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Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avaya Aura® Contact Center R6.2 with Avaya Communication Server 1000E R7.5 via the Application Module Link interface - Issue 1.0

Abstract

These Application Notes describe how to configure Avaya Aura® Contact Center R6.2 to work with Avaya Communication Server 1000E R7.5 over the Application Module Link.

Avaya Aura® Contact Center can connect with Avaya Communication Server 1000E using a proprietary protocol called Application Module Link.

Information in these Application Notes has been obtained through Solution and Interoperability Lab full stack testing and additional technical discussions.

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Solution & Interoperability Test Lab Application Notes
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1. Introduction

Avaya Aura® Contact Center (AACC) is a robust, software only solution that facilitates agents and knowledge workers to efficiently and effectively collaborate with customers and partners across multiple media types to manage customer experience. A typical Avaya Aura® Contact Center installation (see the Reference Configuration in **Figure 1** below) consists of multiple software components installed and configured on industry standard servers.

Avaya Communication Server 1000E (CS1000E) is an IP-distributed telephony communications system that delivers the benefits of network convergence and collaborative communications, providing the foundation for a unified communications environment.

These Application Notes will document the procedures necessary to configure an Avaya Aura® Contact Center 6.2 (Standard Availability) system to work with Avaya Communication Server 1000E 7.5 over the proprietary Application Module Link (AML) protocol.

This Application Note describes a sample configuration for Avaya Aura® Contact Center with CS1000E over AML. Detailed administration of other aspects of Avaya Aura® Contact Center, CS1000E or additional equipment installed to support the AACC installation (e.g. Active Directory / Domain Name Servers, Voice / Data Network equipment) will not be described as it is outside the scope of this Application Note.

Steps described in this document include:
1. Configuration on the CS1000E for the Control Directory Number (CDN) and Automatic Call Distribution (ACD) queue to facilitate the routing of customer calls over AML to the AACC. AACC then provides call treatments, skill-based routing and reporting.
2. Configuration on CS1000E for the Agent phones (controlled by AACC and associated with Agent Desktop clients).
3. Configuration of the AACC using the Contact Center Manager Administration (CCMA) web interface to add the Contact Center Manager Server (CCMS) and Communication Control Toolkit (CCT) server to the CCMA database.
4. Importing the CDN data and Agent phone data from CS1000E into AACC, configuration on AACC for the CDN and the mapping of the phones to the relevant Agents on AACC.
5. Configuration of a basic script on AACC using the Orchestration Designer toolkit which will allow calls to be routed to logged on and available agents.

1.1. Avaya Aura® Contact Center Overview

Below is a brief description of the important applications of Avaya Aura® Contact Center:
- **Contact Center Manager Server (CCMS)** is a core component that provides intelligent routing capability for voice and multimedia contacts to route contacts to the most qualified agent. The most qualified agent is the agent with the appropriate ability to handle the type of contact.
- **Contact Center Manager Administration (CCMA)** is a browser-based tool for contact center administrators and supervisors.

- **Communication Control Toolkit (CCT)** is the contact control component that facilitates the Computer Telephony Integration (CTI) for Agent call control.
- **Contact Center License Manager (LM)** is used for central licensing and control of all Contact Center components and features across the Contact Center suite (Contact Center Manager Server, Contact Center Manager Administration, Communication Control Toolkit, and Contact Center Multimedia).
- **Contact Center Manager Server Utility (CCMSU)** is used to monitor and maintain Contact Center Manager Server. The Contact Center Manager Server Utility provides functionality that is not available through Contact Center Manager Administration.
- **Contact Center Multi-Media (CCMM)** is an optional component that manages all multi-media contacts into and out of the contact center. These contacts include email, web-chat and instant messaging.
- **Avaya Aura Agent Desktop (AAAD)** is the Agent's desktop client used to manage the customer contacts (voice and multi-media).

While there are many different supported Avaya Aura® Contact Center configurations, these Application Notes will discuss an AML-based Standard Availability installation. In a Standard Availability configuration, Avaya Aura® Contact Center R6.2 server applications are installed co-resident on a single server running Windows Server 2008 R2 64-bit Standard / Enterprise edition operating system. The following is a list of the core applications and the install specification.

AML based Avaya Aura® Contact Center Applications Installed co-resident on the same server
Contact Center Manager Server (CCMS)
Communication Control Toolkit (CCT)
Contact Center Manager Administration (CCMA)
Contact Center Multimedia (CCMM) – optional component

It is assumed that the Avaya Communication Server 1000E 7.5 has already been installed and working with an appropriate license to enable the relevant software packages and with the latest software patches (refer to Appendix B below for details from the sample configuration). It is also assumed that the Avaya Aura® Contact Center software has already been installed and that any other relevant infrastructure has been provisioned (e.g. Active Directory / Domain Name Servers, Voice / Data Network equipment).

2. Interoperability Testing

These application notes just describe the procedures necessary to configure an Avaya Aura®
Contact Center 6.2 (Standard Availability) system to work with Avaya Communication Server
1000E 7.5 (High Availability) over the proprietary Application Module Link (AML) protocol.

2.1. Test Description and Coverage

It is presumed that the Avaya Aura® Contact Center 6.2 (Standard Availability) software has
been pre-installed on Windows Server 2008 Release 2 64-bit Standard or Enterprise edition
running on a Dell PowerEdge R610 server. It is also presumed that the Avaya Communication
Server 1000E Release 7.5 system and software have also been provisioned with the most recent
dependency patch lists.

2.2. Test Results and Observations

The following observations and outcomes are brought to the attention of users to highlight
unexpected actions observed when generating these Application Notes.

As mentioned in Section 6.5, when configuring the CS1000E service provider using the CCT
Console there is an error in the drop-down menu for the CS1000 Software Release. The options
offered in this drop-down menu do not currently include Release 7.5. The recommended option
to use is **Release 7.0** even though the CS1000E is on Release 7.5.

3. Reference Configuration

The following diagram (**Figure 1**) shows the Reference configuration used for testing. It depicts a typical AML-based Avaya Aura® Contact Center configuration with Avaya Communications Server 1000E and associated contact center agent equipment.
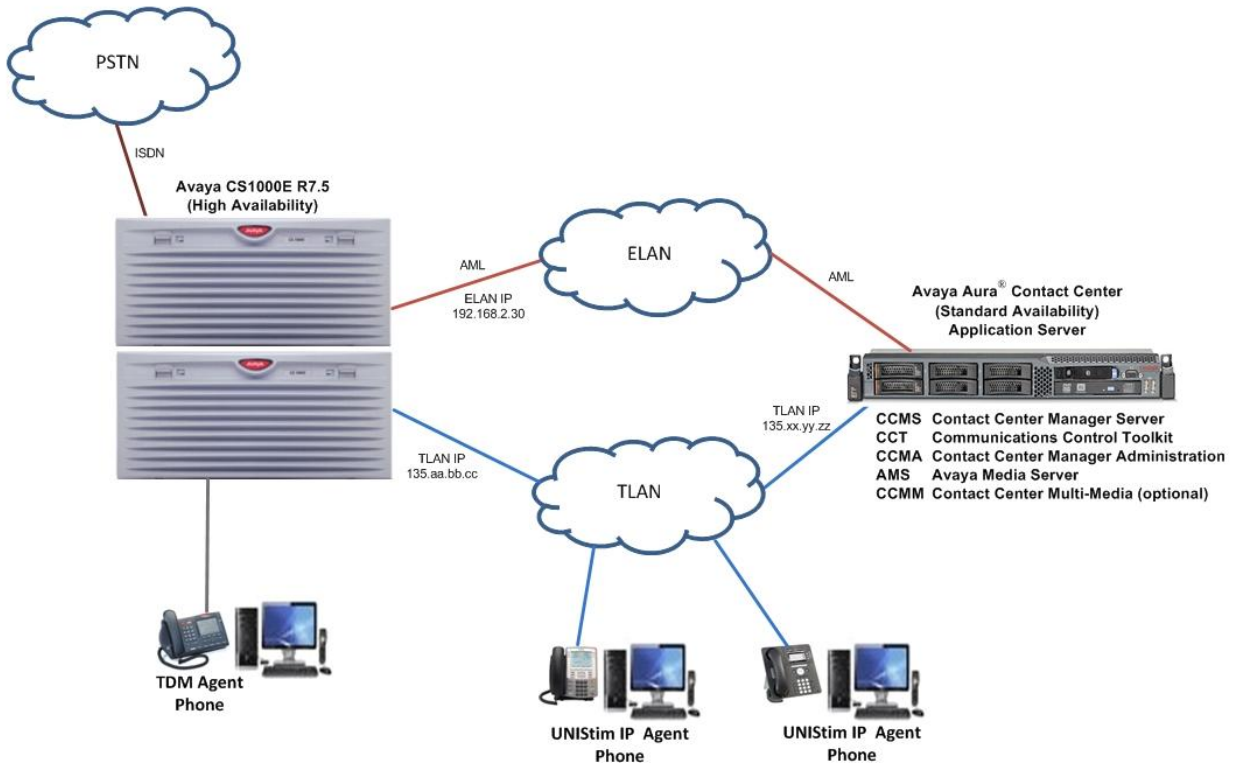
Figure 1: Typical Avaya Aura® Contact Center Configuration

The procedures discussed in the following sections only apply to servers and applications which are core elements of Avaya Communications Server 1000E and Avaya Aura® Contact Center (as shown in the diagram).

