



Avaya Solution & Interoperability Test Lab

Application Notes for AMC Application Adapter for Oracle Siebel with Avaya Communication Control Toolkit – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate Advanced Multi-Channel (AMC) Technology's Application Adapter for third-party business applications with Avaya (formerly Nortel) Communication Control Toolkit (CCT) 7.0. The AMC Multi-Channel Integration Suite (MCIS), which includes the Application Adapter, provides call control, agent session control and screen pop to help contact center agents be more efficient and to realize higher levels of customer satisfaction. The AMC Adapter provides computer telephony integration (CTI) to business applications from Microsoft, Oracle, Salesforce and SAP. For this compliance test, the AMC Adapter was used to integrate Oracle Siebel with Communication Control Toolkit.

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

1. Introduction

The Application Notes describe the configuration steps to integrate third-party business applications using AMC Application Adapter with Oracle Siebel for Avaya (formerly Nortel) Communication Control Toolkit 7.0 (hereafter referred to as CCT). The Multi-Channel Integration Suite (MCIS), which includes the Application Adapter, provides call control, agent session control and screen pop. The AMC connector provides CTI integration (through the CCT SDK) to business applications from Microsoft, Oracle, Salesforce and SAP.

1.1. Interoperability Compliance Testing

The interoperability compliance test verified the following features that are available to agents with the AMC connector for Oracle Siebel with CCT.

- Logging in and out.
- Monitoring agent states (e.g. Ready or Not Ready).
- Agent state synchronization with agent telephones.
- Establish calls with other agents and non-monitored devices and verifying the correct call states.
- Basic telephony features such as call hold, transfer and conference.
- Restarting ACM connector.

1.2. Support

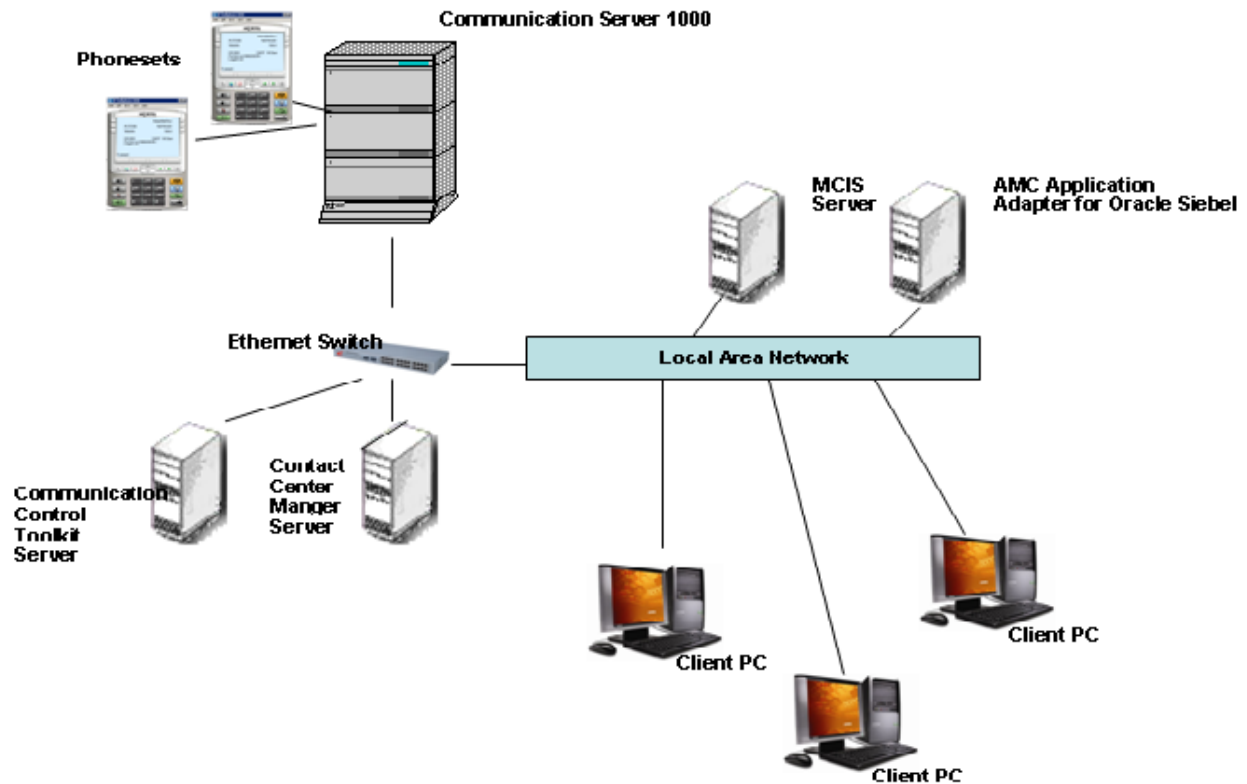
Technical support from AMC can be obtained through the following:

- **Phone:** +1 (800) 390-4866
- **Email:** support@amctechnology.com

2. Reference Configuration

The following diagram illustrates a sample configuration of a Contact Center environment with CCT integrated with MCIS server and AMC Application Adapter for Oracle Siebel.

Figure 1: Reference Configuration



3. Equipment and Software Validated

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

| Equipment | Software version |
|---|---|
| Contact Center Manager Server running on Windows 2003 Server | 7.0 (SU_02/SUS_0201) |
| Communication Control Toolkit running on Windows 2003 Server | 7.0 (SU_02/SUS_0201) |
| Communication Server 1000 | Release 6.0 |
| i2050 IP Softphones | 2.0 |
| AMC MCIS server running on Windows 2003 server | 5.3 |
| AMC Application Adapter for Oracle Siebel and AMC Telephony Connector on Siebel Communication Server for Nortel running on Windows 2003 server. | AMCSiebelAdapter.dll HF: 5.3.0.2 NortelCCT7Connector.dll HF: 5.3.0.1 |

4. Configure Avaya Communication Server

This section provides the procedure for configuring the Communication Server. The procedure is limited to phone set configuration limited to what is necessary for CCT integration with the Communication Server.

4.1. Phone Set configuration

Log into the Communication Server. In Overlay 11, list phone configuration and confirm AST is configured for the agent keys.

```
>ld 11
SL1000
MEM AVAIL: (U/P): 2523910      USED U P: 408503 115010      TOT: 3047423
DISK RECS AVAIL: 1152
TNS                          AVAIL: 32390      USED: 377      TOT: 32767

REQ: prt
TYPE: i2050

TN 72 0 0 0
DATE
PAGE
DES

DES SCCS
```

TN 072 0 00 00 VIRTUAL

TYPE I2050

CDEN 8D

CUST 0

ZONE 001

FDN

TGAR 1

LDN NO

NCOS 3

SGRP 0

RNPG 1

SCI 0

SSU

XLST

SCPW

SFLT NO

CAC_CIS 3

CAC_MFC 0

CLS UNR FBD WTA LPR PUA MTD FND HTD TDD HFA CRPD

MWD LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1

POD DSX VMD CMSD SLKD CCSD SWD LND CNDA

CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCB

ICDD CDMD LLCN MCTD CLBD AUTU

GPUA DPUD DNDA CFXD ARHD CNTD CLTD ASCD

CPFA CPTA HSPD ABDD CFHD FICD NAID DNAA RDLA BUZZ AGRD MOAD

UDI RCC HBT

DRDD EXR0

USMD USRD ULAD CCB

FDS

CPND_LANG ENG

HUNT

PLEV 02

CSDN

SPID NONE

AST 00 03

IAPG 0

AACS YES

ACQ AS: AST-DN,AST-POSID

ASID 17

SFNB 1 2 3 4 5 6 11 12 13 18 22 24 25 26

SFRB

USFB 1 2 3 4 5 6 7 9 10 11 12 13 14 15

CALB 0 1 3 4 5 6 8 9 10 11 12

FCTB

ITNA NO

DGRP

PRI 01

MLWU_LANG 0

DNDR 0

KEY 00 ACD 7203 0 720100

AGN

ANIE 0

01 NR

02 MSB

```

03 MCR 720200 0      MARP
  ANIE 0
04
05
06
07
08
09
10
11
12
13
14
15
16
17 TRN
18 A06
19 CFW 16
20 RGA
21 PRK
22 RNP
23
24 PRS
25 CHG
26 CPN
27
28
29
30
31
DATE 26 JUN 2009

```

- Terminal name is identified as “TN 072 00 00 00” above. This information will be needed to configure a Terminal in Section 5.1.1.
- Key 00 above is the ACD (Automatic Call Distribution) key configured on the agent phone set. “720100” is the PositionID assigned to the phone set. This will be needed to configure an Address in Section 5.1.2.
- Key 03 above is the personal DN (Directory Number) key configured on the agent phone set. “720200” is the DN value assigned to the phone set. This will be needed to configure an Address in Section 5.1.2.

If AST isn’t configured then follow this procedure to configure it on the two DN keys (here its Key 0 and Key 3). Items in bold below need to be typed in followed by a carriage return.

```

>ld 11
SL1000
MEM AVAIL: (U/P): 2523910      USED U P: 408503 115010      TOT: 3047423
DISK RECS AVAIL: 1152
TNS                          AVAIL: 32390      USED: 377      TOT: 32767

```

```
REQ: chg
TYPE: i2050
TN 72 0 0 0
ECHG yes
ITEM ast 0 3
ITEM
MEM AVAIL: (U/P): 2523908    USED U P: 408503 115012    TOT: 3047423
DISK RECS AVAIL: 1152
TNS                AVAIL: 32390    USED: 377    TOT: 32767

REQ:
```

Any phones currently supported by Contact Center Manager Server can be used for integration with Communication Control Toolkit. For the purpose of this compliance testing, i2050 IP Softphones were used.

5. Configure Contact Center

The compliance test environment consisted of a Contact Center Manager Server and a Communication Control Toolkit server. No special configuration is necessary on the Contact Center Manager Server for testing the AMC Application adapter.

This section describes a procedure for configuring:

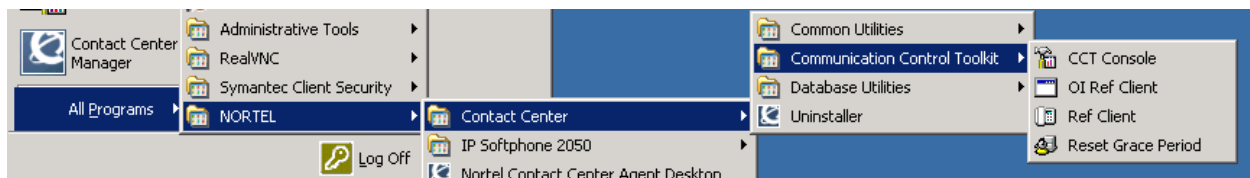
- Phone sets on CCT
- Importing Windows Users from CCT Domain

5.1. Configure phone set on Communication Control Toolkit

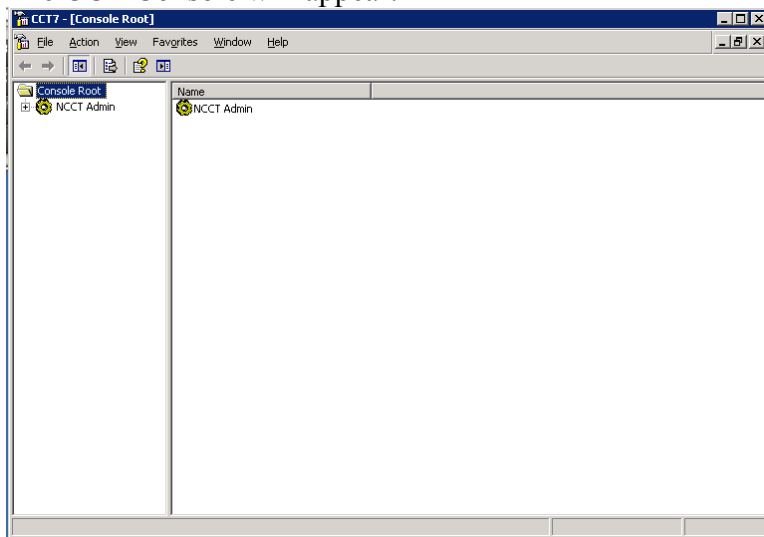
A phone set consists of one Terminal mapped to up to two Addresses. The following sections describe how to configure Addresses, Terminals, and how to map them to each other.

