

Avaya Solution and Interoperability Test Lab

Application Notes for interoperability between E-MetroTel Agent Dashboard Version 1.0.2 and Avaya AuraTM Contact Center Release 6.0 – Issue 1.0

Abstract

These Application Notes describe a solution comprised of Avaya Aura Contact Center Release 6.0 and E-MetroTel Agent Dashboard Version 1.0.2.17. During the compliance testing, the E-MetroTel Agent Dashboard was able to successfully connect to Communications Control Toolkit server, send commands to control the phone, as well as listen to what the phone is doing to react on events. The Agent Dashboard is designed to be used by CCMS agents who monitor and answer the phone set.

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

The Computer Telephony Integration (CTI) Dashboard is a Desktop phone control application that allows users to do basic and advanced phone controls from the computer. The application can send commands to control the phone as well as listen to what the phone is doing to react on events.

The objective of this compliance test is to validate that E-MetroTel CTI Agent Dashboard version 1.0.2.17 can successfully monitor and control phone agent of Avaya Aura Contact Center release 6.0 (AACC).

2. General Test Approach and Test Results

The general test approach was primarily to verify that the E-MetroTel CTI Agent Dashboard v1.0.2.17 application works with Avaya Aura Contact Center 6.0 to control agent Phone of Avaya CS1000 from computer.

2.1. Interoperability Compliance Testing

The focus of this testing was to verify that Agent Dashboard which is a Desktop CTI application that allows users to do basic and advanced phone controls from the computer. The following features were verified:

Basic controls include.

- Answer and hang-up a phone call.
- Place a call on hold or retrieve a call from hold.
- Transfer or conference a call.
- Log the phone into the CCMS server using the supplied/configured CCMS login ID for the agent running the application.
- Placing the agent in and out of Ready status.

Advanced controls include.

- Entering a Not Ready Reason code
- Entering Activity Codes.
- Retrieving call data and presenting that call data to the agent.

2.2. Test Results

The objectives outlined in the **Section 2.1** were verified and met. All test cases were executed and they all passed.

2.3. Support

Technical support for the E-MetroTel Agent Dashboard application can be obtained by contacting E-MetroTel via email at info@emetrotel.com or by calling **1-877-250-6609**.

3. Reference Configuration

Figure 1 illustrates the network diagram configuration used during the compliance testing between the AACC and the E-MetroTel Agent Dashboard.

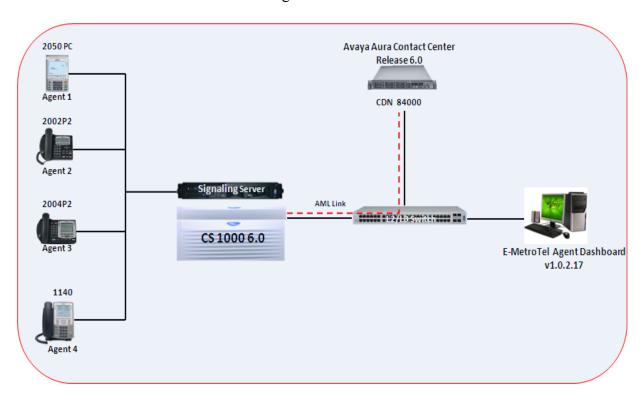


Figure 1: Network Configuration Diagram

4. Equipment and Software Validated

The following equipment and software were used during the lab testing:

System	Software Version
Avaya CS1000E	Call Server (CPPM): 6.00RJ
	Signaling Server (CPPM): 6.00.18
Avaya IP Soft Phone 2050	3.04.0003
Avaya IP Phone 1140	0625C6O
Avaya IP Phone 2004P2	0692D93
Avaya IP Phone 2002P2	0604DC5
Avaya Aura Contact Center	6.208 SP2
E-MetroTel Agent Dashboard	1.0.2.17, running on Windows PC with Vista SP1

5. Configure Avaya CS 1000

This document assumes that the Avaya CS1000 was properly installed and configured as per the product documentation. This section provides additional steps for creating agent, supervisor, ACD, and CDN number. For more information about how to install, configure, and administer Avaya CS1000, please refer to **Section 10[1]**.

To create a supervisor phone on CS1000, log in to the command line interface and issue overlay **(LD) 20**. The highlighted values need to be entered in creating supervisor phone as shown in **Figure 2**.

```
- - X
DANI NO
AST 00 03 To CTI application controls key 00 and 03
IAPG 3
AACS YES
ACQ AS: TN, AST-DN, AST-POSID
ASID 17
                               10
         3 4 5 6 7 8
                            9
                                  11
                                      12 13
                                              15
                                                 16
                                                         18
                                                                 22
                                                                     24
                                                                        25
                                                                            26
     29
        31 33 34 35 36
                            37
 28
                                38
        2 15
SFRB
     1
                5
                         9
                                   12
USFB
     1
          3
                   6
                            10
                                11
                                       13 14 15
             4
             4 5
CALB
                   6 8 9 10
                                   12
                               11
FCTB
ITNA NO
DGRP
PRI
    01
MLWU LANG 0
MLNG ENG
DNDR 0
    00 ACD 44000 0 10004
KEY
    spv
    01 NRD
    02 MSB
    03 SCR 55884 0
                      MARP
       CPND
         CPND LANG ROMAN
           NAME AACC SUPER 2
           XPLN 13
           DISPLAY FMT FIRST, LAST
    04 ACNT
    05 AMG
    06
```

Figure 2: Sample output of supervisor

To create an agent phone on CS1000, log in to the command line interface and issue overlay **(LD) 20**. The highlighted values need to be entered in creating an agent as shown in **Figure 3**.

```
PuTTY - .... - PuTTY
                                                                              - - X
DANI NO
SPID 10004
AST 00 03
               To CTI application controls key 00 and 03
IAPG 3
AACS YES
ACQ AS: TN,AST-DN,AST-POSID
ASID 17
SFNB
            3
                                 10
                                     11
                                          12 13 15 16 17 18 19 22
                                                                           24
                                                                               25 26
            15
SFRB
                                              14 15
USFB
                  5
                              10
                                  11
                                       12
                                           13
            3
                  5
CALB
                     6
                        8
                           9
                              10
                                  11
                                       12
               4
FCTB
ITNA NO
DGRP
    01
PRI
MLWU LANG 0
MLNG ENG
DNDR 0
    00 ACD 44000 0 10001
KEY
     AGN 4
     01 NRD
     02 MSB
     03 SCR 55881 0
                        MARP -
        CPND
          CPND LANG ROMAN
            NAME AACC Agent1
            XPLN 13
            DISPLAY FMT FIRST, LAST
     04 ACNT
     05 EMR
     06
```

Figure 3: Sample output of agent

To create the Auxiliary Data System block (ADS) on CS1000, log in to the command line interface (CLI) and issue overlay (LD) 23. The highlighted values need to be inputted as shown in **Figure 4**.