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Contact Centre (Standard Availability) running on a Dell PowerEdge R610	R6.2 SP5 + RU01, RU02, RU03 (roll-up) GA patches.
Avaya Communications Server 1000E PBX	R7.5 + latest Dependency List patches. See Appendix A for the complete list
1100 Series IP Telephones for Avaya Communications Server 1000E	Firmware version 5.3 (UNIStim)
1200 Series IP Telephones for Avaya Communications Server 1000E	Firmware version 5.3 (UNIStim)
3900 Series TDM Telephones for Avaya Communications Server 1000E	Firmware version AA94 delivered with CS1000E R7.5

5. Configuration of Avaya Communication Server 1000E

This section describes the procedures for configuring:

1. An Automatic Call Distribution (ACD) queue on CS1000E for Contact Center agents. Contact center agents will be configured later as part of this queue and the queue itself will be under the control of AACC which handles the routing of Customer calls to appropriate agents.
2. A Control Directory Number (CDN) on CS1000E. The CDN is like the handle or access point for entry into the ACD queue.
3. Four agent telephone sets as part of the ACD queue. For the purposes of the reference configuration, three IP sets (1165 and 1230 UNIStim IP sets and 2050 Softphone) and one 3904 TDM set.

## 5.1. Connecting to the CS1000E using PuTTY

These steps are performed using the freely available open source terminal emulation software program called PuTTY. Because the Call Processor of the CS1000E is on a private Embedded LAN (ELAN) and therefore unreachable directly from the Customer's network, it is standard procedure to connect and logon first to the Telephony LAN (TLAN) of the Signaling Server which is connected to the CS1000E. From there, the user can gain access to the Call Processor of the CS1000E through the private ELAN port. Once connected and logged on to the Call Processor, the provisioning steps can be carried out.

Launch the PuTTY application and perform the following steps to configure the session:

- In the **Category:** box on the left hand side, click on **Window**
  - o Enter 2000 in the box titled **Lines of scrollback**.
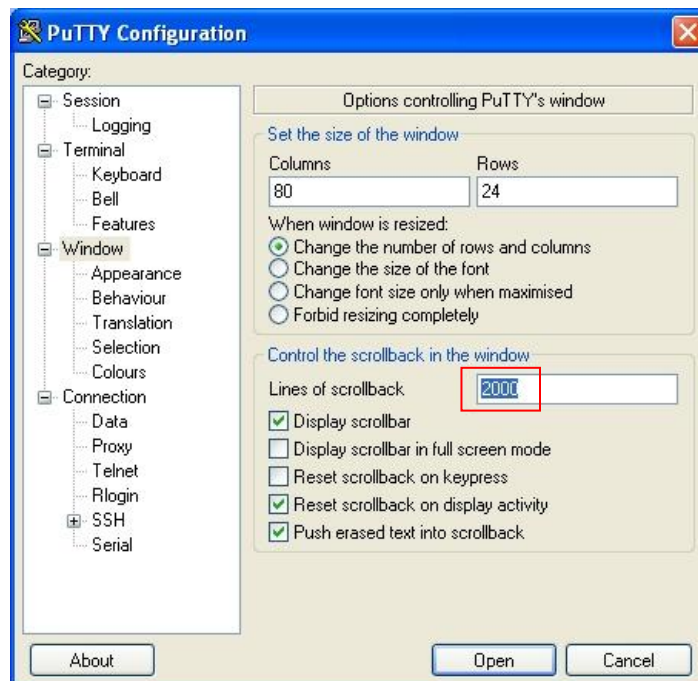
- In the **Category:** box on the left hand side, click on **Session**
    - Enter the **Host Name (or IP address)** of the CS1000E Signaling Server TLAN.
    - Select **SSH** for secure shell access.
    - Enter a **Saved Sessions** name (e.g. **CS1000E SS TLAN**) and press **Save** to save the session for any future use.
    - Press **Open** to launch the PuTTY session window.
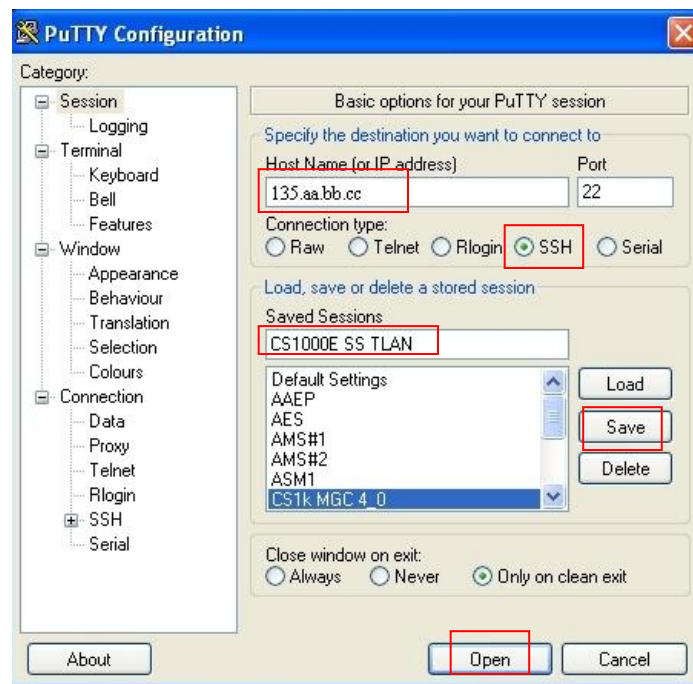
The PuTTY session window launches as follows:
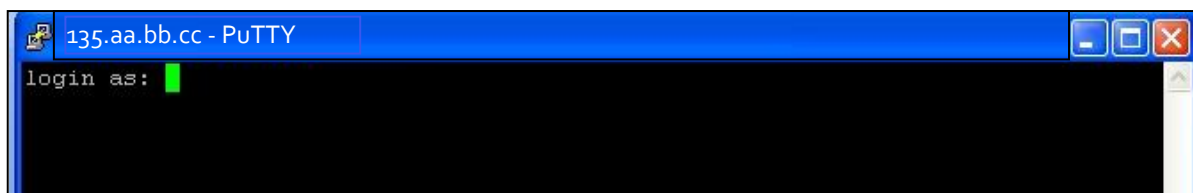
The process to login to the CS1000E Call Processor involves three steps as follows:
1. Login to the signaling server using a valid user-id (e.g. **mike**) and password.
2. Enter the "**cslogin**" command to connect to the CS1000E Call Processor.
3. Login to the CS1000E Call Processor with a valid user-id and password.

5.2. Define the ELAN on CS1000E

Define and configure the ELAN for the AML link and the associated Value Added Server (VAS) ID on the CS1000E. These provide the Ethernet connection over which AML messages are exchanged between the Avaya Communication Server 1000 system and Avaya Aura® Contact Center.

If the CS1000E already has an ELAN and/or VAS ID configured, it may give an error. In that case, select the next available ELAN and/or VAS ID number for this configuration.

The bold text in the following screens indicates the values used for this configuration. Press **Enter** to accept the default value. The following is an example of the configuration required for this using Overlay 17.

```
>LD 17                ← Load Overlay 17

REQ  CHG              ← Type CHG to edit the configuration
TYPE ADAN             ← Type ADAN for input output devices
ADAN NEW ELAN 16      ← Allowed values for ELAN devices are 16-31
CTYP ELAN             ← interface type is ELAN
DES  AACC             ← Enter a description text e.g. AACC


ADAN DATA SAVED
ADAN

REQ  CHG              ← Type CHG to edit the configuration
TYPE VAS              ← Type VAS for Value Added Server
VAS  NEW              ← Type NEW to add a new VAS
VSID 16               ← Use the same number as for ELAN above
ELAN 16               ← VAS 16 associated with ELAN 16
SECU YES              ← Set Security to YES


REQ  END              ← Type END to exit the overlay
```

5.3. Configuring the CS1000E System Parameters

Configure the CS1000E System Parameters to ensure the CS1000E has sufficient values for the following parameters:
- Number of system Call Registers (NCR),
- Number of Call Registers for CSL/AML input queues (CSQI),
- Number of Call Registers for CSL/AML output queues (CSQO).

The following is an example of the configuration required for this using Overlay 17.

```
>LD 17                ← Load Overlay 17

REQ  CHG              ← Type CHG to edit the configuration
TYPE PARM             ← Type PARM for system parameters
NCR  35000            ← maximum value is 35000
CSQI 255              ← maximum value is 255
CSQO 255              ← maximum value is 255
…                     ← Press Enter to the end when the REQ prompt appears

REQ  END              ← Type END to exit the overlay
```

5.4. Enabling the ELAN link

Enable the ELAN link for connectivity with AACC as follows using Overlay 48.

```
>LD 48                ← Load Overlay 48

.STAT ELAN            ← Get status of the ELAN link (shown as DISABLED)

SERVER TASK:  DISABLED
ELAN #: 016  DES: AACC
   APPL_IP_ID: 0 .0 .0 .0 LYR7: DOWN DSBL

.ENL ELAN             ← Enable the ELAN link (expect to see OK returned)
OK
.
ELAN020 ELAN Server enabled by LD 48

.STAT ELAN            ← Get status of the ELAN link (now ENABLED)

SERVER TASK:  ENABLED
ELAN #: 016  DES: AACC
   APPL_IP_ID: 192 .168 .2 .30 LYR7: ACTIVE  EMPTY   APPL ACTIVE

.****                 ← type four stars (****) to exit the overlay
>
```

5.5. Defining a default gateway address

Define the default ELAN gateway IP address on the CS1000E as follows using Overlay 117.

```
>LD 117                  ← Load Overlay 117

=> NEW ROUTE 0.0.0.0 192.168.2.1        ← define the ELAN GW

=> PRT ROUTE            ← Print out the GW configuration to check
Call Server
 ID  Network          Gateway
  1  0.0.0.0          192.168.2.1
```

5.6. Configuring an ACD queue

Configure the ACD queue on the CS1000E using Overlay 23 as follows.

```
>LD 23                  ← Load Overlay 23

REQ  NEW                ← Enter new to create a new ACD queue
TYPE ACD                ← Type is ACD
CUST 0                  ← Customer 0
ACDN 60500              ← ACD Directory Number in this example is 60500
MAXP 50                 ← Maximum Number of Agent Positions (1 – 120 allowed)
NCFW 0                  ← Night Call Forward number = 0 (Attendant)
…                       ← Press Enter to default all remaining values

REQ  END                ← Type end to exit the overlay
```

5.7. Configuring the CDN on the CS1000E

A Controlled Directory Number (CDN) is the entry point of a call into Contact Center Manager Server call processing. A CDN must be configured both on the CS1000E and on Contact Center Manager Server (as described in **Section 6.7**).