5.1.1. Configure Terminal

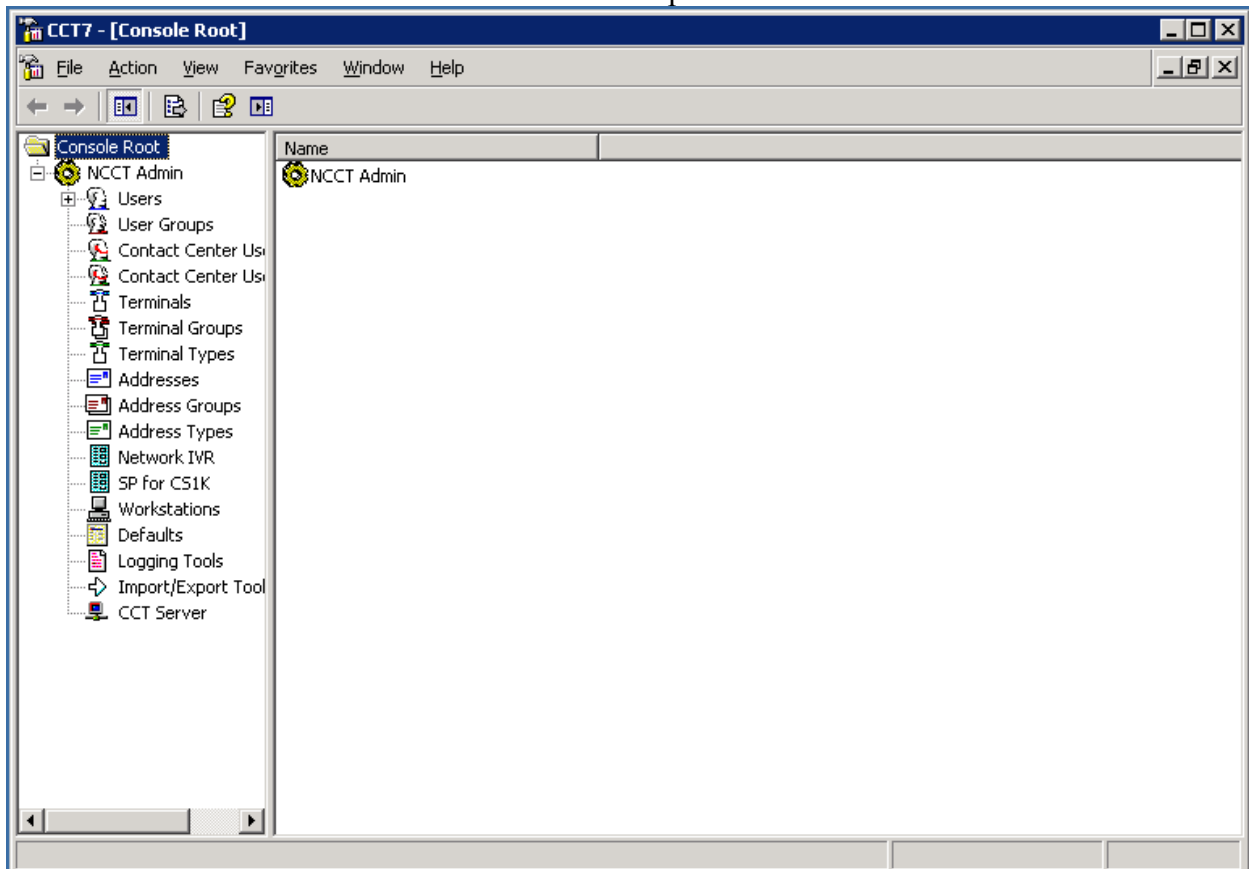
To configure a Terminal on CCT, navigate to **Start→Programs → Nortel → Contact Center → Communication Control Toolkit → CCT Console**.



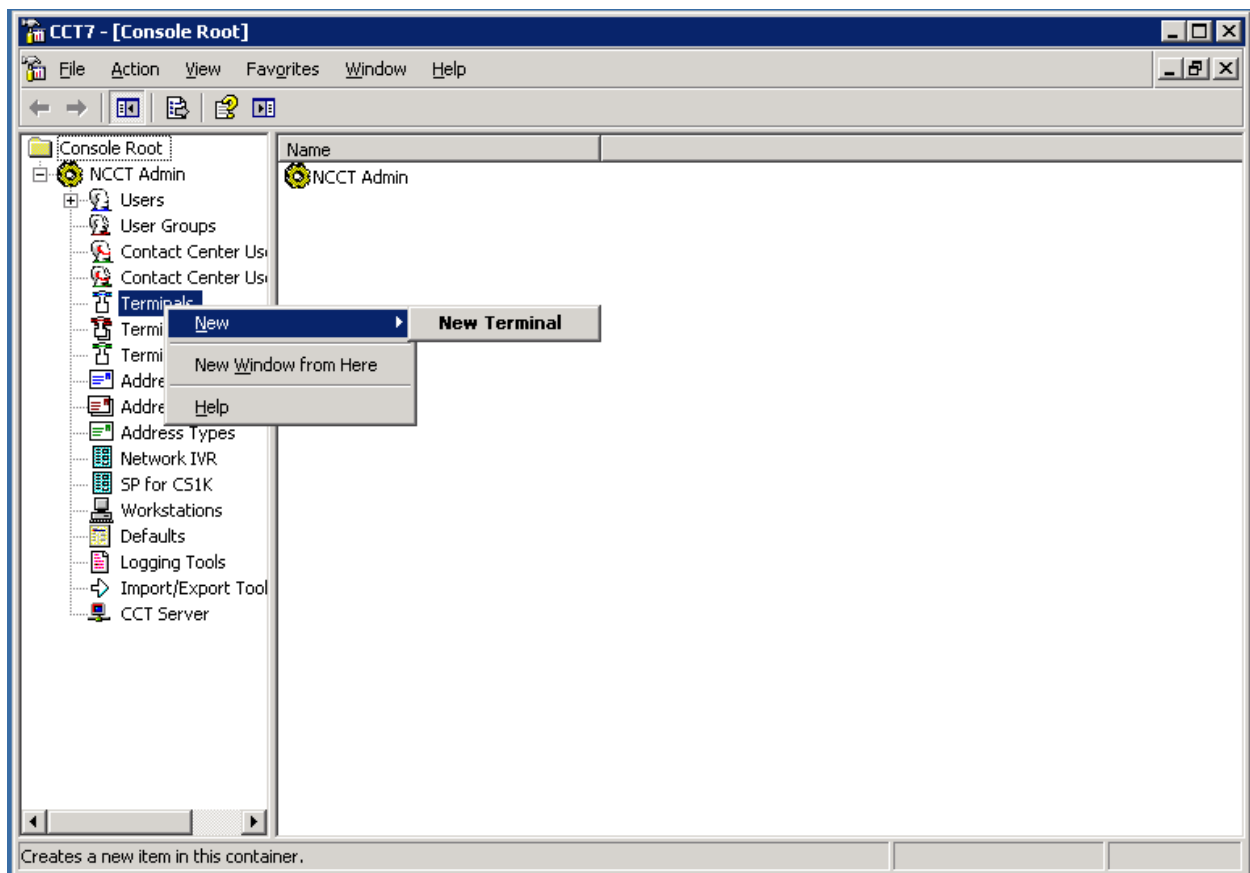
The CCT Console will appear:



Click on '+' next to **NCCT Admin** in the left hand pane of the console:



Right-Click on **Terminals** and navigate to **New** → **New Terminal**:



In the **Terminal Details** tab, enter the Phone set information. Note the **Terminal Name** field must include the word 'Line' in the beginning with the terminal name as configured in **Section 4.1**. All checkboxes should also be enabled. **Phone Type** should be chosen as appropriate. For this compliance test i2050 phones were used.

The screenshot shows the 'New Terminal Properties' dialog box with the 'Terminal Details' tab selected. The 'Terminal Name' field contains 'Line 72.0.0.0' with a tooltip 'Loop.Shelf.Card.Unit' displayed below it. The 'Enabled' checkbox is checked. The 'Provider' dropdown is set to 'Passive'. The 'Terminal Type' dropdown is set to 'Agent'. The 'Phone Type' dropdown is set to 'I2050'. A 'Line Features' section contains four checked checkboxes: '3-party conference (A03)', '6-party conference (A06)', 'Call Transfer (TRN)', and 'Call Forward (CFW)'. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

| Field | Value |
|---------------|-------------------------------------|
| Terminal Name | Line 72.0.0.0 |
| Enabled | <input checked="" type="checkbox"/> |
| Provider | Passive |
| Terminal Type | Agent |
| Phone Type | I2050 |

Line Features

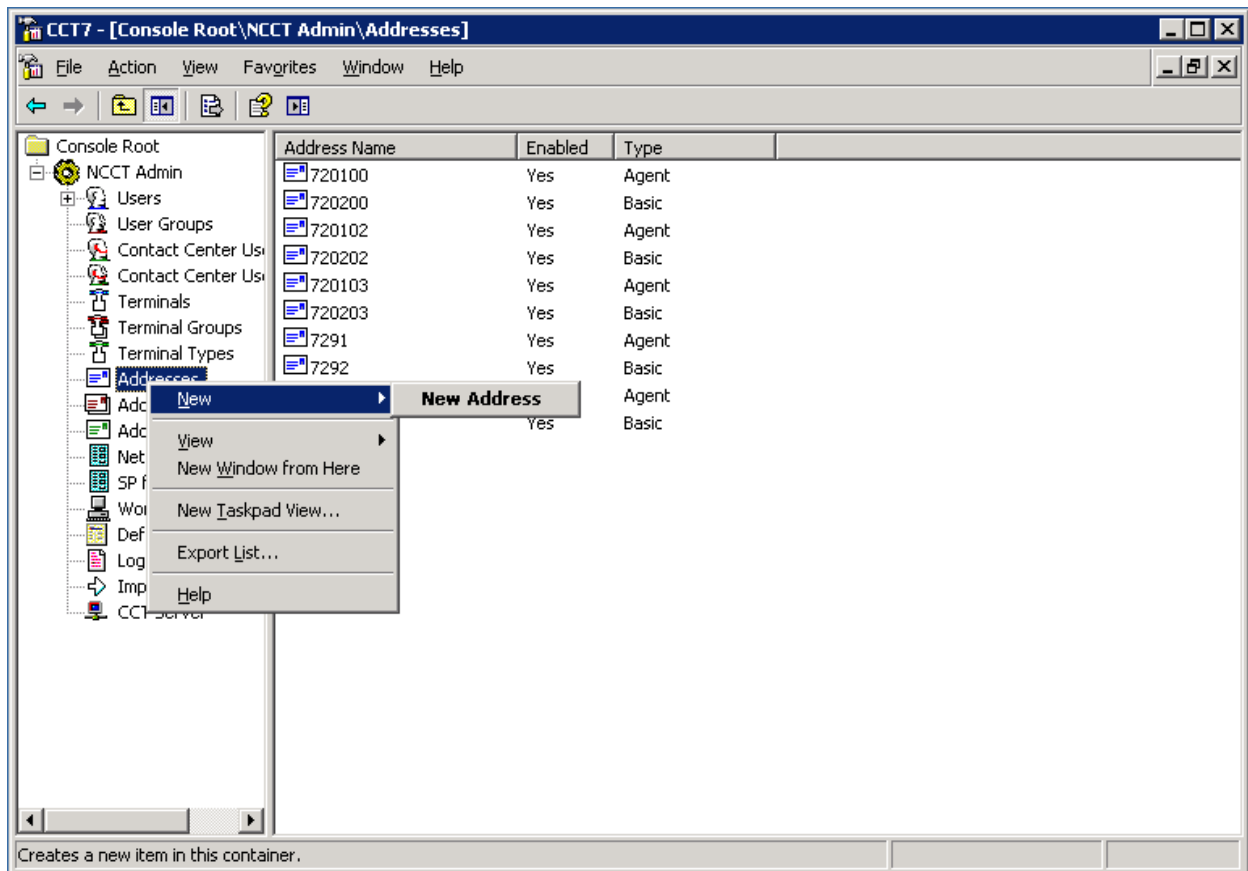
- ☒ 3-party conference (A03)
- ☒ 6-party conference (A06)
- ☒ Call Transfer (TRN)
- ☒ Call Forward (CFW)

Click **Apply** and **OK** to close the window. Continue to next section to configure Addresses.