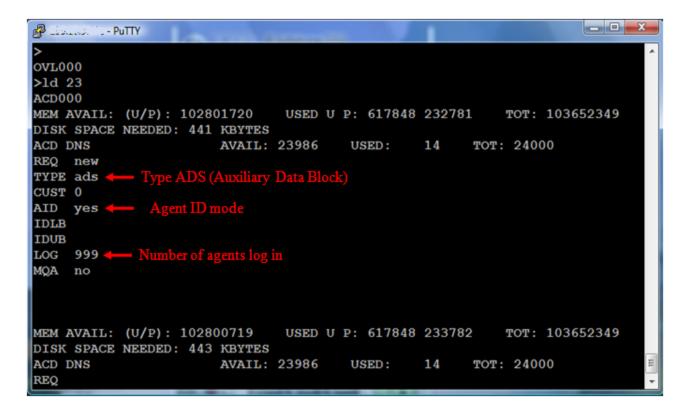


Figure 4: Sample output of ADS

To create an Automatic Call Distribution (ACD) number on CS1000, log in to the command line interface (CLI) and issue overlay **(LD) 23**.

The highlighted values need to be inputted as shown in **Figures 5** and **6**.

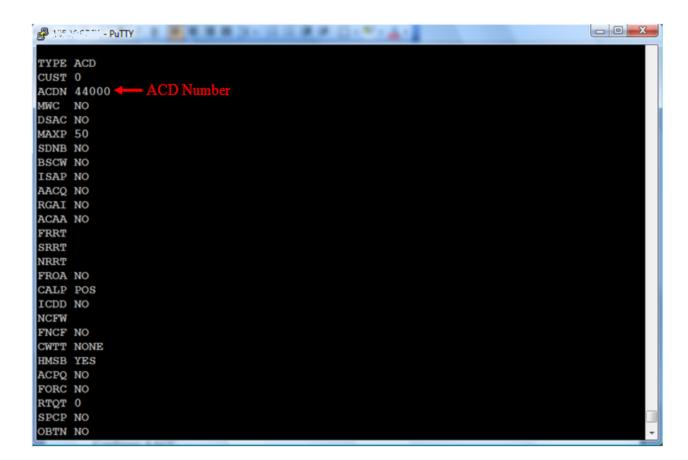


Figure 5: Sample output of ACD DN



Figure 6: Sample output of ACD DN (cont)

To create a Control Directory Number (CDN) number on CS1000, log in to the command line interface of CS1000 and issue overlay (**LD**) 23. The highlighted values need to be entered in creating an agent as shown in **Figure 7**.

```
- 0 X
💤 1.35.∆0.8. ... - PuTTY
TYPE cdn
CUST 0
CDN
    84000
TYPE CDN
CUST 0
FRRT
SRRT
FROA NO
UUI NO
MURT
CDSO NO

    Local Default ACD D1

DFDN 44000 🔷
NAME NO
CMB NO
CEIL 2047
OVFL NO
TDNS NO
RPRT YES
AACQ YES
ASID 17
SFNB 4
       5
           6
             10 12 22 24 25
                                  33
                                      35
                                                   38
                                          36
USFB 1
          4 5 6 7 9 10 11 12 13 14 15
          2 3 4 5 6 8 9 10 11 12
CALB 0
CNTL YES
VSID
HSID
CWTH 1
BYTH 0
OVTH 2047
```

Figure 7: Sample output of CDN DN

6. Configure Avaya Aura Contact Center

This document assumes that the AACC system was properly installed, configured and operated as per the product documentation, for more information about how to install and configure AACC please refer to **Section 10[2]**. This section provides additional steps for configuring new agent, supervisor, CDN, and Activity codes for testing with Agent Dashboard.

6.1. Configure Contact Center Manager Administrator (CCMA) Server

The Contact Center Manager Administration (CCMA) server is the location of the configuration of the main controls for AACC. Use the CCMA application to configure servers, agents, supervisors, skillsets, route points, and many other tools for routing contacts to agents.

To launch the CCMA webpage, open the Microsoft Internet Explorer browser application and type the IP address or name of CCMA into the address bar. In the login page of CCMA display, enter username **webadmin** and its password and then click on the **Login** button to log in as shown in **Figures 8** and **9**.

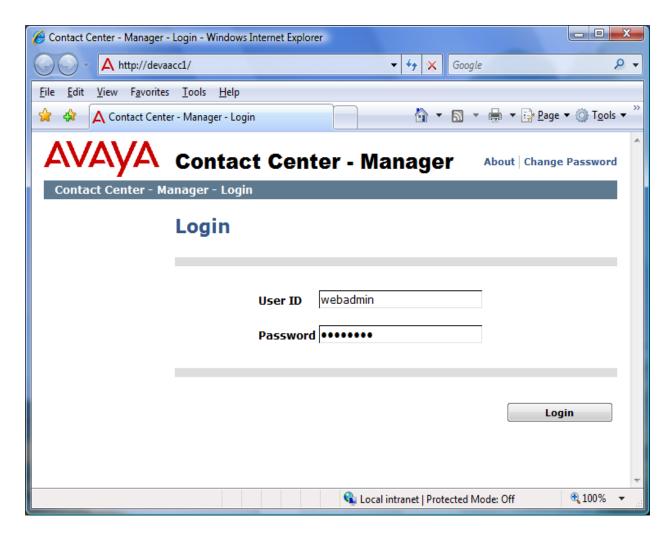


Figure 8: Login page of Contact Center Manager



Figure 9: Homepage of Contact Center Manager

To configure a CDN number of CS1000 in the CCMA webpage, from the homepage of CCMA, navigate to Launch > Configuration. The Configuration page displays, on left side of Configuration window, expand the tree menu of the Contact Center Manager (CCM) server and click on the CDNs (Route Points) folder, the CDNs (Route Points) section now appears in the right side of Configuration page, enter a name and the CDN number that was created in Section 4 and then check on the checkbox of Acquired? column as shown in Figure 10.

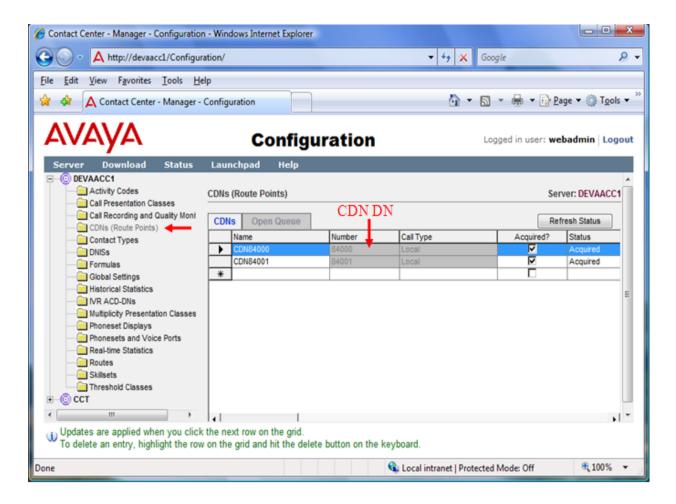


Figure 10: Sample of configuring a CDN number

To configure an agent and supervisor number of CS1000 in the CCMA webpage, from the homepage of CCMA, navigate to Launch > Configuration. The Configuration page now appears, on left side of Configuration window, expand the tree menu of the CCM server and click on the Phone Sets and Voice Ports folder, the Phone Sets and Voice Ports section appears in the right side of Configuration page, enter the name and the TN addresses of the agent and supervisor that were created in Section 4 and then check on the checkbox of Acquired? column as shown in Figure 11.