Important: Risk of corruption.
Corruption results if a CDN is not configured in this overlay before that CDN is acquired in Contact Center Manager Administration. Therefore it is very important to carry out this step before moving on to the section describing the configuration of the AACC.

Configure the CDN using Overlay 23 as follows.

```
>LD 23                  ← Load Overlay 23

REQ  NEW                ← Enter NEW to create a new CDN
TYPE CDN                ← Type is CDN
CUST 0                  ← Customer 0
CDN  60000              ← CDN used in this example is 60000
```

```
DFDN 60500              ← Default ACD DN is 60500 (provisioned above)
CNTL YES                ← CDN controls the calls

REQ END                 ← Type END to exit the overlay
```

5.8. Configure the Agent telephone sets

Agent and Supervisor telephones are configured in two places:
- On the CS1000E PBX and
- On Contact Center Manager Server.

While agent and supervisor phones require no special configuration for Contact Center Manager Server, they must belong to an ACD-DN (i.e. an ACD queue). Therefore, the first step is to configure the telephone sets on the CS1000E. This configuration data is then imported into the database on the CCMS and the individual telephone set data is mapped to Agent IDs configured separately on the CCMS.

Contact Center Manager Server normally controls call routing and the ACD-DN does not affect the call routing. The ACD-DN controls call routing only if the Contact Center Manager Server CDN is in default mode i.e. if the CCMS is out of service or the AML link between the CS1000E and AACC is out of service.

The following table summarizes the configuration information required for the sets covered in this Application Note. This shows one Supervisor/Agent (**Role**) set which is an 1165 IP set and several different Agent set types (**Type**). The CS1000E Terminal Number (**TN**) is shown for each set along with its **Position ID** which is a number in the ACD queue to which this Agent's set is assigned. Also shown is the Single Call Ringing (**SCR**) number which is the personal Directory Number (**DN**) for each agent set. Finally, each agent set is assigned a **Name** which will appear on the LCD display of the set.

Role	Type	TN	Position ID	SCR #	Name
Supervisor/Agent	1165	104-0-0-0	1000	66100	Agent 66100
Agent	1140	104-0-0-1	1001	66101	Agent 66101
Agent	1230	104-0-0-3	1003	66200	Agent 66200
Agent	2050PC	104-0-0-6	1009	66500	Agent 66500
Agent	3904	4-0-3-0	1006	66300	Agent 66300

5.9. Configure zones for IP sets

IP endpoints on CS1000E require the use of a bandwidth management zone, which is used to determine the codec selected for calls across the Telephony LAN (TLAN). These endpoints can be IP sets, DSP channels and/or IP trunk channels (also known as Virtual Trunk channels). Each endpoint type is typically given its own zone number and the zone is configured with the policy information suitable for the IP telephony LAN environment.

For example if the DSP channels are assigned to zone number 4 and IP sets are assigned to zone number 2, when an IP set makes a call to a TDM set, the CS1000E will treat this as an inter-zone call and the inter-zone rules will apply which may dictate to follow a Best Quality (BQ) policy. This will result in a G.711 codec being selected, which consumes the maximum bandwidth but gives the best quality voice call. If the inter-zone policy was instead to use a Best Bandwidth (BB) rule, then a different codec such as G.729 will be used which consumes less bandwidth but could result in a lower voice quality call.

Therefore, before any IP sets are configured, a bandwidth management zone must be configured. It is assumed that the relevant zones for DSP and Virtual Trunk channels have already been configured. The following shows an example of how to configure zone number 2 using overlay 117.

```
>LD 117                 ← Load Overlay 117

=> NEW ZONE 2           ← Create a new zone number 2
Zone 2 added. Total number of zones = 3

=> ****                 ← enter four stars (****) to exit the overlay
>
```

5.10. Configure an 1100 series IP Supervisor/Agent telephone set

First configure an 1100 series IP Supervisor/Agent telephone set on the CS1000E as follows using Overlay 20.

```
>LD 20                  ← Load Overlay 20

REQ: NEW                ← enter NEW to create a new phone
TYPE: 1165              ← Type is 1165 in this example
TN   104 0 0 0          ← Terminal Number address (Loop, shelf, card, unit)
DES  AACC               ← Enter a Description, e.g. AACC
CUST 0                  ← Customer 0
ZONE 2                  ← IP sets are configured in zone 2
TGAR 0                  ← Trunk Group Access Restriction value 0
NCOS 0                  ← Network Class of Service 0
CLS  UNR                ← Class of Service = UNRestricted
CLS  HFA                ← Class of Service = Hands-Free Allowed
CLS  DOS                ← Class of Service = Deny Observation of other
                           Supervisory sets
CLS  AHA                ← Class of Service = Automatic Hold Allowed
CLS  OUSD               ← Class of Service = Observe using SCL Denied
CLS  OBPD               ← Class of Service = Observe Password Disabled
CLS  SPV                ← Class of Service = ACD Supervisor
PLEV 2                  ← Priority Level 2
AST  00 03              ← Keys 00 and 03 are controlled by AACC
IAPG 1                  ← Status message group 1 (messages sent over AML link)
KEY 0 ACD 60500 0 1000  ← ACD key 0 with position ID 1000 in the queue
KEY 1 NRD               ← Not Ready on key 1
KEY 2 MSB               ← Make Set Busy on key 2
```

```
KEY 3 SCR 66100              ← Single Call Ringing on key 3 with DN 66100
  MARP
  CPND NEW                   ← Create a new Call Party Name Display (CPND)
    CPND_LANG
    NAME Agent 66100         ← CPND name is Agent 66100
    XPLN
    DISPLAY_FMT
  VMB
KEY 4 AMG                    ← ACD Answer Emergency Call on key 4
KEY 5 AAG                    ← ACD Answer Agent on key 5

REQ:
```

5.11. Configure an 1100 series IP Agent telephone set

Next, configure an 1100 series IP Agent telephone set on the CS1000E as follows using Overlay 20.

```
REQ: NEW                ← enter NEW to create a new phone
TYPE: 1140              ← Type is 1140 in this example
TN   104 0 0 1          ← Terminal Number address (Loop, shelf, card, unit)
DES  AACC               ← Enter a Description, e.g. AACC
CUST 0                  ← Customer 0
ZONE 2                  ← IP sets are configured in zone 2
TGAR 0                  ← Trunk Group Access Restriction value 0
NCOS 0                  ← Network Class of Service 0
CLS  UNR                ← Class of Service = UNRestricted
CLS  HFA                ← Class of Service = Hands-Free Allowed
CLS  AHA                ← Class of Service = Automatic Hold Allowed
CLS  AGN                ← Class of Service = ACD Agent
PLEV 2                  ← Priority Level 2
AST  00 03              ← Keys 00 and 03 are controlled by AACC
IAPG 1                  ← Status message group 1 (messages sent over AML link)
KEY 0 ACD 60500 0 1001  ← ACD key 0 with position ID 1001 in the queue
KEY 1 NRD               ← Not Ready on key 1
KEY 2 MSB               ← Make Set Busy on key 2
KEY 3 SCR 66101         ← Single Call Ringing on key 3 with DN 66101
  MARP
  CPND NEW              ← Create a new Call Party Name Display (CPND)
    CPND_LANG
    NAME Agent 66101     ← CPND name is Agent 66101
    XPLN
    DISPLAY_FMT
  VMB
KEY 4 EMR               ← ACD Emergency on key 4
KEY 5 ASP               ← ACD Supervisor Call on key 5

REQ:
```