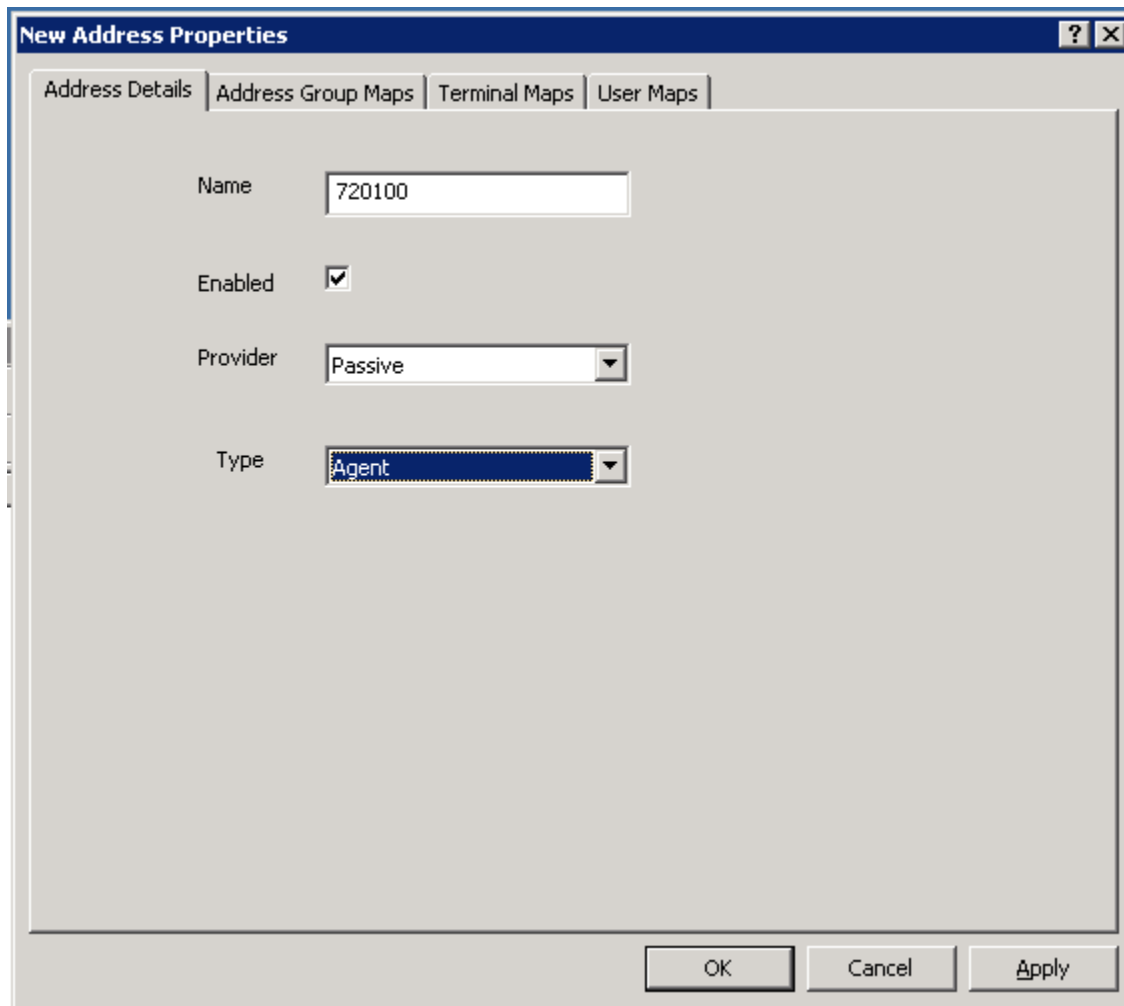
5.1.2. Configure Address

Configure an Address for each AST enabled key configured on the phone set in **Section 4.1** (maximum 2).

On CCT Console Right-Click on **Addresses**. Navigate to **New** → **New Address**:



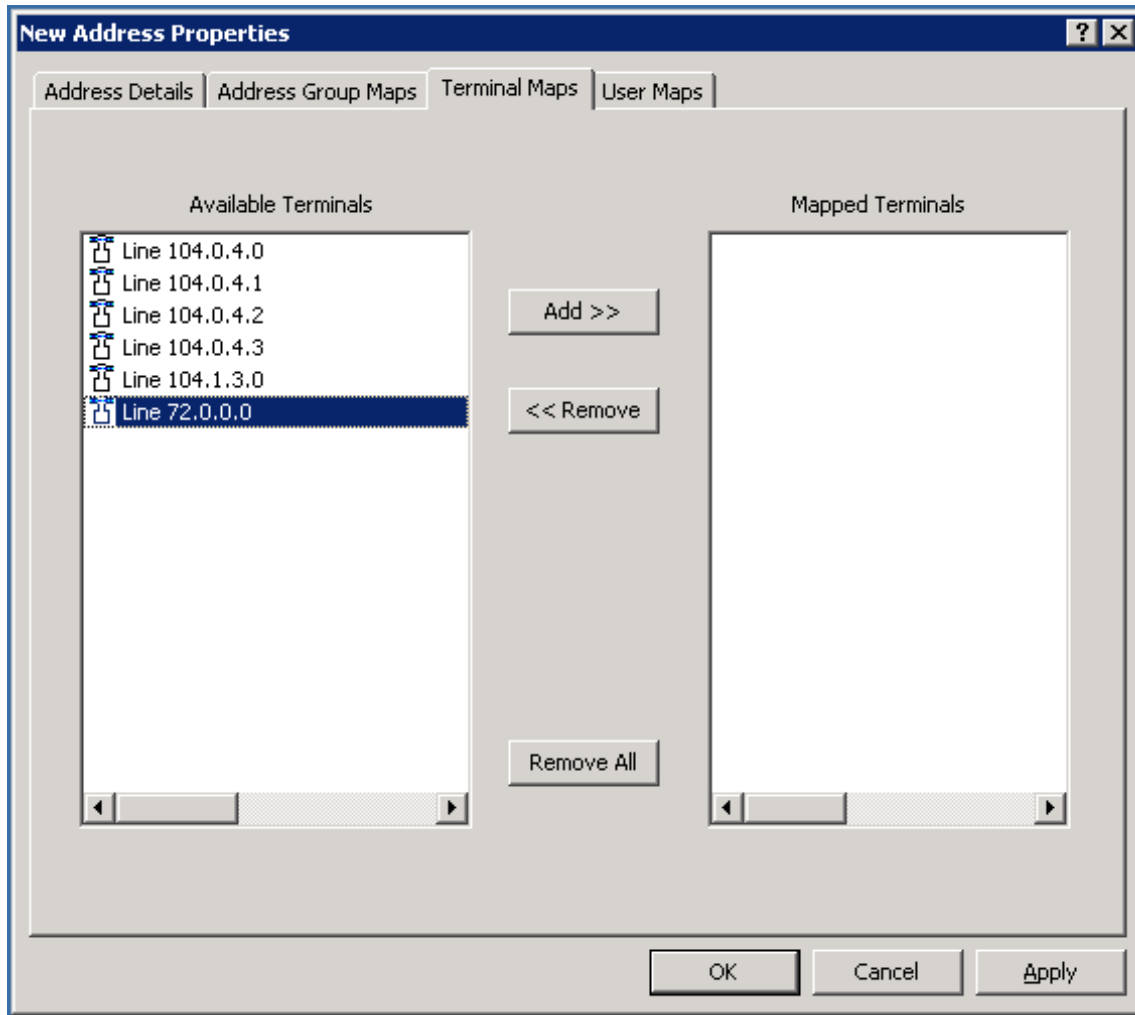
In **Address Details** tab, enter the PositionID configured in Section 4.1 in the **Name** field . Select **Type** as “Agent”. All other fields can be left as default.

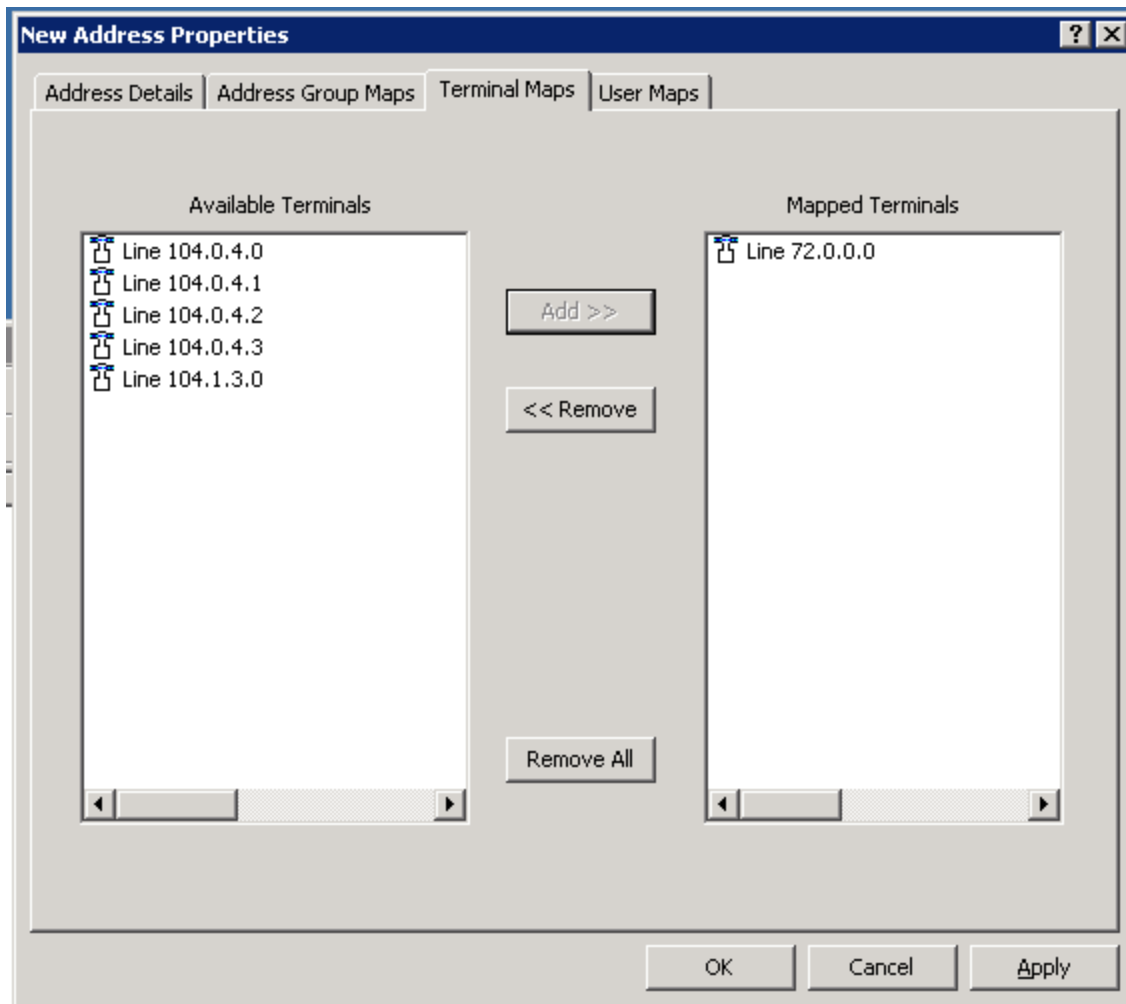


The image shows a 'New Address Properties' dialog box with four tabs: 'Address Details', 'Address Group Maps', 'Terminal Maps', and 'User Maps'. The 'Address Details' tab is selected. It contains four fields: 'Name' with the value '720100', 'Enabled' with a checked checkbox, 'Provider' with a dropdown menu showing 'Passive', and 'Type' with a dropdown menu showing 'Agent'. At the bottom right, there are three buttons: 'OK', 'Cancel', and 'Apply'.