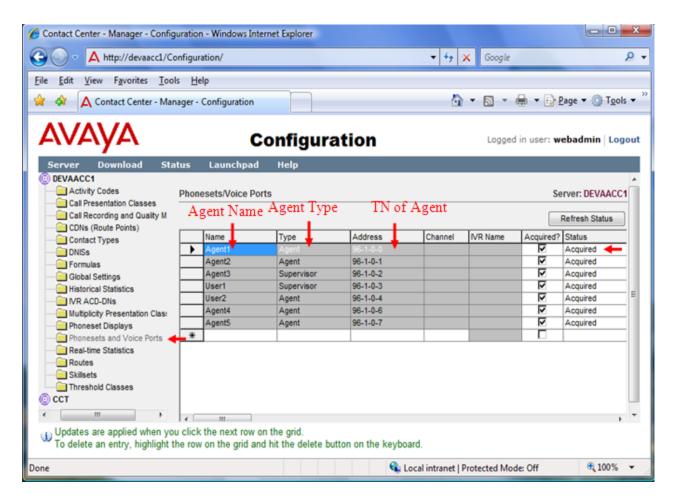


Figure 11: Sample of configuring agent and supervisor

To create Activity Codes in the CCMA webpage, from the homepage of CCMA, navigate to Launch > Configuration. The Configuration page appears, on left side of Configuration window, expand the tree menu of the CCM server and click on the Activity Codes folder, the Activity Codes section appears in the right side of Configuration page, enter Name, Number, and Display Name of Activity Codes as shown in Figure 12.

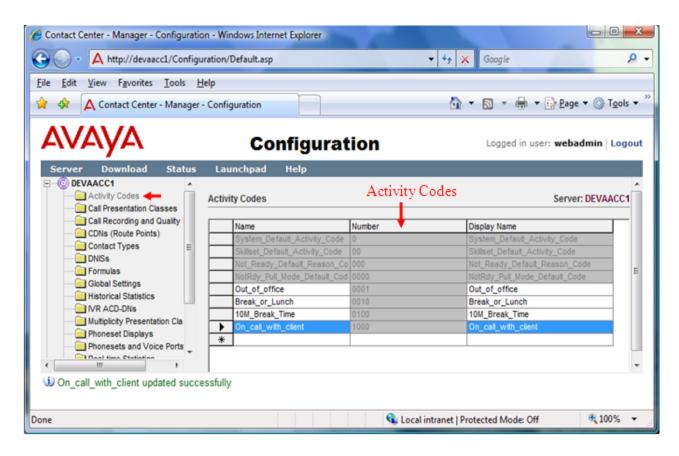


Figure 12: Sample of creating Activity Codes

To add a supervisor of CS1000 in the CCMA webpage, from the homepage of CCMA, navigate to Launch > Contact Center Management and in the Contact Center Management page navigate to menu Add and select the Supervisor as shown in Figure 13.



Figure 13: Sample of Adding a supervisor

Enter information for the supervisor as shown in **Figure 14**. Click the **Submit** button to complete creating a new supervisor.

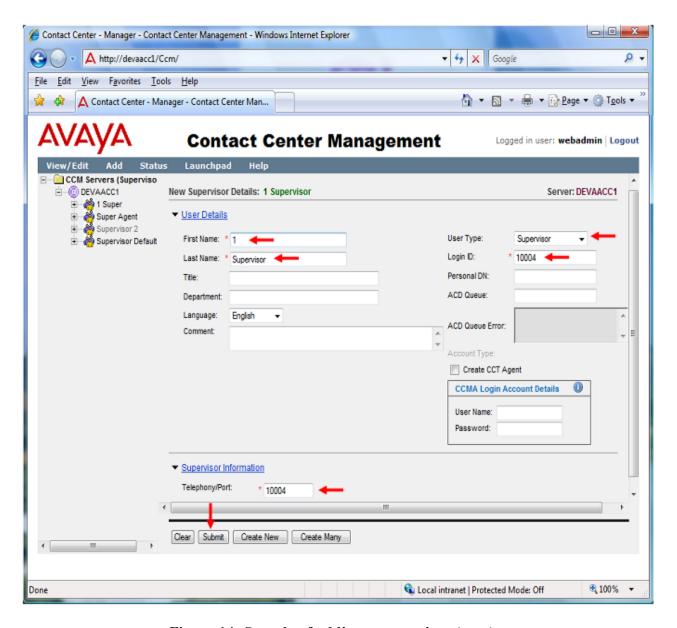


Figure 14: Sample of adding a supervisor (cont)

To add an agent in the CCMA webpage, from the homepage of CCMA, navigate to Launch > Contact Center Management and in the Contact Center Management page, navigate to menu Add and select the Agent as shown in Figure 15.



Figure 15: Sample of adding an agent

Enter information for the agent as shown in **Figures 16, 17 and 18**. Click the **Submit** button to complete creating a new agent.