5.12. Configure an 1200 series IP Agent telephone set

Configure a 1200 series IP Agent telephone set on the CS1000E as follows using Overlay 20.

```
REQ: NEW              ← enter NEW to create a new phone
TYPE: 1230            ← Type is 1230 in this example
TN   104 0 0 3        ← Terminal Number address (Loop, shelf, card, unit)
DES  AACC             ← Enter a Description, e.g. AACC
CUST 0                ← Customer 0
ZONE 2                ← IP sets are configured in zone 2
TGAR 0                ← Trunk Group Access Restriction value 0
NCOS 0                ← Network Class of Service 0
CLS  UNR              ← Class of Service = UNRestricted
CLS  HFA              ← Class of Service = Hands-Free Allowed
CLS  AHA              ← Class of Service = Automatic Hold Allowed
CLS  AGN              ← Class of Service = ACD Agent
PLEV 2                ← Priority Level 2
AST  00 03            ← Keys 00 and 03 are controlled by AACC
IAPG 1                ← Status message group 1 (messages sent over AML link)
KEY 0 ACD 60500 0 1003    ← ACD key 0 with position ID 1003 in the queue
KEY 1 NRD             ← Not Ready on key 1
KEY 2 MSB             ← Make Set Busy on key 2
KEY 3 SCR 66200       ← Single Call Ringing on key 3 with DN 66200
  MARP
  CPND NEW            ← Create a new Call Party Name Display (CPND)
    CPND_LANG
    NAME Agent 66200  ← CPND name is Agent 66200
    XPLN
    DISPLAY_FMT
  VMB
KEY 4 EMR             ← ACD Emergency on key 4
KEY 5 ASP             ← ACD Supervisor Call on key 5

REQ:
```

5.13. Configure a 2050 IP Soft-phone Agent telephone set

Configure a 2050 IP Soft-phone Agent telephone set on the CS1000E as follows using Overlay 20.

```
REQ: NEW              ← enter NEW to create a new phone
TYPE: 2050PC          ← Type is Softphone 2050 in this example
TN   104 0 0 6        ← Terminal Number address (Loop, shelf, card, unit)
DES  AACC             ← Enter a Description, e.g. AACC
CUST 0                ← Customer 0
ZONE 2                ← IP sets are configured in zone 2
TGAR 0                ← Trunk Group Access Restriction value 0
NCOS 0                ← Network Class of Service 0
CLS  UNR              ← Class of Service = UNRestricted
CLS  HFA              ← Class of Service = Hands-Free Allowed
CLS  AHA              ← Class of Service = Automatic Hold Allowed
CLS  AGN              ← Class of Service = ACD Agent
PLEV 2                ← Priority Level 2
```

```
AST  00 03              ← Keys 00 and 03 are controlled by AACC
IAPG 1                  ← Status message group 1 (messages sent over AML link)

KEY 0 ACD 60500 0 1009    ← ACD key 0 with position ID 1009 in the queue
KEY 1 NRD                 ← Not Ready on key 1
KEY 2 MSB                 ← Make Set Busy on key 2
KEY 3 SCR 66500           ← Single Call Ringing on key 3 with DN 66500
  MARP
  CPND NEW                ← Create a new Call Party Name Display (CPND)
    CPND_LANG
    NAME Agent 66500      ← CPND name is Agent 66500
    XPLN
    DISPLAY_FMT
  VMB
KEY 4 EMR                 ← ACD Emergency on key 4
KEY 5 ASP                 ← ACD Supervisor Call on key 5

REQ:
```

5.14. Configure a 3900 series TDM Agent telephone set

Configure a 3900 series TDM Agent telephone set on the CS1000E as follows using Overlay 20.

```
REQ: NEW                ← enter NEW to create a new phone
TYPE: 3904              ← Type is 3904 in this example
TN   4 0 3 0            ← Terminal Number address (Loop, shelf, card, unit)
DES  AACC               ← Enter a Description, e.g. AACC
CUST 0                  ← Customer 0
TGAR 0                  ← Trunk Group Access Restriction value 0
NCOS 0                  ← Network Class of Service 0
CLS  UNR                ← Class of Service = UNRestricted
CLS  HFA                ← Class of Service = Hands-Free Allowed
CLS  AHA                ← Class of Service = Automatic Hold Allowed
CLS  AGN                ← Class of Service = ACD Agent
PLEV 2                  ← Priority Level 2
AST  00 03              ← Keys 00 and 03 are controlled by AACC
IAPG 1                  ← Status message group 1 (messages sent over AML link)
KEY 0 ACD 60500 0 1006    ← ACD key 0 with position ID 1006 in the queue
KEY 1 NRD                 ← Not Ready on key 1
KEY 2 MSB                 ← Make Set Busy on key 2
KEY 3 SCR 66300           ← Single Call Ringing on key 3 with DN 66300
  MARP
  CPND NEW                ← Create a new Call Party Name Display (CPND)
    CPND_LANG
    NAME Agent 66300      ← CPND name is Agent 66300
    XPLN
    DISPLAY_FMT
  VMB
KEY 4 EMR                 ← ACD Emergency on key 4
KEY 5 ASP                 ← ACD Supervisor Call on key 5

REQ: END                ← Type END to exit the Overlay
```

6. Configuration on Avaya Aura® Contact Center

After configuring data on the CS1000E, the next step is to add the CCMS and CCT servers on CCMA so that they can be configured to handle the CDN, ACDN and Agents. First, check that all required services are running on the AACC as follows.