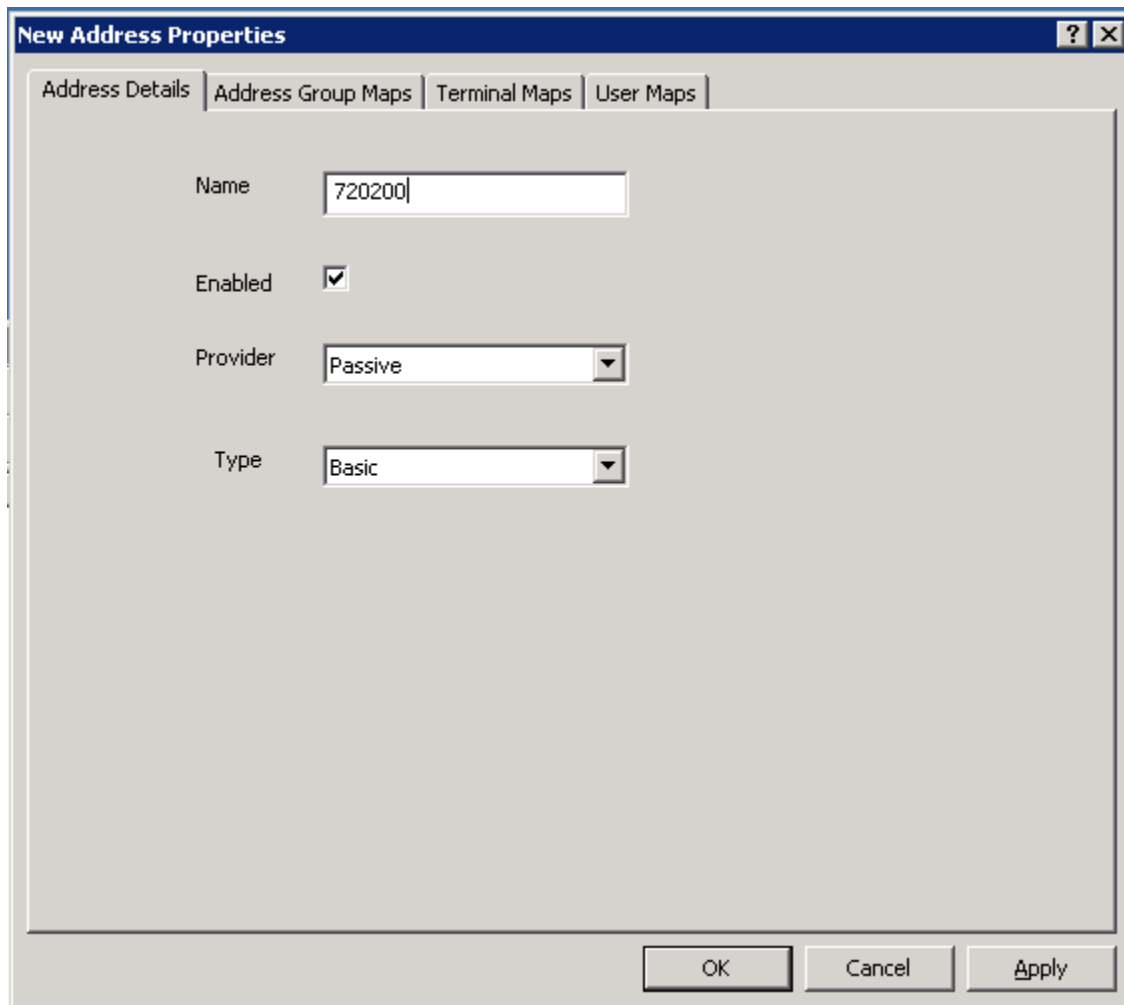
| Field | Value |
|----------|-------------------------------------|
| Name | 720100 |
| Enabled | <input checked="" type="checkbox"/> |
| Provider | Passive |
| Type | Agent |

In **Terminal Maps** tab, map the newly created Address to the Terminal created in **Section 5.1.1**. Select the Terminal in **Available Terminals** box and click on **Add** to complete the mapping. Click **Apply** to apply the changes and **OK** to close window:





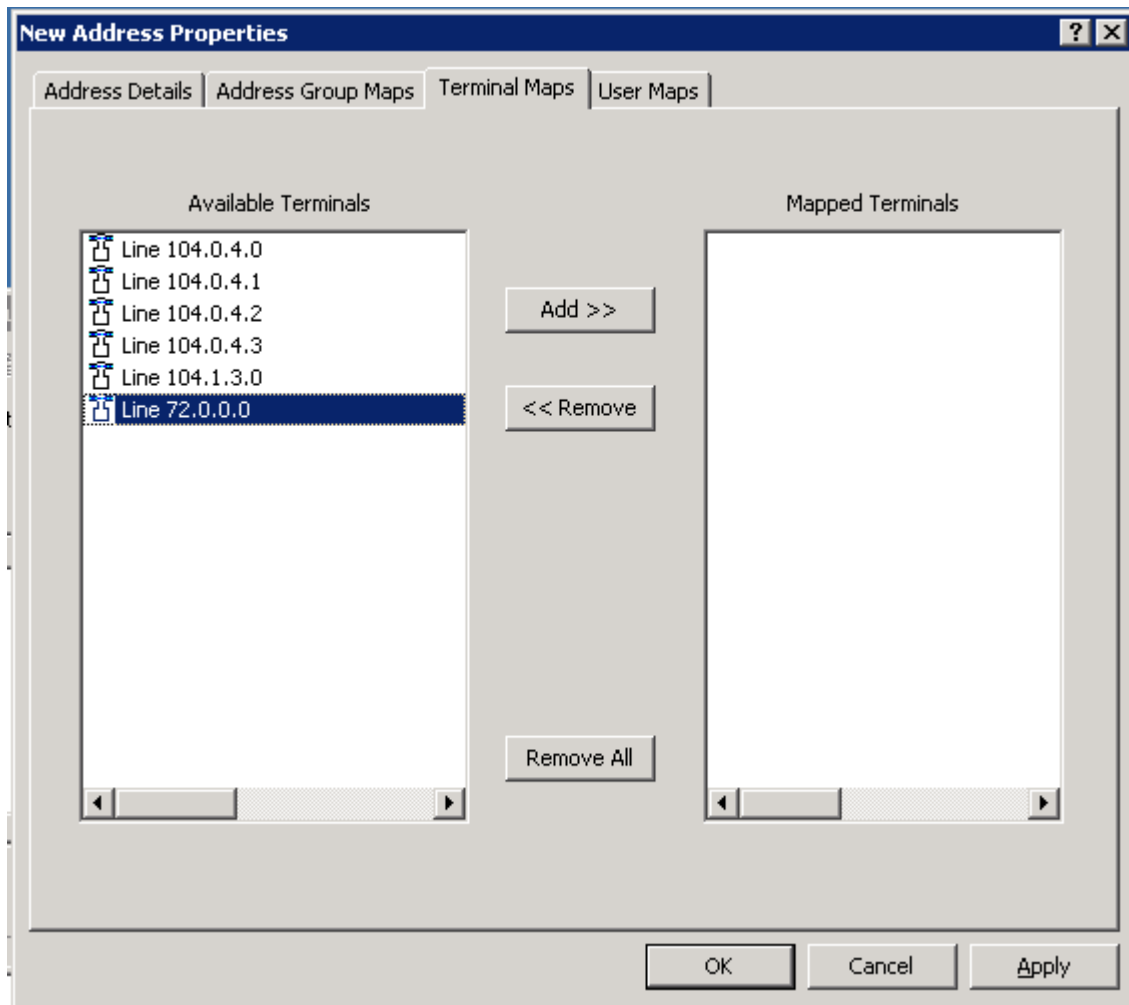
To create Address for Personal DN (Key 03) right-click on **Addresses** on the CCT Console. Navigate to **New** → **New Address**. In **Address Details** tab enter the Personal DN as configured in **Section 4.1** for the **Name** field. All other fields can be left as default:

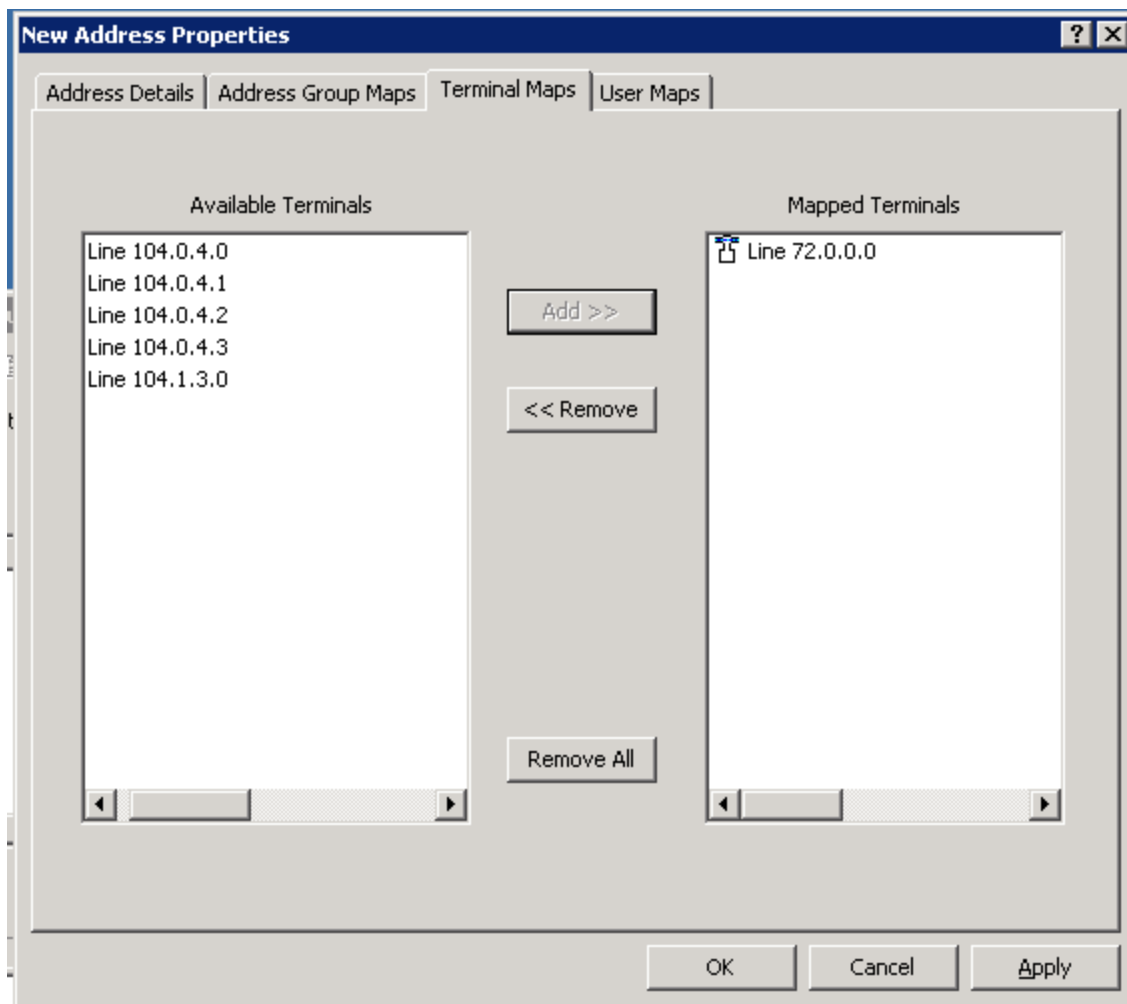


The image shows a 'New Address Properties' dialog box with a blue title bar and standard window controls. It features four tabs: 'Address Details' (selected), 'Address Group Maps', 'Terminal Maps', and 'User Maps'. The 'Address Details' tab contains four fields: 'Name' with a text input containing '720200', 'Enabled' with a checked checkbox, 'Provider' with a dropdown menu showing 'Passive', and 'Type' with a dropdown menu showing 'Basic'. At the bottom right are three buttons: 'OK', 'Cancel', and 'Apply'.

| Field | Value |
|----------|-------------------------------------|
| Name | 720200 |
| Enabled | <input checked="" type="checkbox"/> |
| Provider | Passive |
| Type | Basic |

In **Terminal Maps** tab, map the newly created Address to the Terminal created in Section 5.1.1. Select the Terminal in **Available Terminals** box and click on **Add** to complete the mapping. Click **Apply** to apply the changes and **OK** to close window:





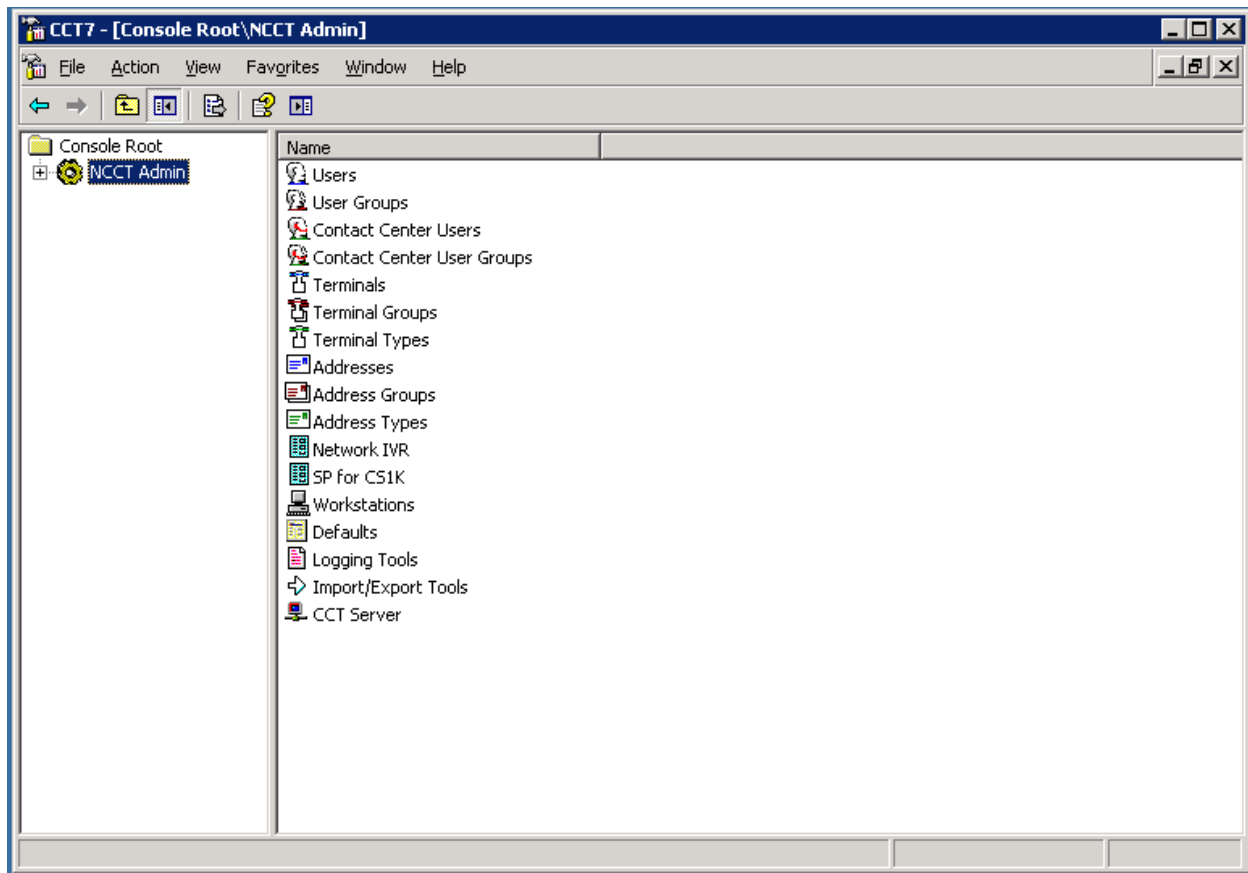
5.2. Import Windows users from CCT Domain and map to Terminal

This section describes the steps required to import Windows users from the server to the Communication Control Toolkit administration tool using the Import Windows Users tool.

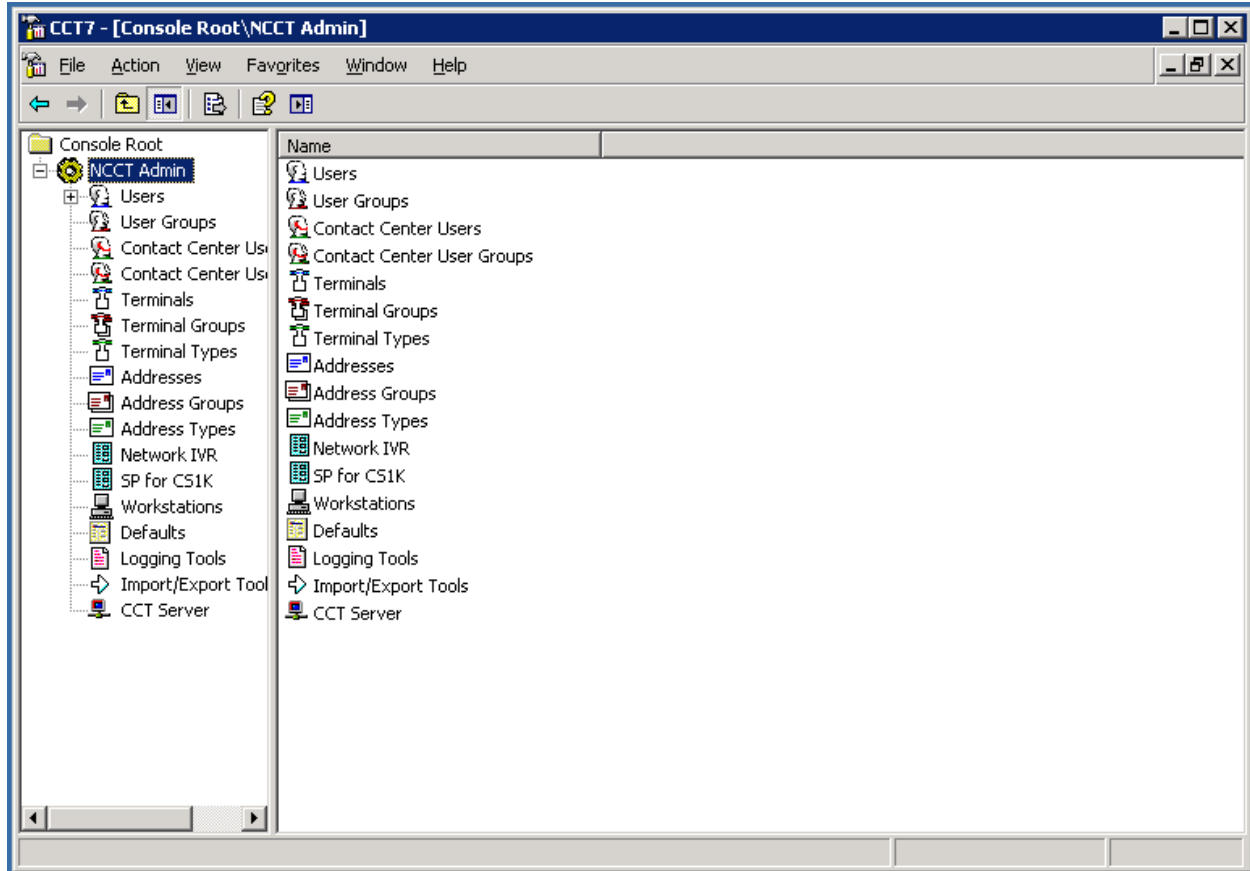
CCT services should be stopped before importing new users:

1. Log on to the Communication Control Toolkit server.
2. Navigate to **Administrative Tools → Services**.
3. Stop the **NCCT SMON** service to stop all of the services on the Communication Control Toolkit server.
4. Start the **NCCT Data Access Layer** service.
5. Close the **Services** window.

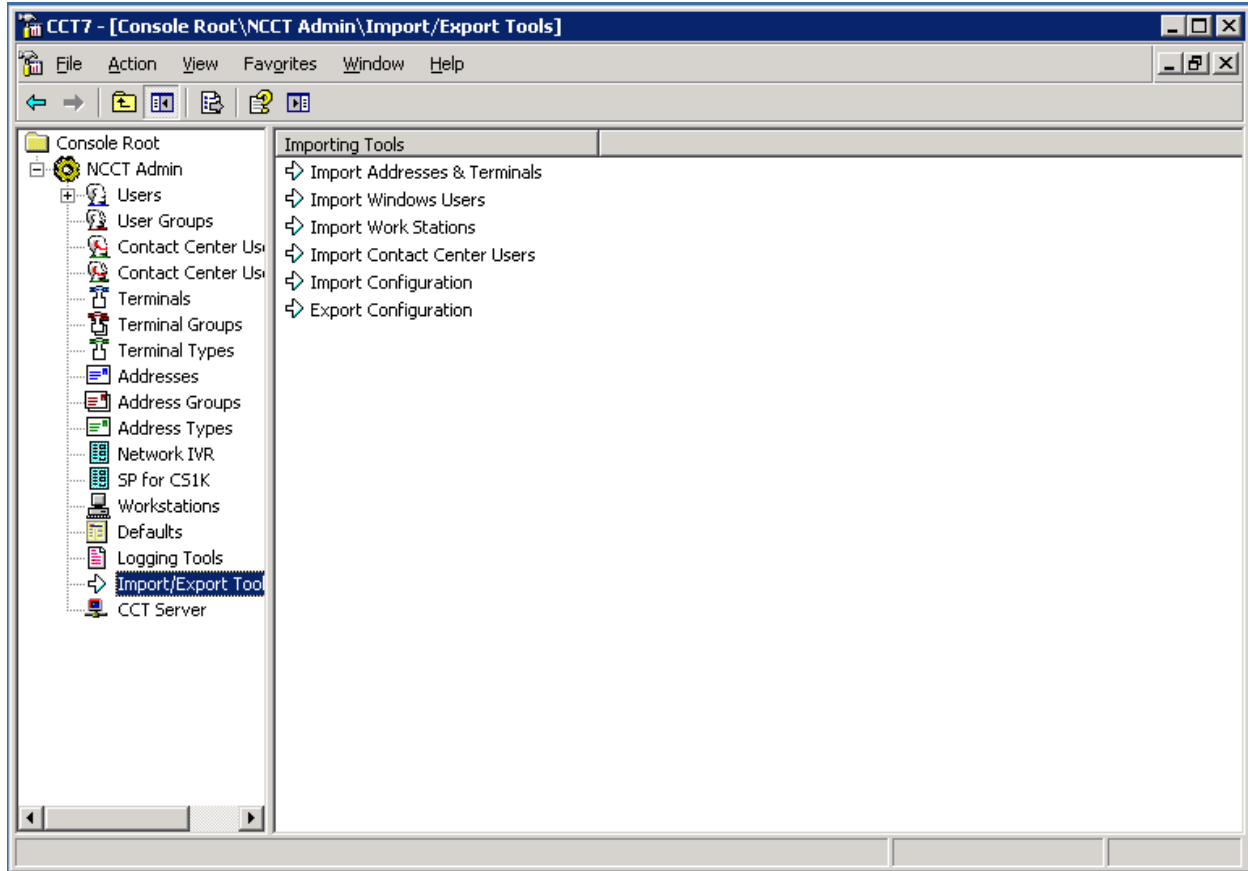
Open the CCT Console by navigating to **All Programs→ Nortel→ Contact Center→ Communication Control Toolkit→ CCT Console.**



Expand NCCT Admin.



In the left pane of the CCT console, click **Import/Export Tools**.



In the right pane of the CCT console, double-click **Import Windows Users**.

Import Windows Users Properties

Search for Users

Location: CTIDPP18

Object Type: Find All Users Object Name:

Find Now

Search Results:

Add Add All

Selected Users:

Remove Remove All

OK Cancel Apply

In the **Location** box, select the domain or server from which to search for Windows users.. In the **Object Type** box, select the group of users to display. In the **Object Name** box, type the text to use in a search for Windows Users.