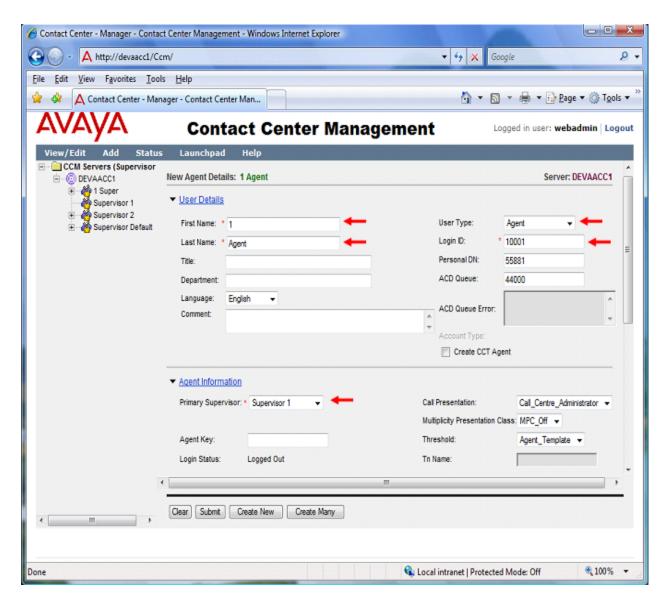


Figure 16: User Details and Agent Information sections of Agent

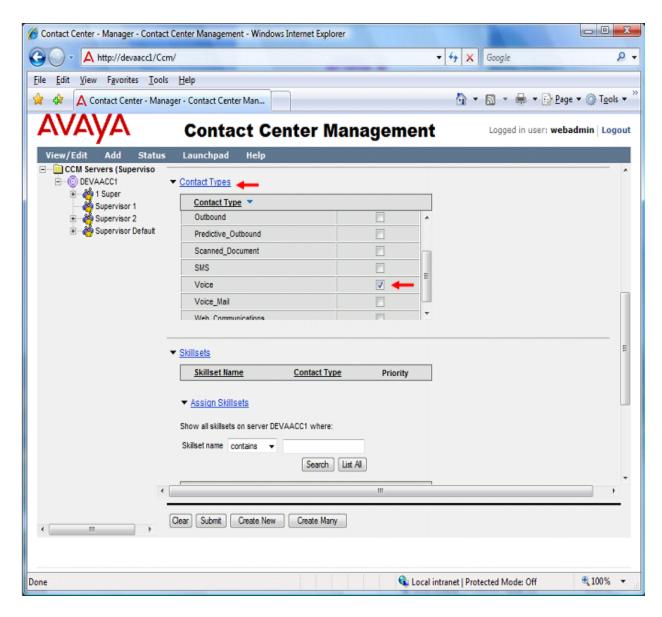


Figure 17: Assign Contact Types for Agent

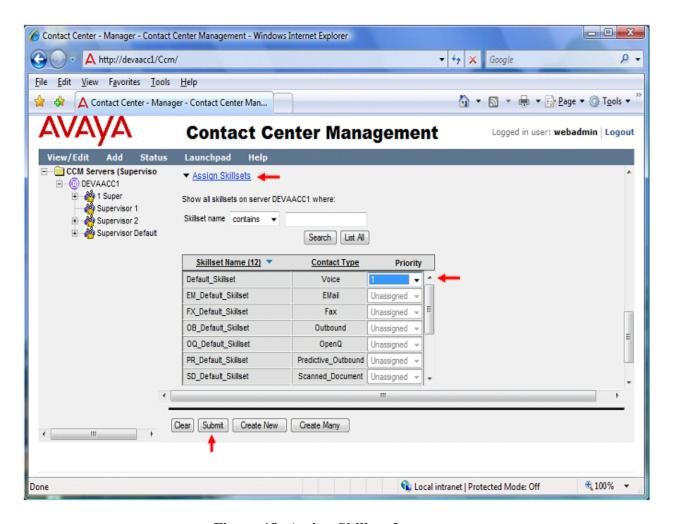


Figure 18: Assign Skillset for agent

6.2. Configure Communication Control Toolkit (CCT) Server

The Communication Control Toolkit server is a client/server application that helps to implement Computer-Telephony Integration (CTI) for installed and browser-based client integrations, for more information about how to configure CCT please refer to **Section 10[2]** "Avaya Aura Contact Center Server Administration". This section provides steps that need to be done to configure CCT user.

Log on the CCT server as administrator; navigate to menu **Start** > **All Programs** > **Administration Tools** > **Computer Management** and open **Computer Management** application. The *Computer Management* window appears, on the right side of the window, expand the **Local Users and Groups** and right click mouse on **User** folder and select **New User** tab as shown in **Figure 19**.

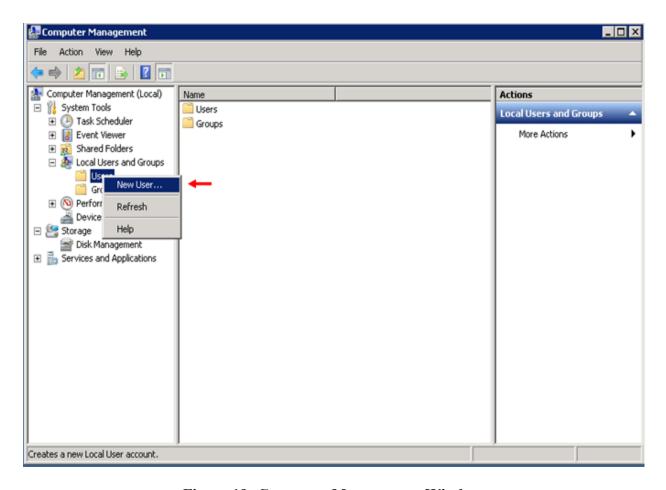


Figure 19: Computer Management Window

The *New User* window appears and input information for a new user as shown in **Figure 20** and click on the **Create** button to complete creating a new user.

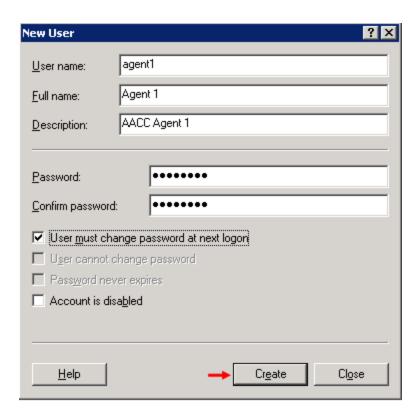


Figure 20: Sample of creating new user of Windows

To launch the CCT Console, on the CCT Server, navigate to menu **Start > All Programs > Avaya > Contact Center > Communication Control Toolkit > CCT Console**. The *CCTAdmin Console* window appears as shown in **Figure 21**.

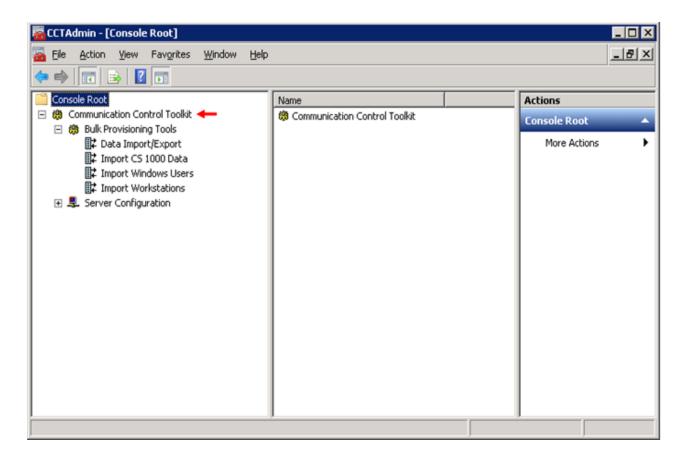


Figure 21: CCTAdmin window

On the left side of the *CCTAdmin* window, expand the **Communication Control Toolkit** service and under the **Bulk Provisioning Tools** service tree menu, click on the **Import Windows Users** tab and then click on **Search For Users** on the **Actions** column. All Windows users of the CCT server are now listed on **Search Results** section as shown in **Figure 22**.

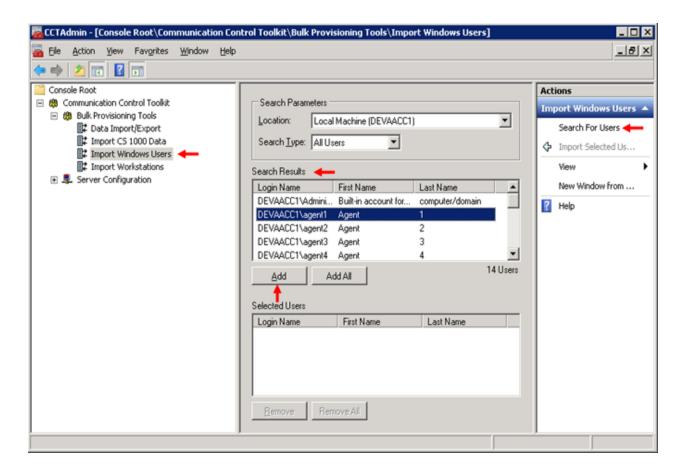


Figure 22: Sample of importing Windows User to CCT database

Select either an individual user or multiple users on the **Search Results** section, click on the **Add** button to add selected users to the **Selected Users** section and then click on **Import Selected User** of the **Actions** menu to complete adding Windows users to the CCT database as shown in **Figure 23**.