6.1. Verify that all AACC services are running

Click on the **Start** button on the Windows taskbar and select **System Control and Monitor Utility**.
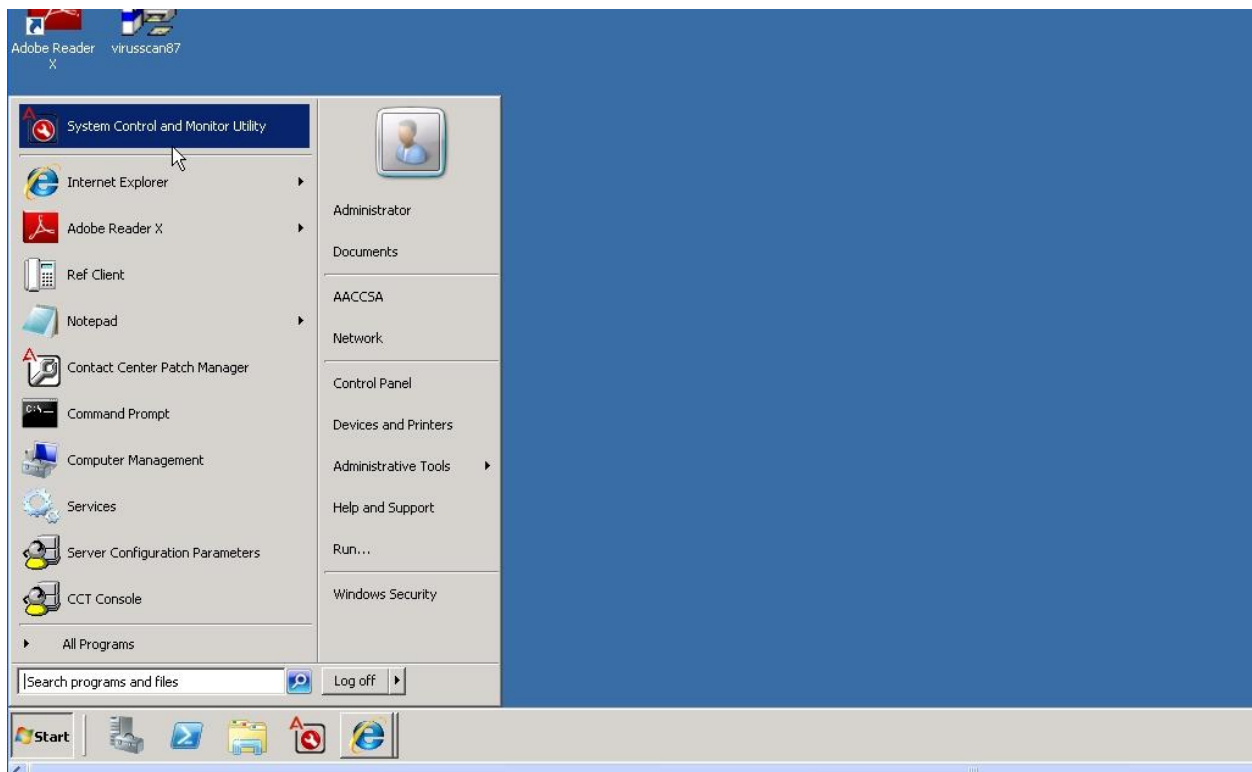
In the resulting window, select the **LM** tab (License Manager).
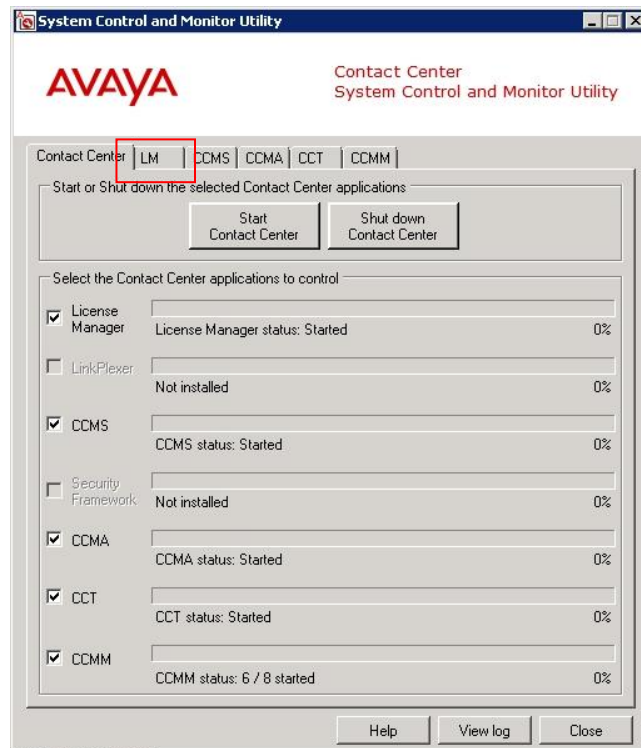
The following screen will appear. Verify that all services are running (indicated by a green icon).
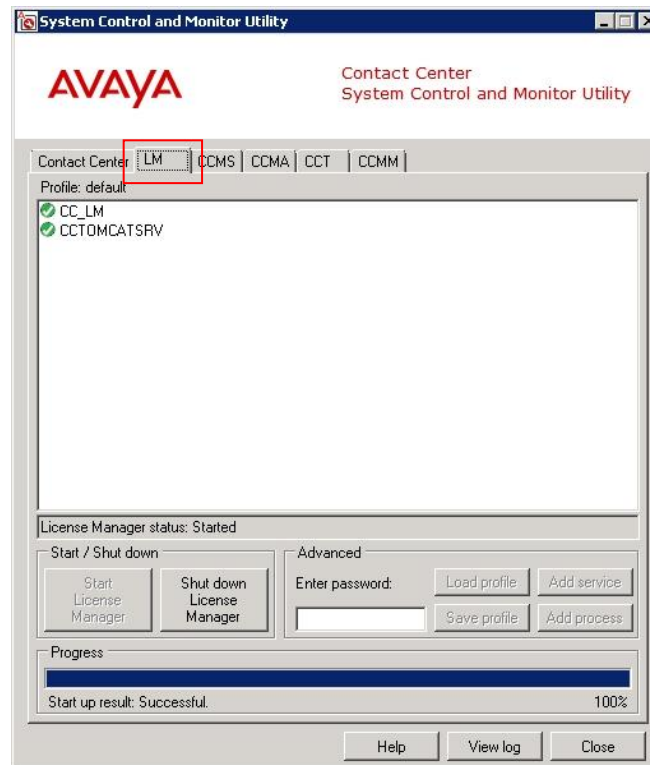
Click on the **CCMS** tab and ensure all required services are running (indicated by a green icon).
Some services may show as locked (as indicated by the grey lock shape icon). These services are
not controlled by the **System Control and Monitor Utility** so they do not show up as either
enabled or disabled (therefore, ignore these).
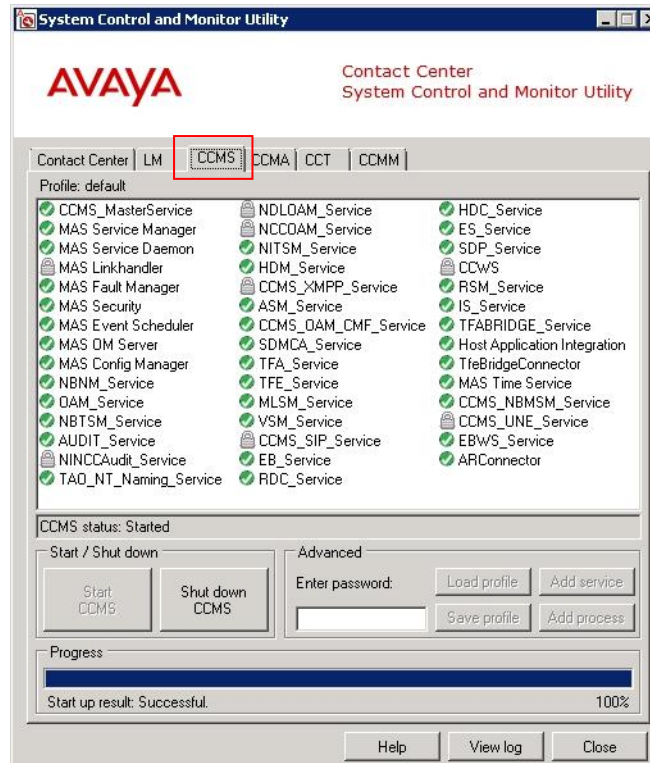
Click on the **CCMA** tab and ensure all services are running.
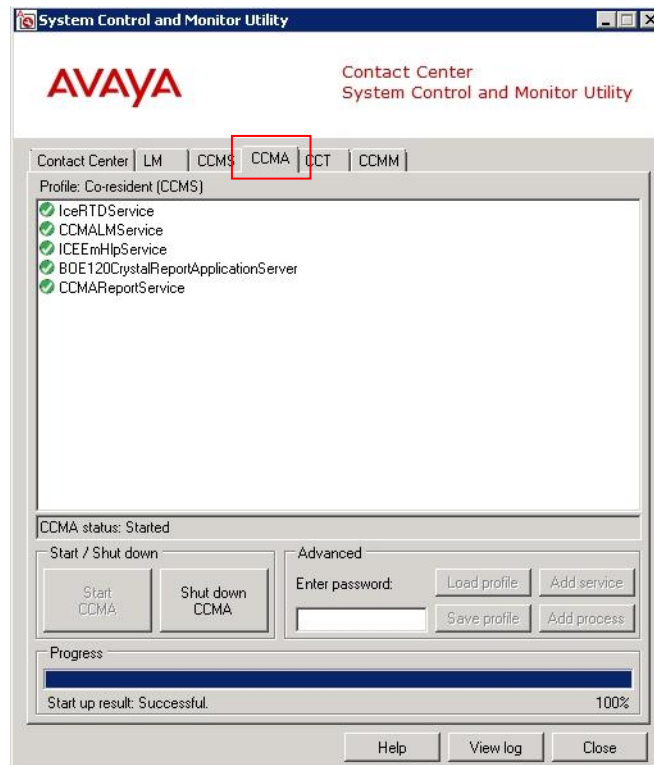
Click on the **CCT** tab and ensure all services are running.
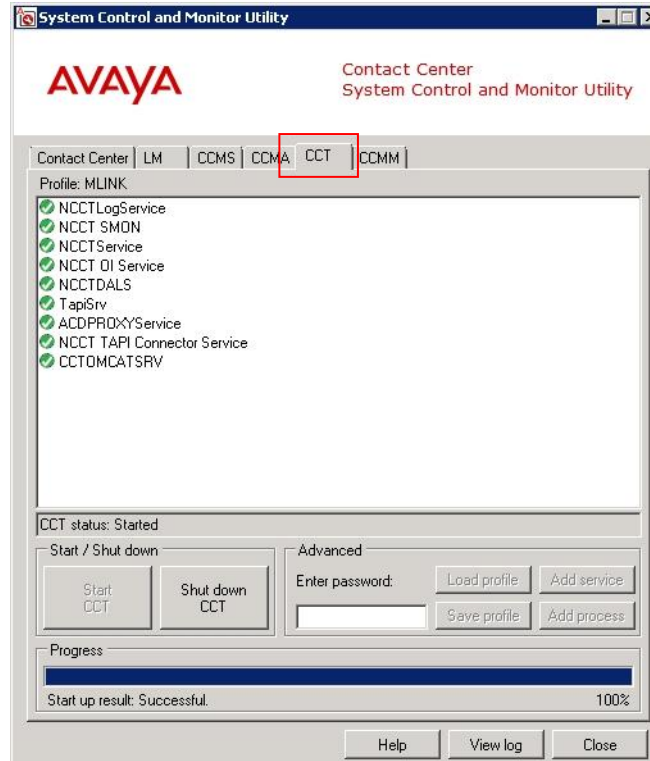
If Contact Center Multimedia (CCMM) is installed, click on the **CCMM** tab and ensure all required services are running. In this example **PredictiveOB** and **Predictive_Outbound_Blending** services have not been licensed so they are disabled.
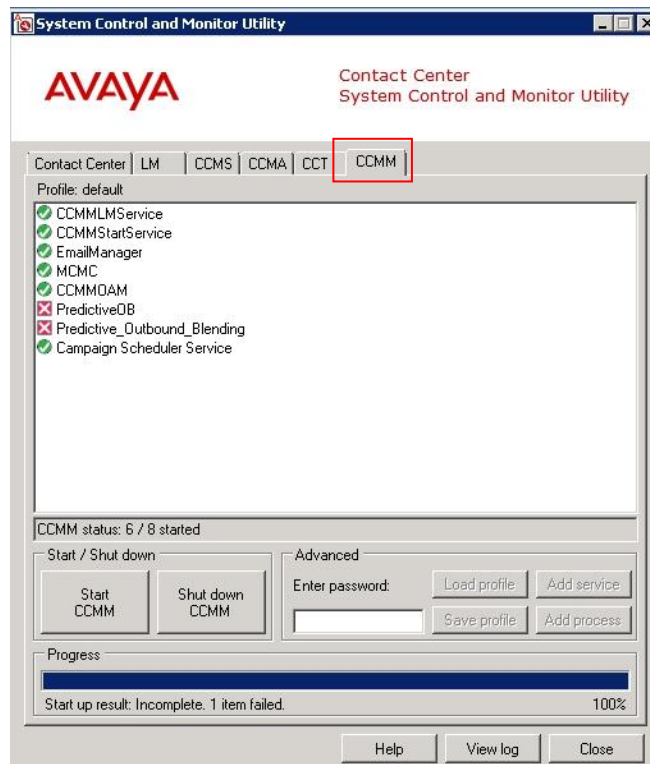
6.2. Logon to Contact Center Manager Administration

Ensure that the Contact Center Manager Server name is registered with either a Domain Name Service (DNS) or with the HOSTS table. When the administrator logs on to Contact Center Manager Administration (CCMA) for the first time, the default administrator account is required. For security reasons, Avaya highly recommends that the default password is also changed. CCMA user passwords can contain only English characters and special characters. Launch Internet Explorer and in the Address box, enter the CCMA server name. For example, http://aaccsa and press Enter. Using the default logon, in the **User ID** box, enter **webadmin**. Enter the default password for this account in the **Password box.** Click on the **Login** button.