Import Windows Users Properties ? X

Search for Users

Location: CTIDPP18

Object Type: Find All Users Object Name:

Find Now

Search Results:

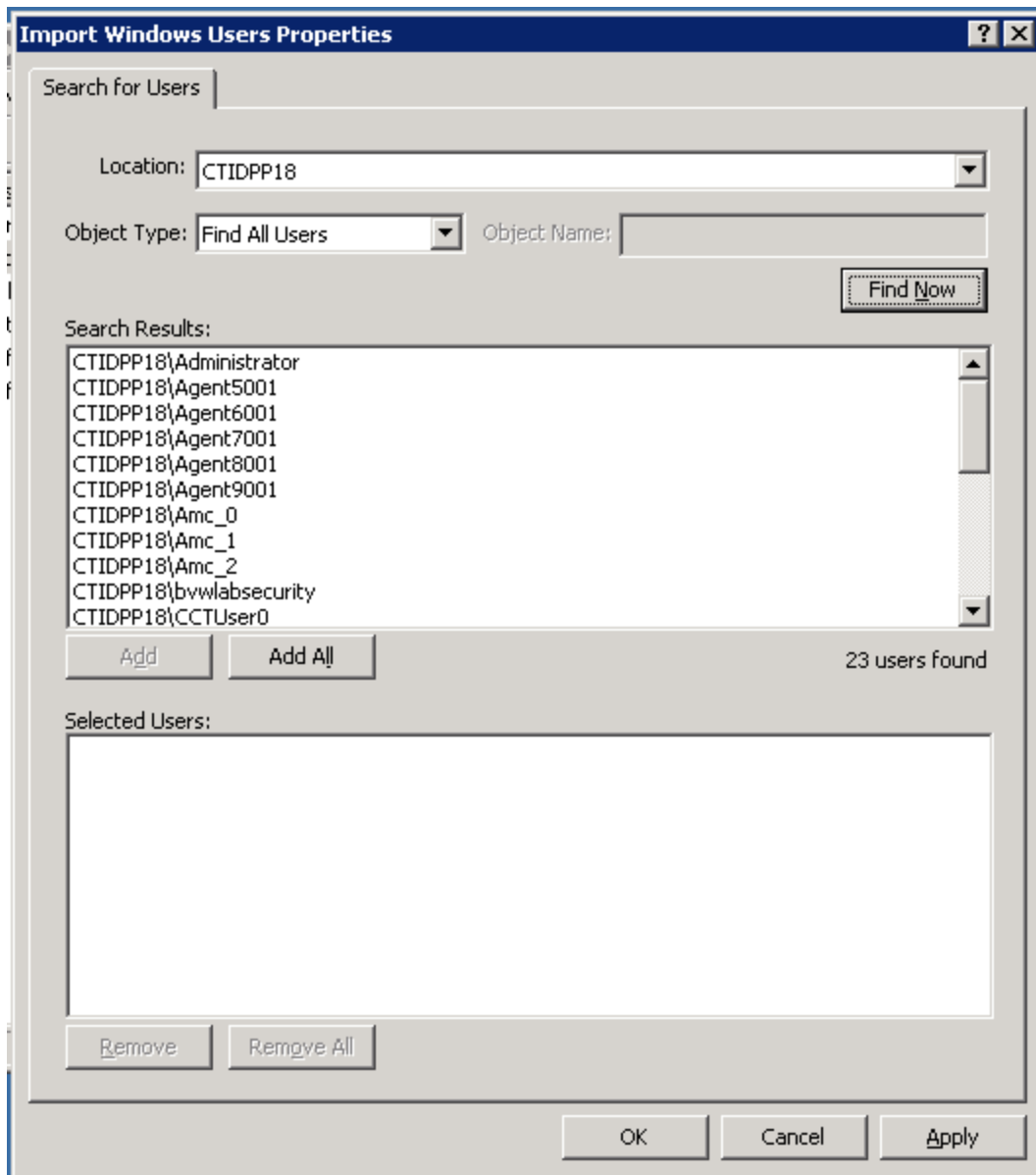
Add Add All

Selected Users:

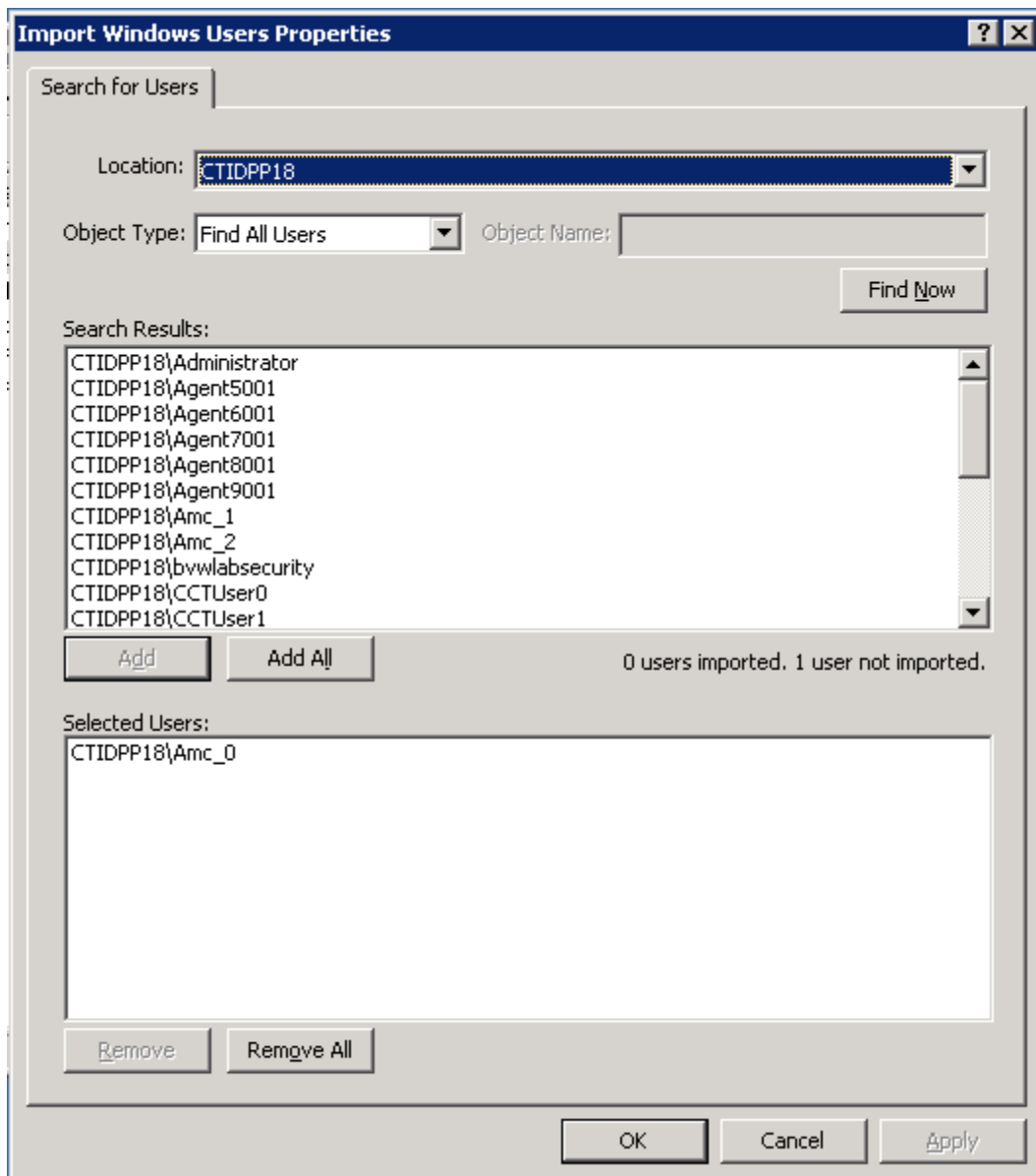
Remove Remove All

OK Cancel Apply

Click **Find Now**.



In the **Search Results** box, select the Windows users to import. To select multiple users, press the **Ctrl** key while selecting each user. To select all Windows users, click **Add All**. For the purpose of this compliance test, user AMC_0 was imported:

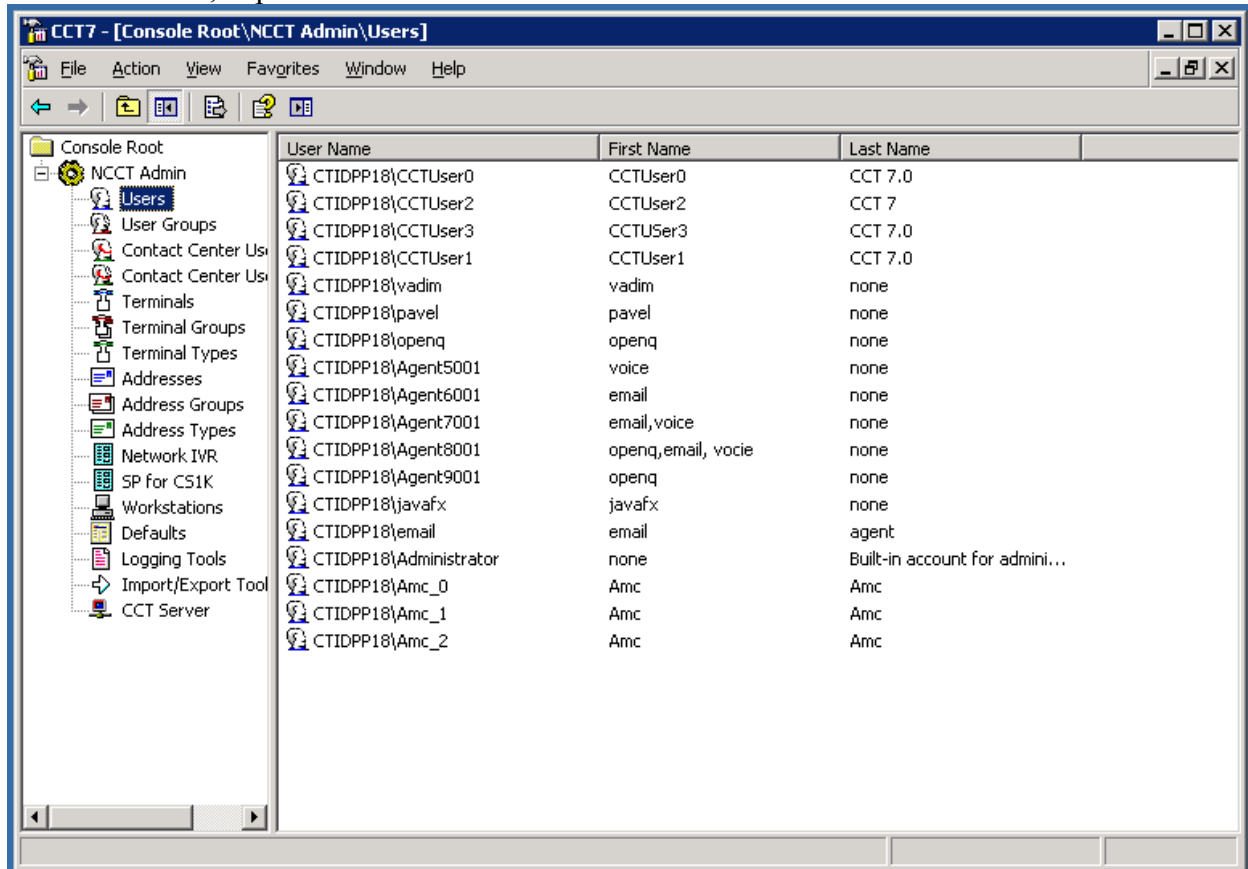


Click **Add**. Click **Apply** to complete the addition of the user. Click **OK** to close the window.

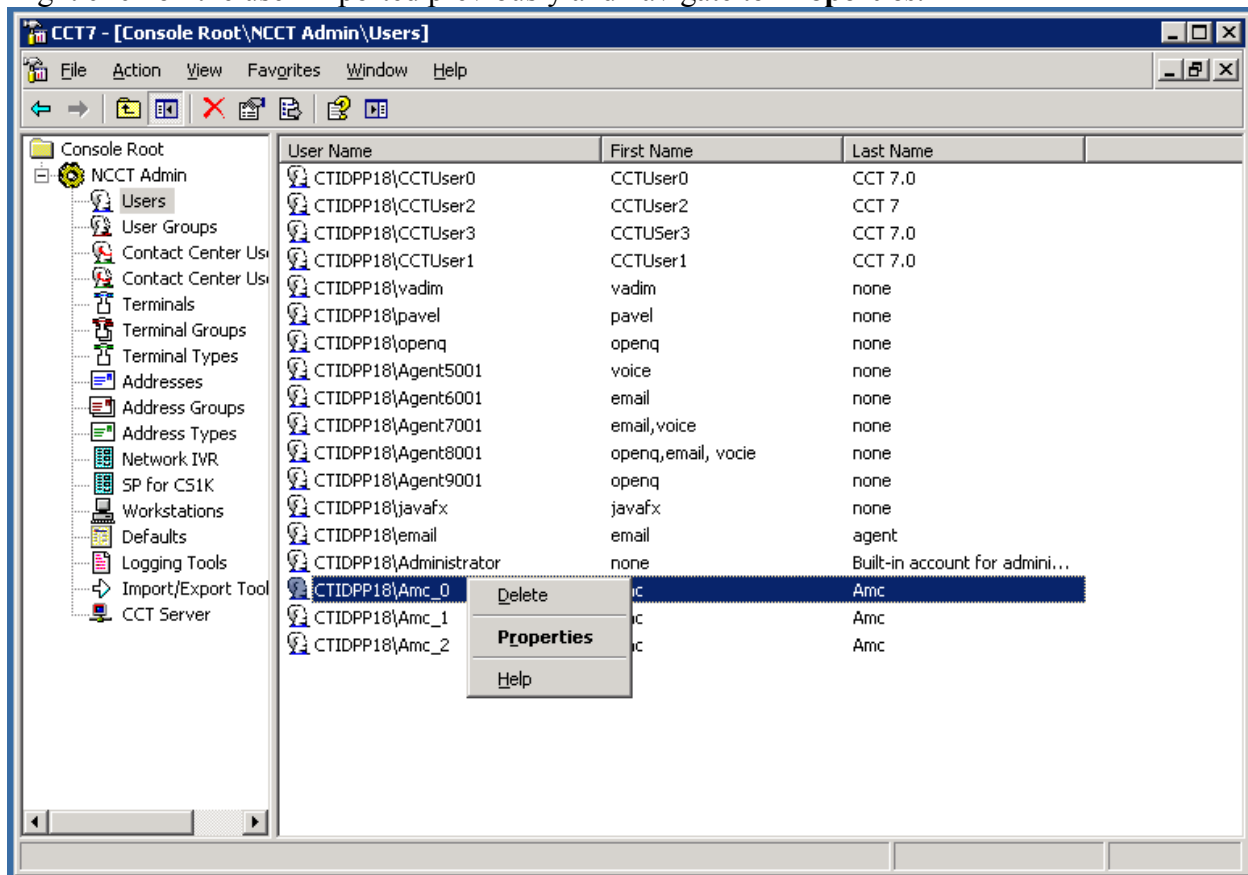
Start the **NCCT SMON** service to start all of the Communication Control Toolkit services.