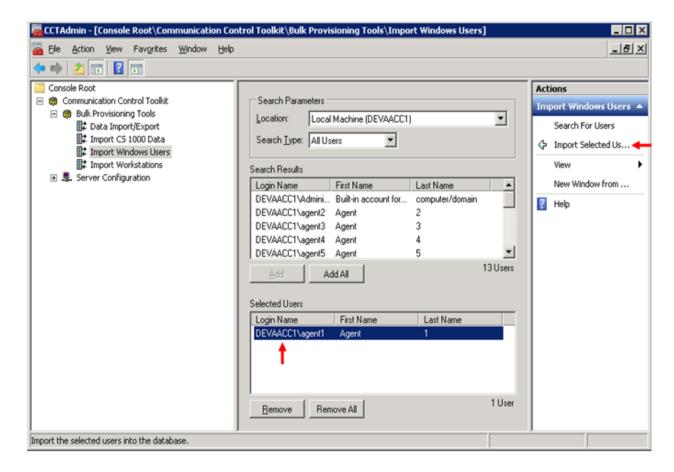


Figure 23: Sample of importing Windows User to CCT database (cont)

To import Terminal addresses of CS1000 to the CCT database, on the left side of *CCTAdmin* window and under the **Bulk Provisioning Tools** service tree menu, click on the **Import CS 1000 Data** tab. The **Setup** section appears in the middle of *CCTAdmin* window, click on the **Input File** button to browse the data file of CS 1000 and select **Convert/Import** command of the **Action** column as shown in **Figures 24** and **25**.

<u>Note</u>: The CS 1000 data file can be obtained by logging in the command line interface of CS1000 and issue overlay 20 and 23 as shown below and then copy all the output and save it to a text file.

LD 20 REQ PRT TYPE TNB

>> hit Enter key twice of keyboard to print all TN addresses of CS1000

LD 23 REQ PRT TYPE CDN

>> Hit Enter key twice of keyboard to print all CDN numbers of CS1000

KP; Reviewed: SPOC 3/14/2011

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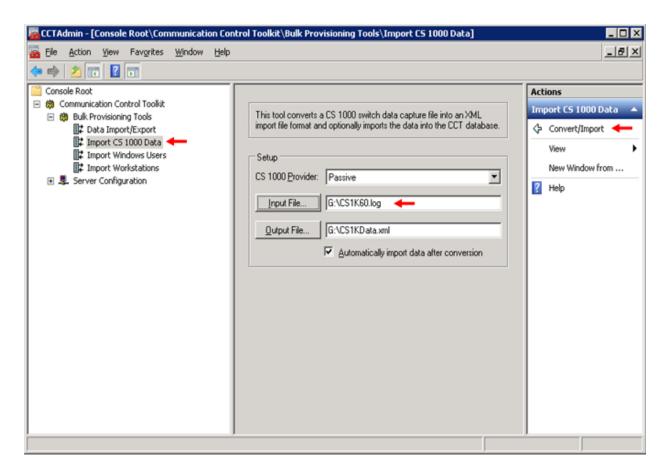


Figure 24: Sample of importing CS 1000 Data to CCT database

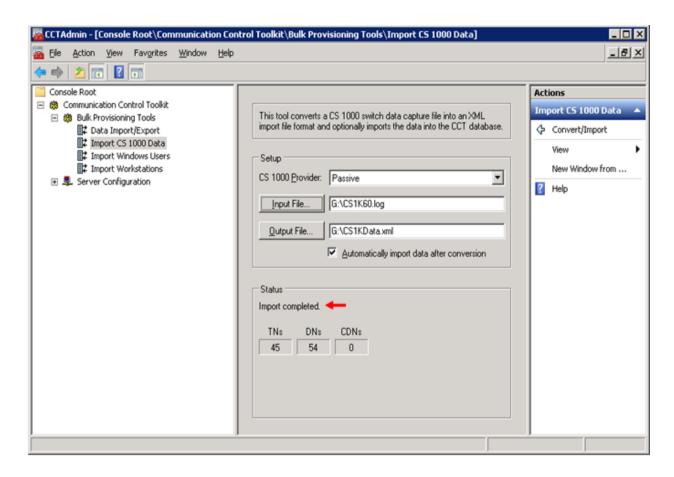


Figure 25: Sample of importing CS 1000 Data to CCT database (cont)

To configure the CS1000 Service Provider for CCT, log on the Contact Center Manager Administrator server and launch the Communication Control Toolkit Web Admin client. On tree menu in the right side of the CCT Administrator page, expand the Providers tab, click on the Passive link, enter information as shown in Figure 26 and then click on the Save button to save the configuration.

In the **Basic Provider Information** section:

- **Provider Name**: Passive (provider name must be "Passive")
- **IP address**: 135.10.97.53 (**IP** address of CCMS server)
- **Port**: 3000

In the **Provider Configuration** section:

- Transport: TCP
- **Customer number**: 0 (customer number of CS 1000)
- **CS1000 Release**: Release 6.0 (select correct version of CS 1000)
- And leave other values as default.

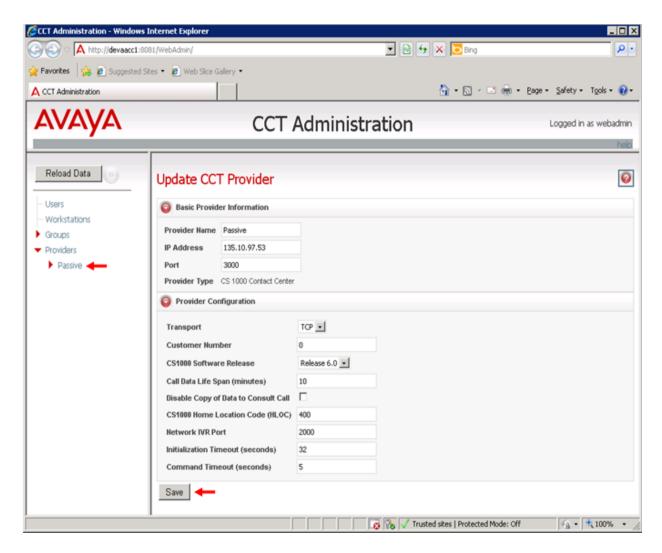


Figure 26: Configure Provider for CCT

To assign a Terminal address of CS1000 to a Windows user, on the left side of the CCT **Administration** page, click on the **Users** link, all Windows users which were imported to the CCT database are now listed on the right side of the window as shown in **Figure 27**.