6.3. Add the Contact Center Manager Server to CCMA

The CCMS has to be manually added to the CCMA configuration to enable contact center configuration. On the CCMA, main **Launchpad** window, click on **Configuration**.

In the Configuration screen, choose **Server** and from the drop-down box, select **Add Server**.
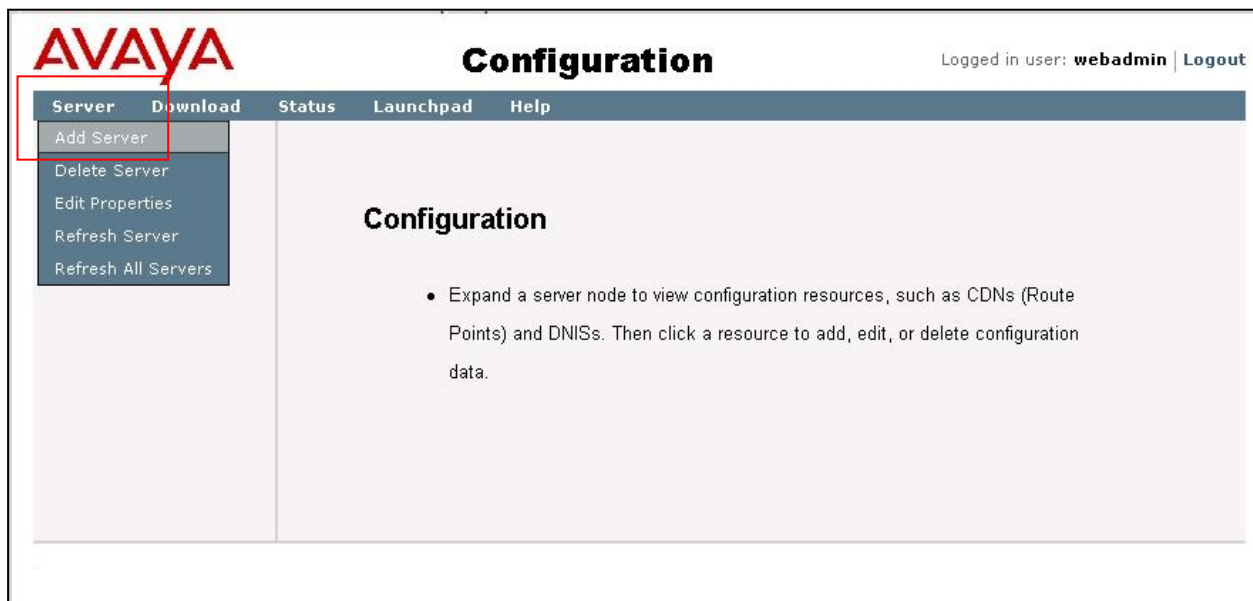
From the drop-down **Type** list, select **CCMS** (this is also the default option).

In the **Server Name** box, type the computer name of the Contact Center Manager Server (e.g. **aaccsa**) and press the tab key. The Contact Center Manager Server IP address automatically appears in the **IP Address** box. In the **Display Name** box, type the name of the Contact Center Manager Server. The system automatically assigns a display name that is the same as the server name. To enter a different display name, enter a unique name (e.g. **CCMS-AML**). In the **Login ID** box, type the Login ID for the Contact Center Manager Server and the appropriate password. Click **Submit**.

The window will update and the **CCMS-AML** server name appears on the left hand pane and a message in the lower pane indicating success. The screen should look like the following:

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6.4. Add the Communication Control Toolkit to CCMA

CCMS communicates with CCT using an Open Queue so a prerequisite to adding a CCT server is to check that Open Queue is enabled on CCMS. The following steps are required to check this. Log on directly on the CCMS server as administrator and click **Start** and then select **All Programs**. Select **Avaya** then **Contact Center** followed by **Manager Server** and **Server Configuration**.

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The **Contact Center Server Configuration** application appears. Click the **Licensing** option in the left pane. From the **Optional Packages** list, check that **Open Queue** has been selected. Click **OK**.
If Open Queue had not been previously configured, then clicking **OK** would trigger a prompt to restart the server for the change to take effect.
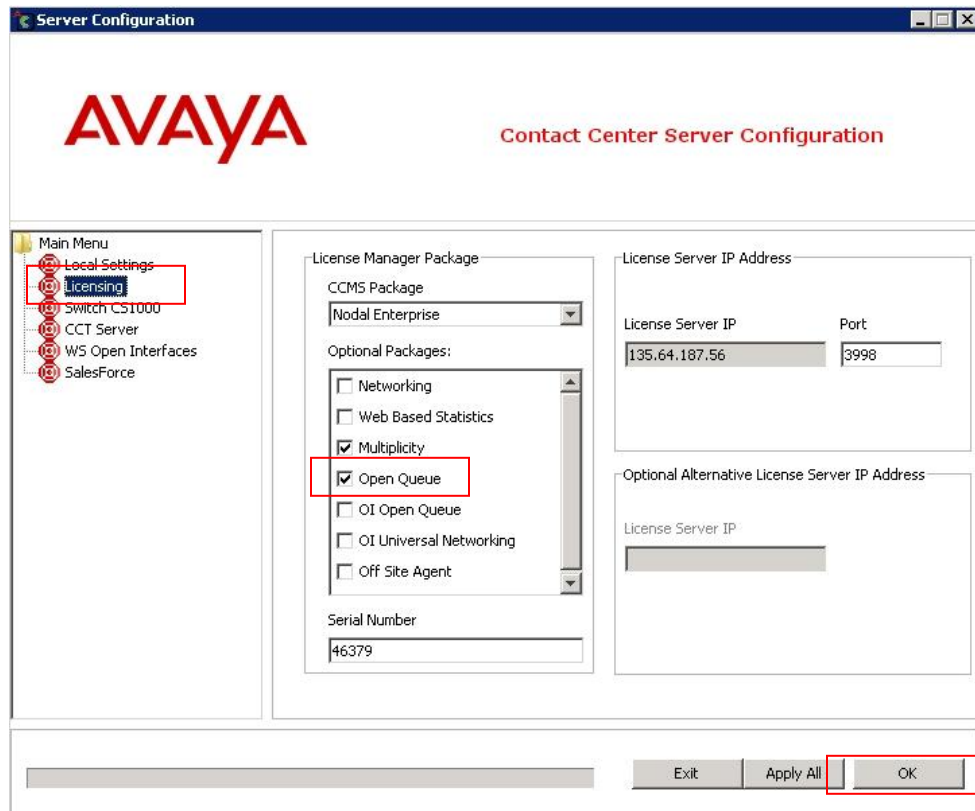
The CCT has to be manually added to the CCMA and then associated with the CCMS to administer CCT from CCMA. Upon login to CCMA, user will be presented with the main **Launchpad** window. Click on **Configuration**.

In the Configuration screen, choose **Server** and from the drop-down box, select **Add Server**.

From the drop-down **Type** list, select **CCT**.

In the **Server Name** box, type the computer name of the co-res CCT / CCMS and press the tab key. The CCMS server IP address automatically appears in the **IP Address box**. In the **Display Name** box, type the name of the Contact Center Manager Server. The system automatically assigns a display name that is the same as the server name. To enter a different display name, user must enter a unique name (e.g. **CCT-AML**).
The **Login ID** and **Password** boxes are blanked out by default for CCT. The **Port Number** is also set to 8081 by default. In the **Associated CCMS Servers** list, select the CCMS to be associated with this CCT server (**CCMS-AML**). The configuration should look like the following:

Click **Submit**. The window will update and user should see the **CCT-AML** server name appear on the left hand pane and a message in the lower pane indicating success. The screen should look like the following:

6.5. Configure the CS1000E service provider

To enable the connection between AACC and the CS1000E, the CS1000E is configured as the service provider on AACC. Once this connection is working, a polling message is sent from AACC to CS1000E every ten seconds to monitor the connection status. The polling interval is configured in the Avaya Communication Server 1000 service provider details. Ten seconds is the default polling time. Login to CCMA and from the main **Launchpad** window, click on **Configuration**.