The procedure to map user to Terminal is as follows.

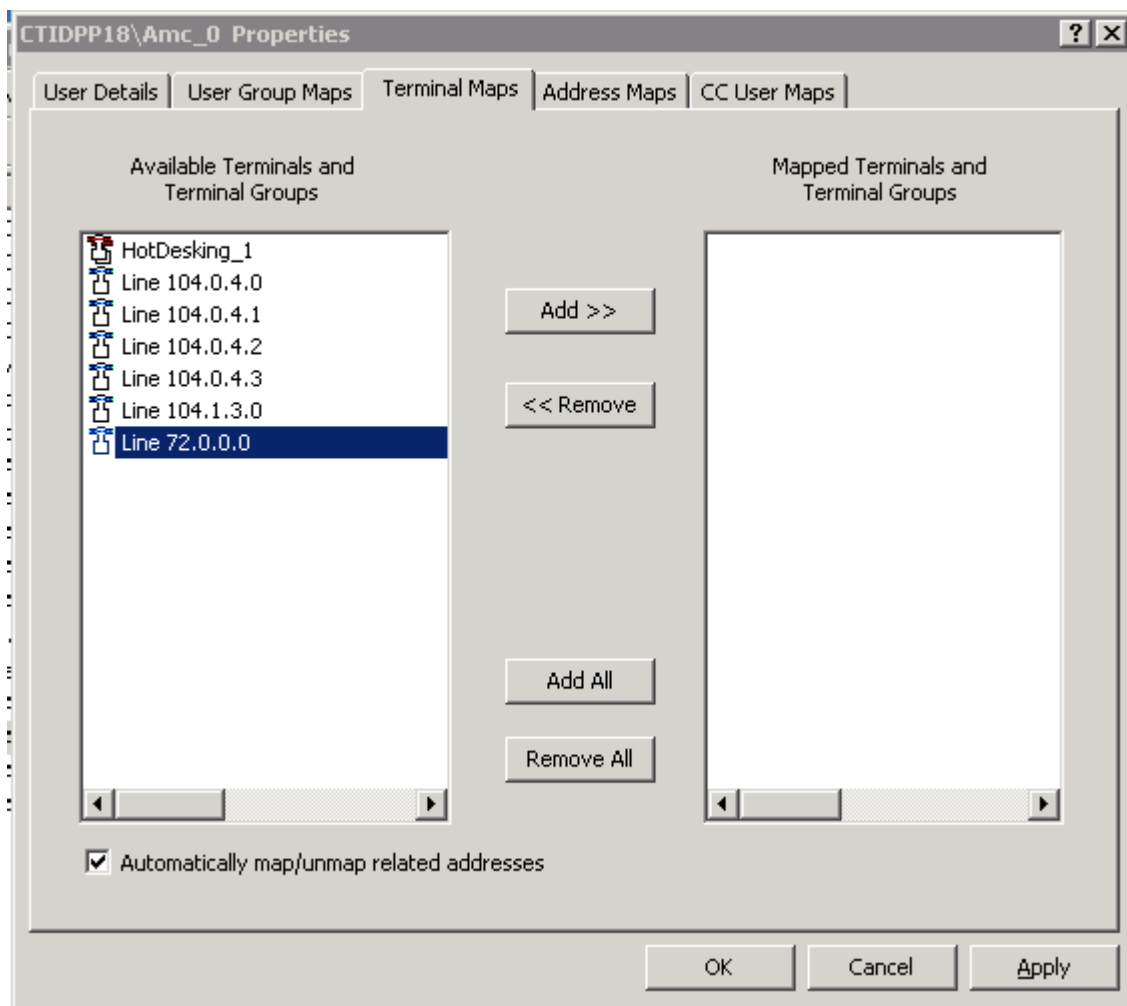
In CCT console, expand **NCCT Admin**. Select **Users**:

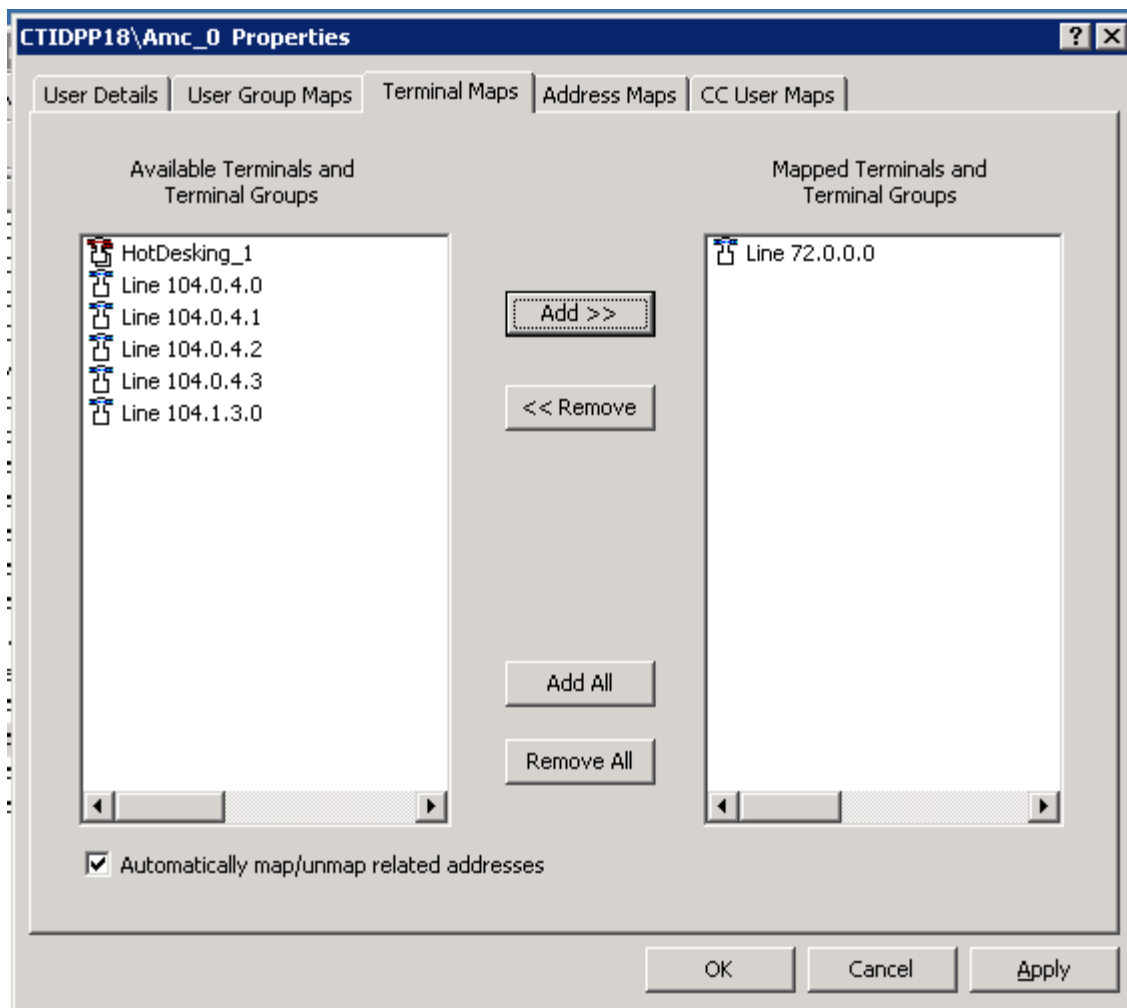


Right click on the user imported previously and navigate to **Properties**.



In **Terminal Maps** tab, select the terminal configured in **Section 5.1.1**. Click **Add**:





Complete the configuration of the user by clicking **Apply**. Click **OK** to close the window.

6. Configure MCIS server and AMC Application Adapter for Oracle Siebel

This section covers the procedure for configuring the AMC Connector and integrating it with Communication Control Toolkit.

- Modify the **config.ini** in the **C:\Program Files\AMC Technology\MCIS** directory on the MCIS server as follows. Note that the complete file is not shown below.

```
#####
# MCIS Configuration file: Config.ini (Sample File)
#
# MCIS Release 5.3
# File Version 1.0
```

```

#
# This file should contain all the potential keys for every module.
# Refer to the MCIS Implementation Guide, Adapter Implementation Guide,
# and Connector Implementation Guide for more information.
#
# It is recommended you create a copy of this file for Backup
#
# It is also recommended you create system specific ini files and copy
# the contents of those files to the config.ini file using the MCIS
# Administration Tool or Manually.
#
#####
...

### CHANNEL SPECIFIC ###

### NULL Connector
ModuleClass=CTINullClass,CTI_NULL.AMC_CTI_NULL
# Module=CTIModule,CTINullClass

### Avaya CT/AES
ModuleClass=CentreVuCTI,CentreVuCTI.CentreVuCTIModule
ModuleClass=ARGRouterClass,CentreVuRouterDLL.AMCCentreVuRouter
# Module=CTIModule,CentreVuCTI
# Module=ARGRouter,ARGRouterClass

### Nortel CCT
ModuleClass=NortelCCTClass,NortelCCT7Connector.TelephonyConnector
Module=CTIModule,NortelCCTClass

### Cisco CTI
ModuleClass=CiscoCTI,Cisco.AMC_Cisco
# Module=CTIModule,CiscoCTI

### Aspect UIP CTI
ModuleClass=AspectUIP,AspectCTI.AspectConnector
# Module=CTIModule,AspectUIP

### CT Connect CTI
ModuleClass=NetMerge_ProgID,NetMerge.AmcNetMerge
# Module=CTIModule,NetMerge_ProgID

. . .
--- BEGIN: REMOTE ENDPOINT ADAPTER SPECIFIC ---
###
# Remoting Adapter
#
###
[RemotingEndpoint]
# TraceEnabled=1
TraceLevel=6
# TraceMaxSize=1024

