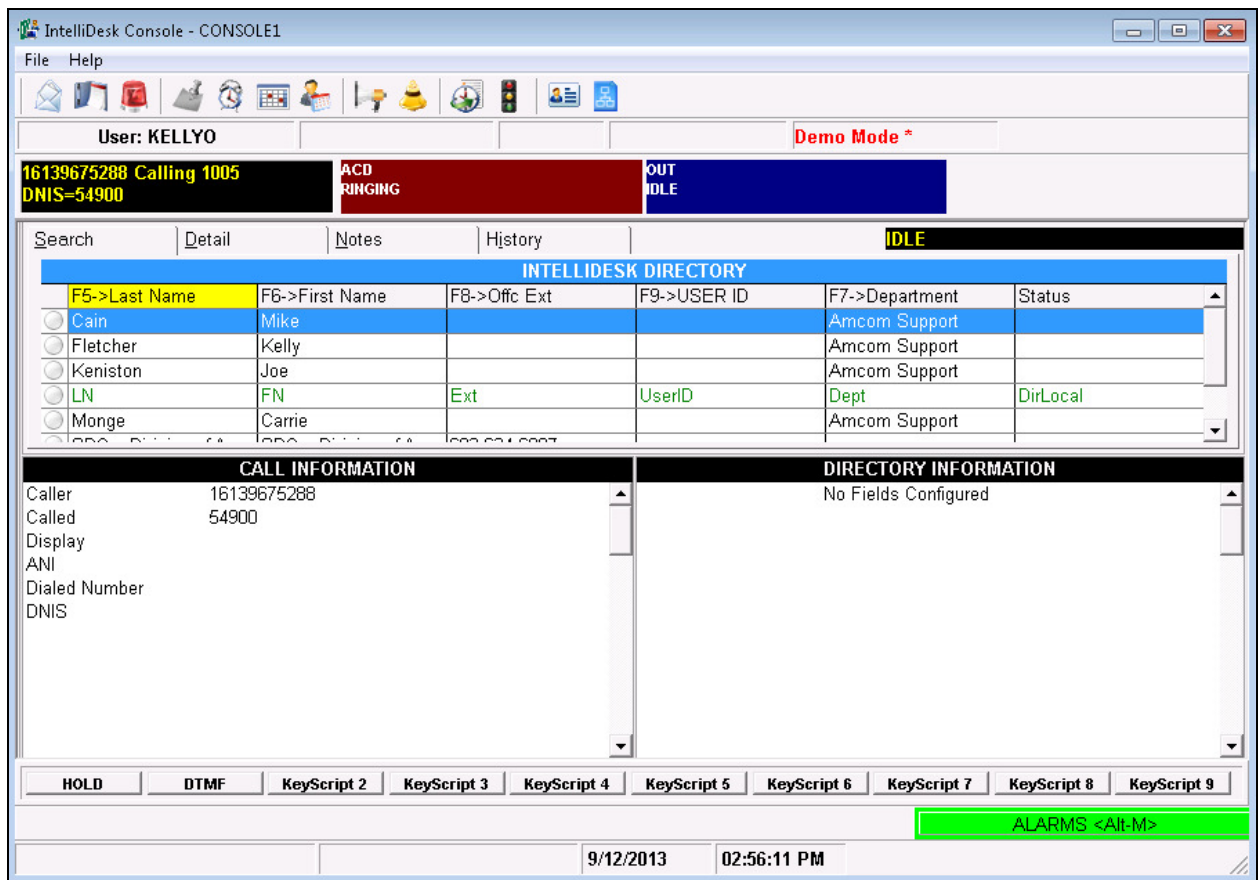
4. Click on the ACD line appearance or LINE 1 on the keyboard to answer the call. The status is now changed to IN USE.
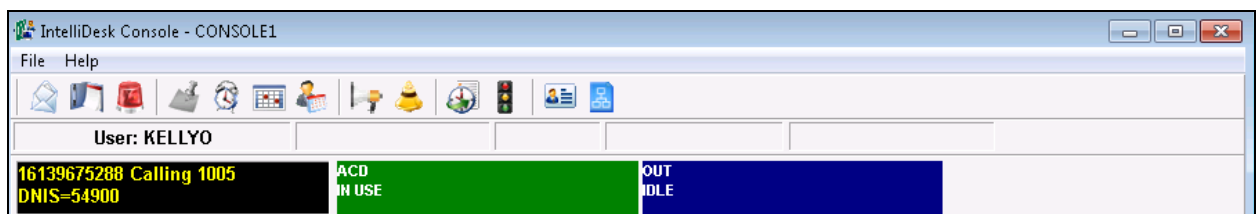
5. Hang up the call from the IntelliDesk application by pressing Release button in the keyboard. The status of ACD line appearance is changed to IDLE. Repeat the same procedure above for the secondary DN of the agent phone and verify it should be the same.

All steps above were executed on IntelliDesk application, to make sure the IntelliDesk application fully and properly controls physical agent phone, check on the agent phone reacts for each step that was done by the IntelliDesk.

9. Conclusion

The compliance test between Amcom IntelliDesk application and Avaya Aura® Contact Center CCT was successfully completed. All test cases were executed and passed with observations noted in **Section** Error! Reference source not found..

10. Additional References

Product documentation for Avaya Aura® Contact Center and Avaya Communication Server 1000 may be found at https://support.avaya.com

Product documentation for Amcom intelliDesk Console application may be found at http://www.amcomsoftware.com

[1] Avaya Communication Server 1000 Documents:
    Avaya Communication Server 1000E Installation and Commissioning
    Avaya CS 1000 Co-resident Call Server and Signaling Server Fundamentals
    Avaya CS 1000 Element Manager System Reference - Administration

[2] Avaya Aura® Contact Center 6.3 documents:
    Avaya Aura® Contact Center Planning and Engineering
    Avaya Aura® Contact Center Installation
    Avaya Aura® Contact Center Server Administration
    Avaya Aura® Contact Center Overview
    Avaya Aura® Contact Center Fundamentals
    Avaya Aura® Contact Center Manager Administration – Client Administration