In the left hand pane of the **Configuration** screen, click on the + (plus) sign to expand the previously configured CCT instance (e.g. called **CCT-AML**). Click on **CCT Administration** and the **CCT Administration** window appears. Click on the button titled **Launch CCT Console.**

The following window should launch separate to the main CCMA browser. In the left hand pane of the CCT Toolkit, click on the red triangle next to **Providers**.
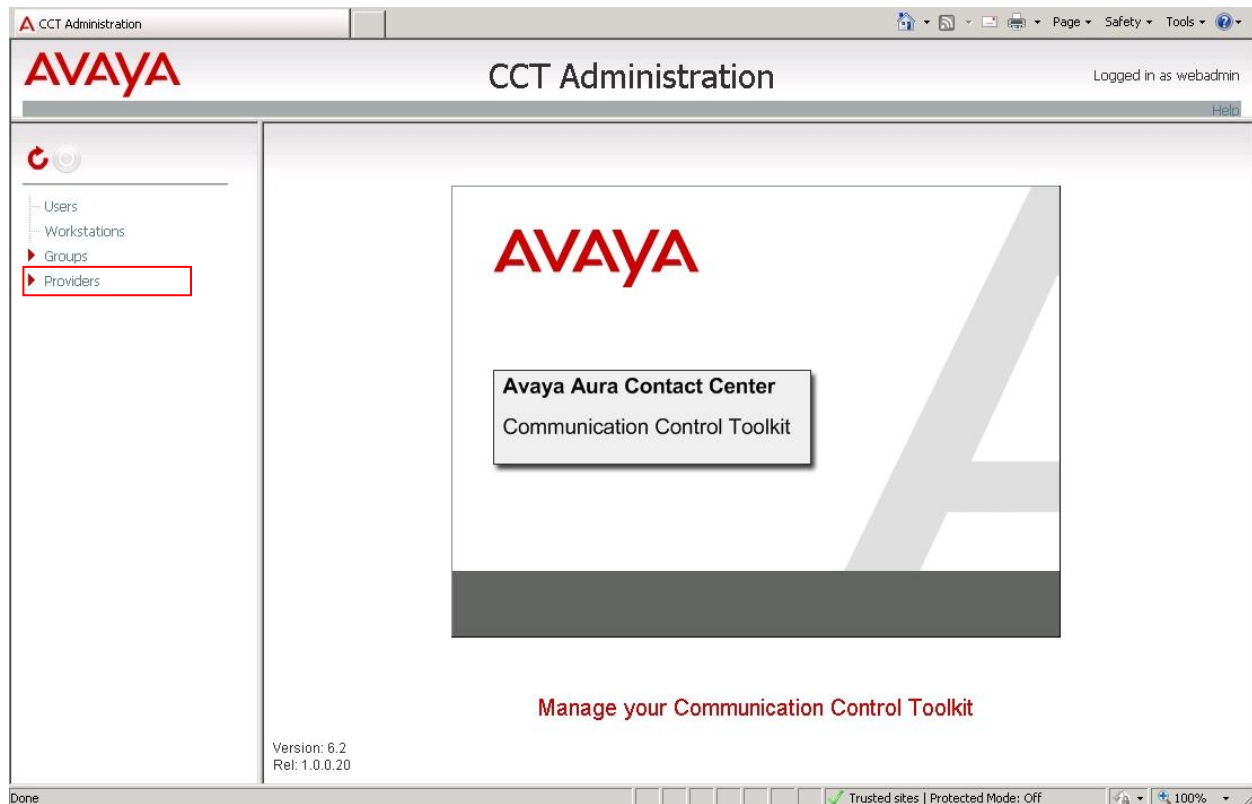
The **Providers** list will expand and the default **Passive** provider should be listed. Click on **Passive** and the **Update CCT Provider** screen will appear.

In the **Basic Provider Information** section, enter the following data:
- For **Provider Name**, enter **Passive**.
- In the **IP Address box**, enter the IP address of the CCMS server.
- In the **Port** field, enter **3000**.

In the **Provider Configuration** section, enter the following non-default data:
- For **Customer Number**, enter 0.
- For **CS1000 Software Release**, select the release number of the CS1000E system software from the drop down list. In this example, select **Release 7.0** (the drop down menu offers Release 7.0 as the closest value even though the CS1000E in this example is on Release 7.5.

Press **Save** to complete the service provider configuration and the updated screen should look as follows.

6.6. Importing CS1000E Data

The CDN, ACD and Agent telephone set data which was configured on CS1000E in **Section 5.6 and 5.7** must be manually imported into the CCT database so that CCT can control the agent telephone sets. Before importing the CS1000E configuration data to CCT, the data must first be retrieved from the CS1000E. To do this, use the PuTTY application already launched per Section 5.1. Right click on the PuTTY window toolbar at the top and select the **Change Settings…** option from the drop down list as follows:
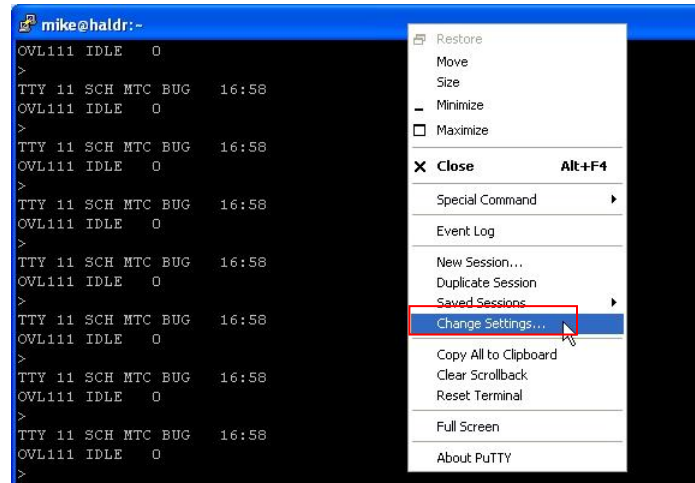
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A new window pops up called **PuTTY Reconfiguration**. In the **Category** pane and under the **Session** item, select **Logging**. Under the **Session Logging*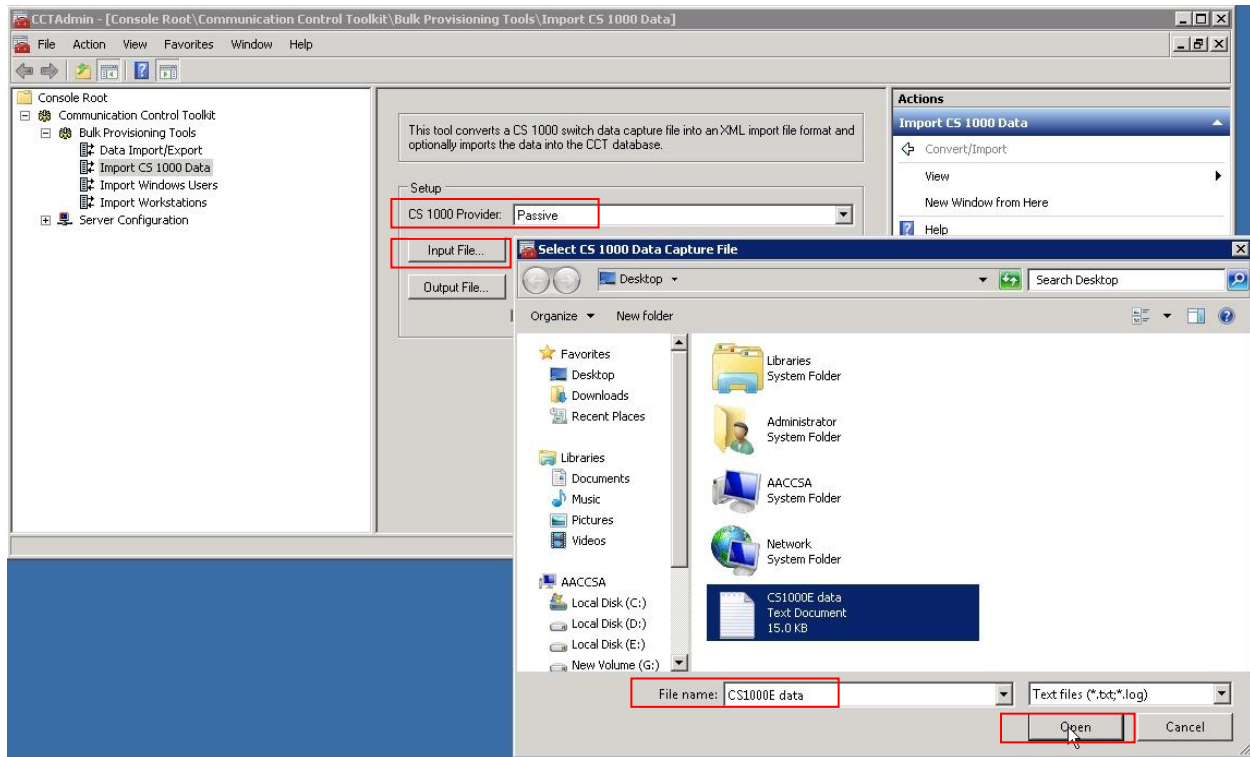* section, select the **All session output** option. Click on **Browse** and browse to a folder location to save the data to be captured (e.g. the desktop). In the new pop-up window titled **Select session log file name**, enter a filename in the **File name:** box (e.g. **CS1000E data.txt**). Then click on the **Save** button.
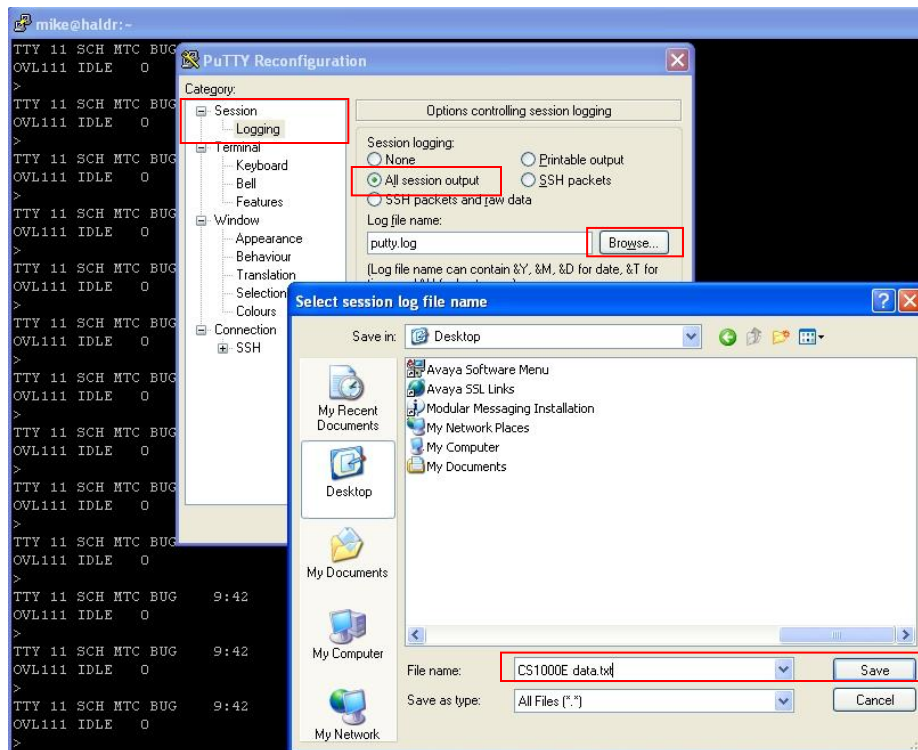
The filename and path selected will then appear in the **PuTTY Reconfiguration** window in the **Log file name** box. Finally, clear the option to **Flush log file frequently** and click on **Apply**.
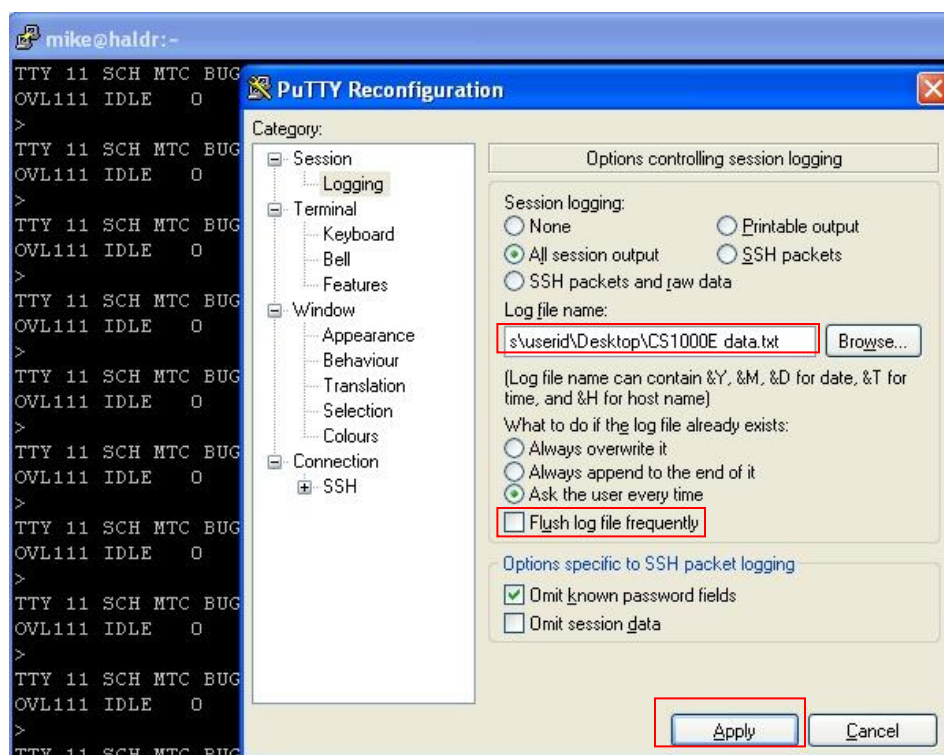
At this stage all PuTTY information will be captured to the log file which will be used later to import the relevant data into AACC. Next, login to the CS1000E Call Processor using the three steps as follows (also described above in Section 5.1):
1. Login to the signaling server using a valid user-id and password.
2. Enter the "**cslogin**" command to connect to the CS1000E Call Processor.
3. Login to the CS1000E Call Processor with a valid user-id and password.