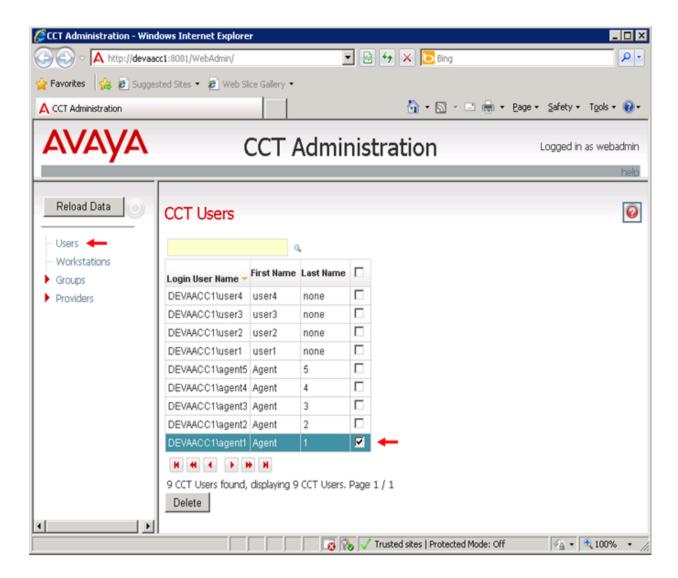


Figure 27 -Select a CCT User for configuring

Select a user that needs to be configured, in this example select user agent1; the Update CCT User page for agent1 appears as shown in Figure 28. Click on the Terminal Assignments of this page to expand it and select a Terminal address in the Available Resources column and click on the red arrow button to add it to the Assigned Resources column as shown in Figure 29.

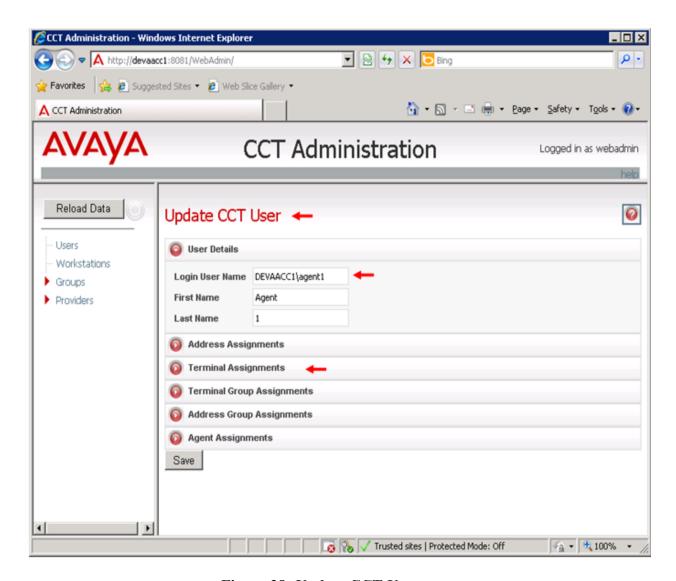


Figure 28: Update CCT User page

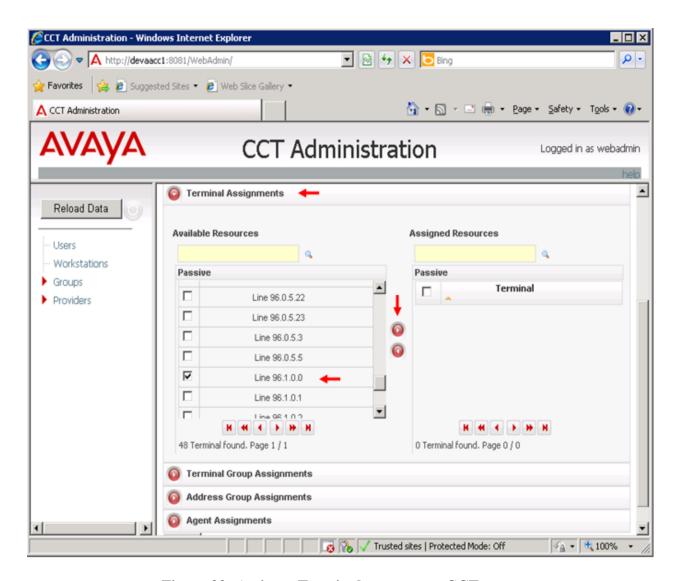


Figure 29: Assign a Terminal resource to CCT user

Click on the **Save** button to save changes for agent1. A CCT User has been configured as shown in **Figure 30**.

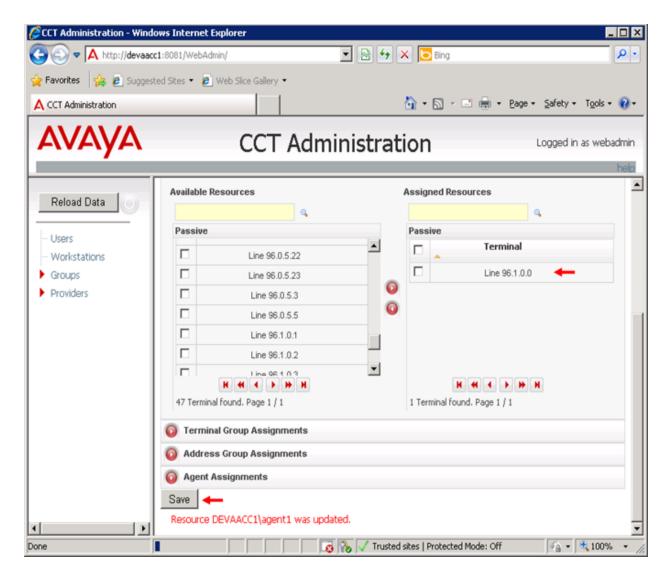


Figure 30: Save configuration for CCT User

7. Configure E-MetroTel Agent Dashboard

This document assumes that the E-MetroTel Agent Dashboard application was properly installed and configured by an E-MetroTel engineer. This section provides additional steps on configuring Agent Dashboard to work with the AACC system. For information about how to configure the Agent Dashboard, please refer to **Section 10[3]**.

To configure username, password, domain name of the CCT server, Not Ready Reason code, Activity code and Speed Dial for Agent Dashboard, navigate to folder C:\Pogram Files\E-MetroTel\CTI Dashboard of workstation PC where the Agent Dashboard was installed and use Microsoft XML Notepad application to edit CTIAppl.dll and CTIAppNetwork.dll files with values as shown in Figure 31 and Figure 32 below. For more detail about how to configure CTIAppl.dll file please refer to Section 10[3] "CTI Agent Dashboard Administration Guide".