```

```

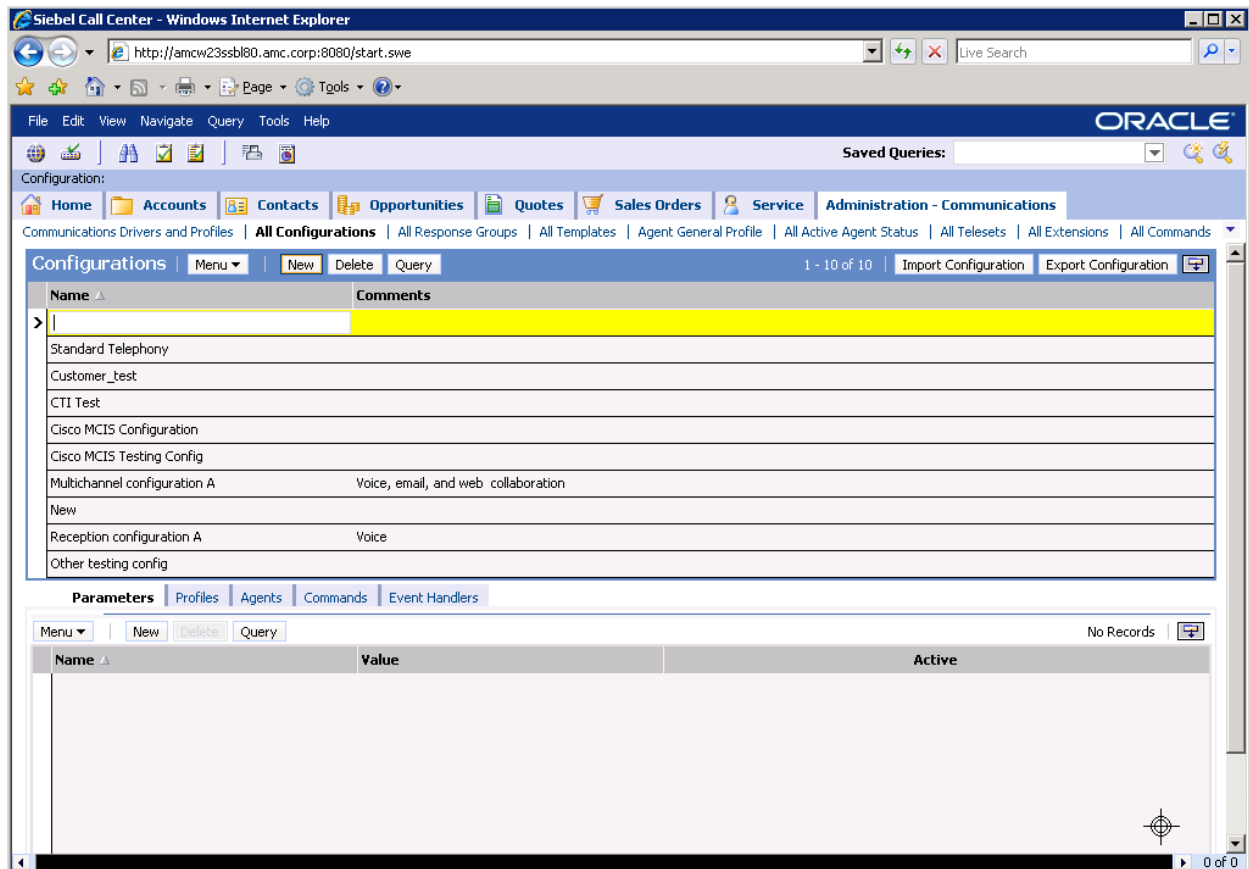
RemotingPort=5666
DataStore=DataStore
--- END: REMOTE ENDPOINT ADAPTER SPECIFIC ---

###
# CTIModule
#
###
[CTIModule]
# TraceEnabled=1
# TraceLevel=2
# TraceMaxSize=1024
# DataStore=DataStore
////////////////////////////////////
//
// Telephony Connector for Nortel CCT 7
//
////////////////////////////////////
TraceLevel=6
Channel=CTI1
InitialLoginState=NotReady
SetStateOnLogin=True
UseLoginWorkaround=False
CCTServer=47.249.66.148
CCTDomain=47.249.66.148
CCTUserName=Amc_0
CCTPassword=amc123
CCTEncryptionLevel=None
DataStore=DataStore
KnownQueues=7000
CCTDataStoreFormat=STR
CompressAdditionCAD=true
UseLegacyCADFormat=true
DefaultObjectName=KEYVALUE

```

Fields “CCTServer” and “CCTDomain” are configured with the IP address of the Communication Control Toolkit. Fields “CCTUserName” and “CCTPassword” is configured with the username and password of the user imported into CCT in **Section 5.2**. Value contained in Field “RemotingPort” is used below to complete the AMC Application adapter configuration.

- Because the adapter runs on the AMC Application adapter for Oracle Siebel, it connects with the MCIS Server. The MCIS Server location, host name and port, are configured within the AMC Application adapter for Oracle Siebel. Log on to the Siebel client with administrator privileges. Select **Administration - Communications** tab. In the Configurations screen, Select “New” to create a new configuration:



Enter a name for this configuration and a comment describing it. Navigate away from the record to save the change. Select the **Profile** tab on the bottom half of the screen.

In “MCISHost” enter the IP address or host name of the MCIS server. In “MCISPort” enter the port configured in the config.ini file above.

The screenshot shows the Siebel Call Center configuration page in Microsoft Internet Explorer. The browser address bar shows the URL: http://amcw23ssbl80.amc.corp/callcenter_enu/start.swe?SWECmd=Login&SWEPL=18_sn=JO-PJV15xemCt5D3lbdT3pV1pZUAntyKVvixwtTBLcM_8SWETS=1281455378989&SWEI. The page title is "Siebel Call Center - Microsoft Internet Explorer".

The main content area is titled "Communications Drivers and Profiles". It contains a table with the following columns: Name, Channel Type, Inbound, Outbound, Interactive, Channel String, and Library Name. The table lists the "AMC Application Adapter for Siebel 5.2.0.3" driver, which is configured for Voice, Inbound, Outbound, and Interactive channels, with a Channel String of "Voice" and a Library Name of "AMCSiebelAdapter.dll".

Below the table, there is a section titled "Driver Parameters" with a "Profiles" tab. This section contains a table with the following columns: Name, Required, and Default Value. The table lists various parameters for the "Driver:MCISHost" and "Driver:MCISPort" drivers.

| Name | Required | Default Value |
|-----------------------------|----------|--------------------------|
| Driver:EventPort | ✓ | 7779 |
| Driver:FailoverPingInterval | ✓ | 1000 |
| Driver:FailoverTimeout | ✓ | 5000 |
| Driver:MCISHost | ✓ | 192.168.0.203 |
| Driver:MCISPort | ✓ | 5666 |
| Driver:TraceFileName | | AMCSiebelSNTTest.log |
| Driver:TraceLevel | ✓ | 5 |
| Driver:TraceMaxSize | ✓ | 10000 |
| Driver:TracePath | ✓ | F:\{sba80}\siebsrvr\log\ |

- Associate agents with the new configuration by selecting the new configuration. Scroll down and select the “Agent” tab. Enter agent configuration as required. View completed agent profile in the “Agent General Profile” tab.

Siebel Call Center - Microsoft Internet Explorer

Address: http://amcw23ssbl80.amc.corp/callcenter_enu/start.swe?SWECmd=Login&SWEPL=1&_sn=JO-PJV15xemCt5DjIbdTjPv1pZUAntyKVvixwtTBLcM_8SWETS=1281455378989&SWEI

Oracle

Agent:

Home Accounts Contacts Opportunities Quotes Sales Orders Service Administration - Communications

Communications Drivers and Profiles | All Configurations | All Response Groups | All Templates | **Agent General Profile** | All Active Agent Status | All Telesets | All Extensions | All Commands

Agent General Profile | Menu | Query | 3 - 12 of 12

| Agent | Agent Login | Password | First Name | Last Name | Primary Configuration |
|-----------|-------------|----------|------------|-----------|------------------------|
| KRUSH | 34153 | ***** | Ken | Rush | PaulTest |
| MZHANG | 4003 | ***** | Ming | Zhang | AMC Demo Configuration |
| PMARTIN | 2009 | ***** | Paul | Martin | AMCW23S09 |
| SAPTE | tester2 | ***** | Swati | Apte | James Test |
| SNOVITSKY | 34147 | ***** | Sergei | Novitsky | Cisco Existing Config |
| TESTER1 | 3001 | ***** | James | Parker | MTN1 |
| TESTER2 | 4003 | ***** | Michael | Sindler | MTN1 |
| TESTER3 | 34163 | ***** | Porter | Holbert | MTN1 |
| TESTER4 | 34166 | ***** | Alan | Zelcer | AMC Oswaldo Test |
| TESTER5 | 4004 | ***** | TESTER5 | TESTER5 | Email Driver |

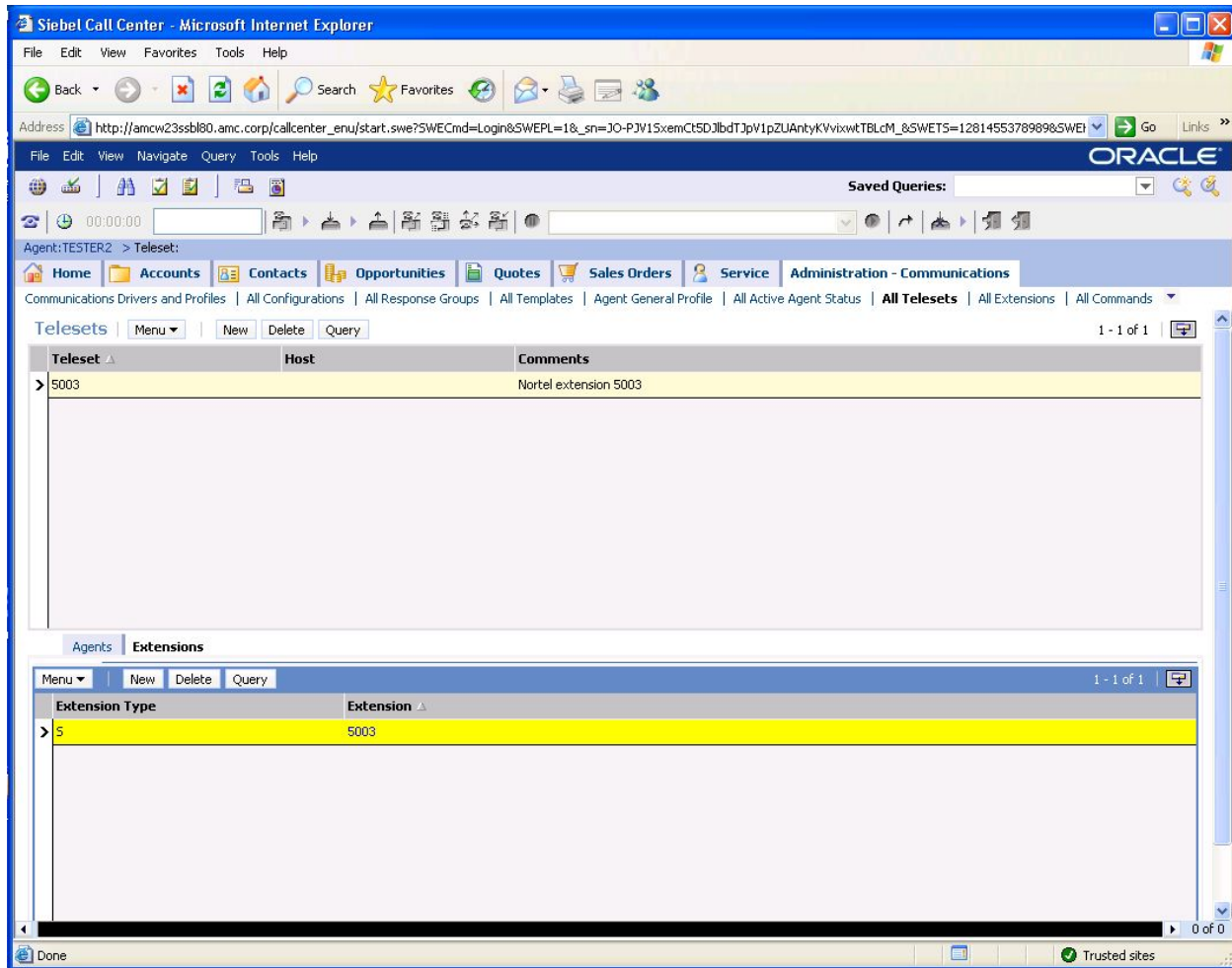
Configurations Telesets ACD Queues

Menu | New | Delete | Query | 1 - 1 of 1

| Teleset | Host | Comments |
|---------|------|-----------------------|
| 5003 | | Nortel extension 5003 |

Done Trusted sites

- Configure telephone extensions implemented on CS1K and CCT in the “All Telsets” tab. Choose new and enter telset information. “Extension” is the value configured for Key 00 or Key 03 in **Section 4.1**. Note the screenshot below is generic and does not match the values indicated in Section 4.1 of this document:



7. General Test Approach and Test Results

A test plan developed by AMC and DevConnect was implemented. The test plan included testing of various call flows and agent states. Agent and call states shown on AMC agent console were visually inspected for verification against actual call states on the physical phone sets.

8. Verification Steps

Agent and call states shown on the AMC agent console were compared against the physical phone sets for verification.

9. Conclusion

These Application Notes describe the configuration steps required for AMC Application adapter with Oracle Siebel to integrate with Communication Control Toolkit to successfully control and monitor agent and call states.

10. Additional References

The following Avaya product documentation was used for the setup of the test bed:

- [1] Contact Center Installation (NN44400-311)
- [2] Contact Center Commissioning (NN44400-312)
- [3] Contact Center Configuration – CS 1000 Integration (NN44400-512)

All Avaya product documentation for Contact Center Manager Server can be found at <http://support.avaya.com/>.

The following documentation was provided by AMC:

- [1] AMC Adapter for Siebel Implementation Guide MCIS v5.2

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