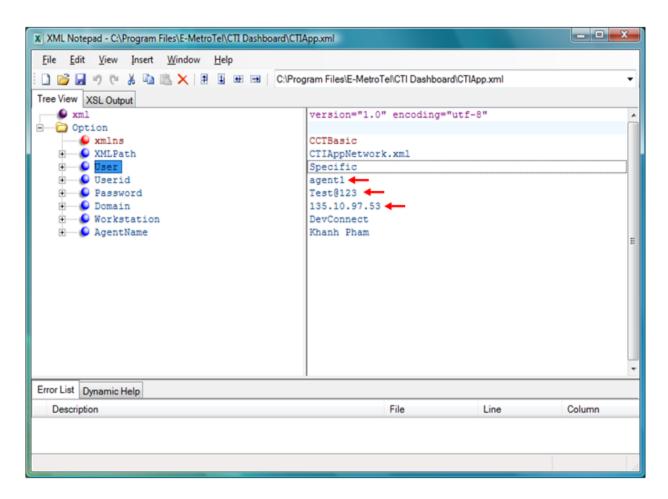


Figure 31: Configure for CTIApp.xml file

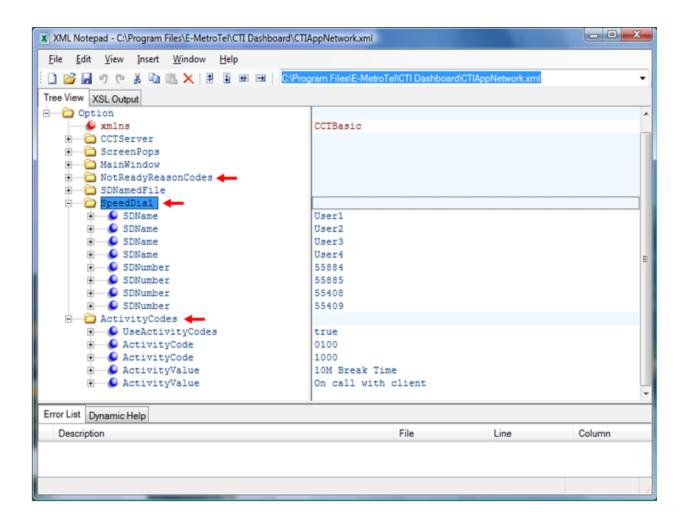


Figure 32: Configure for CTIAppNetwork.dll file

To launch the Agent Dashboard application, navigate to menu **Start > E-MetroTel > CTI Dashboard** and select the **Agent Dashboard**. The login window appears and enter login ID of agent to log in as shown in **Figure 33**.



Figure 33: Sample of Agent Dashboard login window

Figure 34 below shows the Agent Dashboard was successfully connected to the CCMS server and the agent1 was logged in and controls the agent phone.

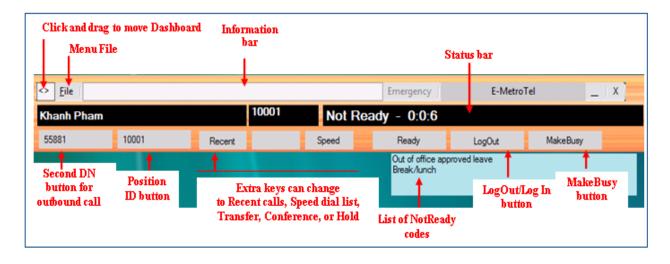


Figure 34: Main window of CTI Agent Dashboard application

To log out the agent, click on the log out button as shown in **Figure 34** and the agent is now logged out as shown in **Figure 35**, there is no **LogOut** button available, instead a **LogIn** button is now available for logging back in.

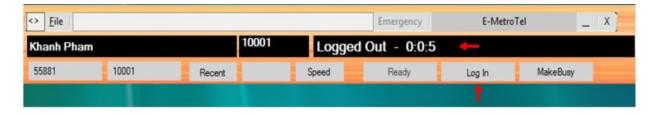


Figure 35: LogOut status of Agent Dashboard application

To set a Busy status for the agent's phone using the Agent Dashboard, click on the **MakeBusy** button and the **MakeBusy** button is now turned to red and also the agent is logged out as shown in **Figure 36**.

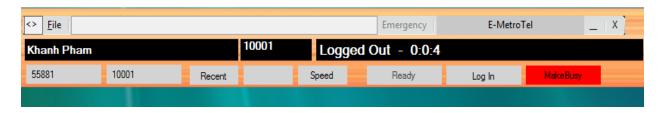


Figure 36: MakeBusy status of Agent Dashboard

To set Ready status for the agent's phone using the Agent Dashboard, click on the **Ready** button as shown in **Figure 34** and the status of the agent is now turned into Ready with time in ready mode as shown in **Figure 37**.



Figure 37: Ready Status of Agent Dashboard

To answer an ACD incoming call using the Agent Dashboard, click on the **Ringing/Answer** button that is turned in green as shown in **Figure 38** when there is an ACD call that is presented to an agent phone.



Figure 38: Ringing status of Agent Dashboard

After answering the ACD call, **Figure 39** below shows a list of Activity Codes that the agent can enter and one popup window called *popOnAnswered* shows information of ACD call such as Agent ID, Type, CallerID, DNIS, etc., as well as predefined options that are available for use when programming the screen pop. Screen pops can be called at Call Offered, Answered, and Disconnected.

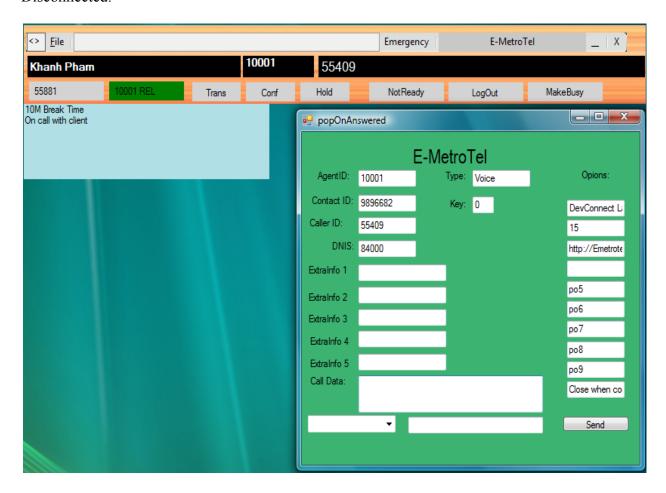


Figure 39: Answered status of Agent Dashboard

To hold an active ACD call using the Agent Dashboard, click on the **Hold** button as shown in **Figure 39** and the **position ID** button is now turned to red with the word **Hold** beside as shown in **Figure 40**.

To retrieve the ACD call being held as shown in **Figure 40**, click on the red button of **position ID + Hold** and the ACD call is now retrieved.



Figure 40: Hold status of ACD call

To transfer a call using the Agent Dashboard, click on **Trans** button as shown in **Figure 34**, the **KeyPad** window appears as shown in **Figure 41** below, enter the number to be transferred to, select type of transfer in either **Fast** mode or **Supervised** mode, and click the **OK** button to initiate the transfer.

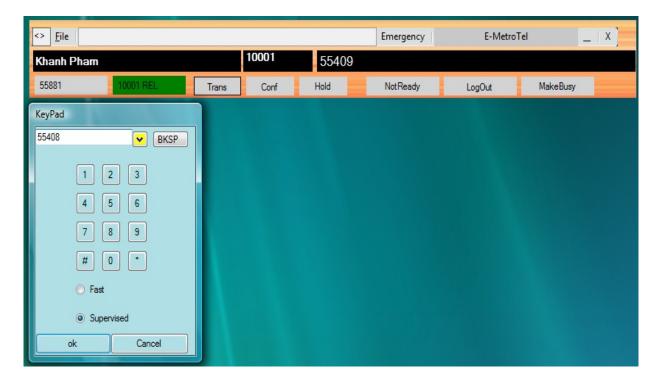


Figure 41: Keypad window for transfer a call

In the case the type of transfer is **Supervised** there are two new buttons, **Cancel** and **Complete**, available to help the user decide whether complete or cancel the transfer call as shown in **Figure 42**.



Figure 42: Cancel and Complete buttons for transfer a call

To conference the ACD call using the Agent Dashboard, click on the **Conf** button as shown in **Figure 39** and the KeyPad window appears as shown in **Figure 43**. Enter the numbers of parties to be invited to the conference and then click the **OK** button to initial the conference.

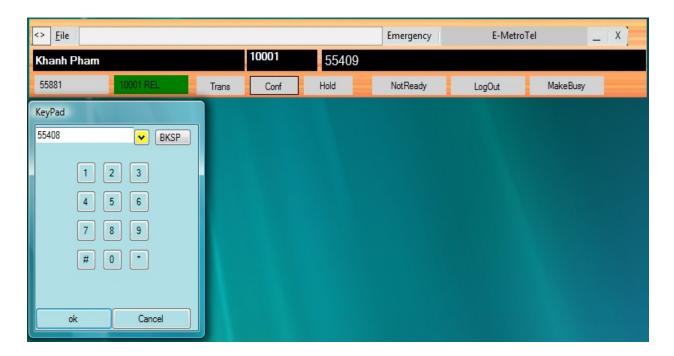


Figure 43: The KeyPad window for Conference call

In case the user would like to cancel conference call, there is the **Cancel** button available as shown in **Figure 44** for canceling a conference if it has not been completed.



Figure 44: Cancel button for cancel a conference call

When the third phone answers the invited call, click on the **Complete** button to start the conference and enable 3-way speech paths as shown in **Figure 45**.



Figure 45: Complete button of Conference function

To set an Activity Code for the agent phone using the Agent Dashboard, while the agent is on the ACD call with client, double click the mouse on the list of activity codes and the activity code is now set for the agent as shown in **Figure 46**.



Figure 46: Status of Activity code is set

To set a Not Ready Code for the agent phone using the Agent Dashboard, while the agent is in the Not Ready state, double click the mouse on the list of Not Ready reason codes as shown in **Figure 34** and the activity code is now set for the agent as shown in **Figure 47**.



Figure 47: Status of Not Ready reason code

To make an emergency call using the Agent Dashboard when the agent is on the ACD call with a client, click on the **Emergency** button as shown in **Figure 34**, the call will be connected to supervisor of the agent and supervisor can answer the agent by pressing the **AnsEmr** key on the phone of supervisor.

To make an outgoing call using the **Recent** log on the Agent Dashboard, click on the **Recent** button and then double click on selected DN to make an outgoing call as shown in **Figure 48**.

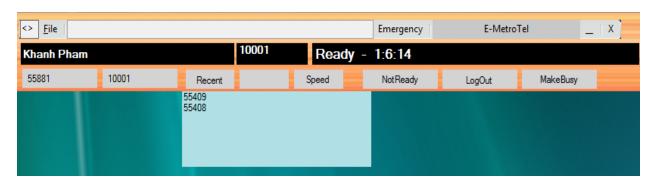


Figure 48: Recent DN list of Agent Dashboard

Figure 35 below shows the call was established between the second DN of agent 55881 and DN 55408.

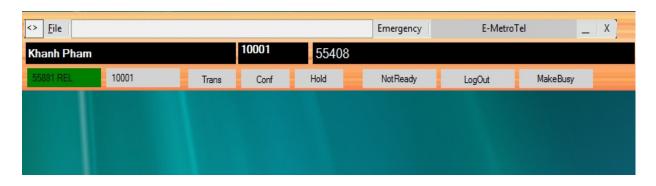


Figure 49: The call is established by second DN of agent

To make an outgoing call using the **Speed** dial buttons in the Agent Dashboard, click on the **Speed** button as shown in **Figure 50** and then double click on a DN to make an outgoing call.

<u>Note</u>: The list of DN of the Speed dial feature needs to be provisioned by configuring the **CTIAppNetwork.dll** file.

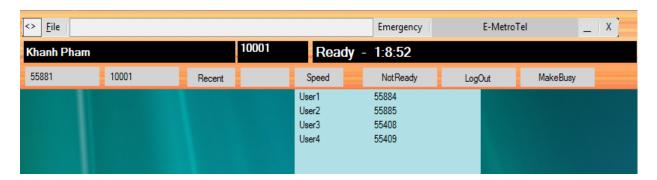


Figure 50: Speed DN list of Agent Dashboard

8. Verification Steps

The following are typical steps to verify the interoperability between the E-MetroTel Agent Dashboard and AACC.

- From a workstation PC that has Agent Dashboard installed, launch Agent Dashboard and then enter the login ID of the agent to log in.
- Set the ready status for agent by clicking on the Ready button of the Agent Dashboard.
- Place a call to the CDN number of Contact Center.
- There is an ACD call that comes to the position ID key of agent and the position key button is now changing to Ringing, and the Answer key keeps flashing until the call is answered.
- Answer the call by clicking on the Answer button and check speech path of the call, it should be full and clear.
- Click on the Hold button on the Agent Dashboard to hold the call, and click on the position ID key to retrieve the call.

- Hang up the call by clicking on the REL button.
- Click on the NotReady button and then double click on a reason code to "set not ready" with a reason code for the agent.
- Use a second DN of the agent to place an outgoing call to another DN.
- Click on the Transfer button of the Agent Dashboard, a new keypad opens. Enter a number and type of transfer and click the Complete button to finish transfering the call.

All steps above were executed on the Agent Dashboard, to make sure the Agent Dashboard application fully and properly controls the CCMS agent phone, check on the agent phone to see how it reacts for each step that was done by the Agent Dashboard.

9. Conclusions

All of the executed test cases have passed and met the objectives outlined in **Section 2**. The E-MetroTel CTI Agent Dashboard v1.0.2.17 is considered compliant with Avaya Aura Contact Center Release 6.0.

10. Additional References

Product documentation for Avaya CS 1000 products may be found at: https://support.avaya.com/css/Products/

Product documentation for Engage Record products may be found at: http://www.emetrotel.com

[1] Avaya CS1000 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 CC 6.0 documents:

Avaya AuraTM Contact Center Planning and Engineering

Avaya AuraTM Contact Center Installation

Avaya AuraTM Contact Center Server Administration

Avaya AuraTM Contact Center Overview

Avaya AuraTM Contact Center Fundamentals

Avaya Aura™ Contact Center Manager Administration – Client Administration

[3] E-MetroTel Agent Dashboard documents:

CTI Agent Dashboard Guide

CTI Agent Dashboard Administration Guide

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