Capture the CDN and ACD data from Overlay 23 as follows.

```
>LD 23              ← Load Overlay 23

REQ  PRT            ← Enter PRT to print out the CDN data
TYPE CDN            ← Enter CDN for Control Directory Number
CUST 0              ← Customer 0
CDN                 ← Press Enter to print out all CDN data


REQ  PRT            ← Enter PRT to print out the CDN data
TYPE ACD            ← Enter ACD for Automatic Call Distribution
CUST 0              ← Customer 0
ACDN                ← Press Enter to print out all ACD data

REQ  END            ← Type END to exit the Overlay
```

```
>
```

Next capture the Terminal Number Block (TNB) configuration data for each of the agent sets configured previously in Sections 5.10 to 5.14 using Overlay 20 as follows.

```
>LD 20              ← Load Overlay 20

REQ: PRT            ← Enter PRT to print out the TNB data
TYPE: TNB           ← Terminal Number Block (TNB)
TN   104 0 0 X      ← enter the TN of each agent set configured
```

When the CS1000E configuration data for the CDN, ACD and all agents has been printed out using Overlay 23 and 20, stop the PuTTY capture. Right click on the PuTTY window toolbar at the top and select the **Change Settings** option from the drop down list as before. A new window pops up called **PuTTY Reconfiguration**. In the **Category** pane and under the **Session** item, select **Logging**. Under the **Session Logging** section, select the **None** option and then click **Apply**.
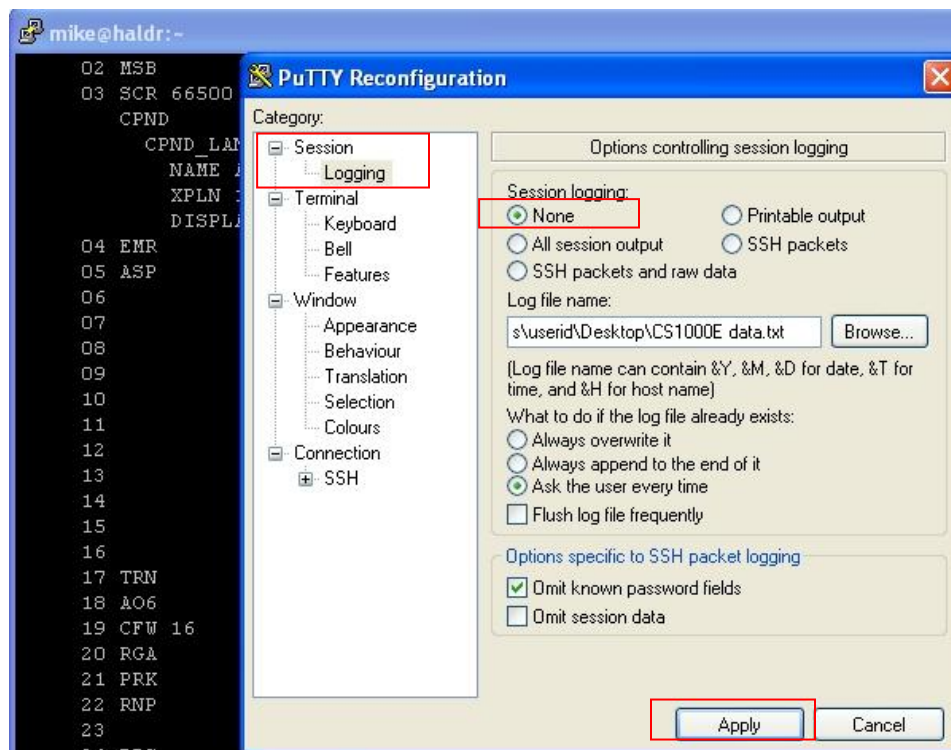
Then go to the location where the log file is stored (e.g. on the desktop of the AACC server). Launch the CCT Console as follows. On the AACC server, click **Start** and then select **All Programs**. Select **Avaya** then **Contact Center** and **Communication Control Toolkit** and finally **CCT Console**.
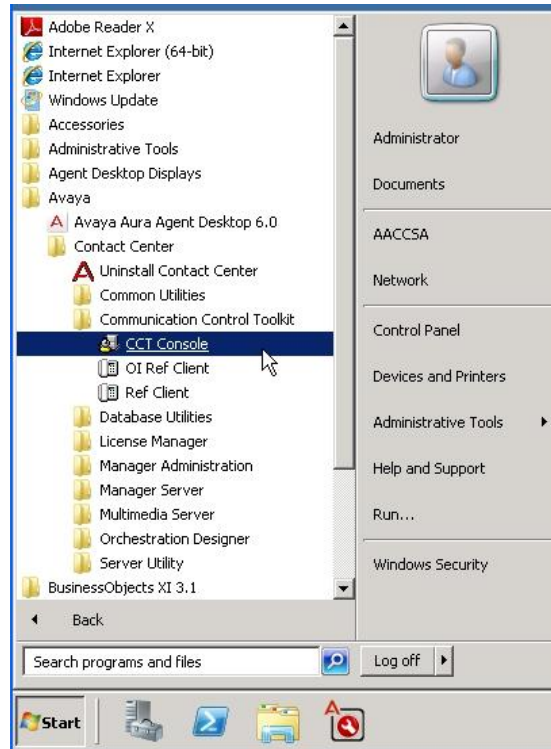
The **CCT Admin Console** launches. Expand **Communication Control Toolkit** and also expand **Bulk Provisioning Tools**. Select **Import CS 1000 Data**.
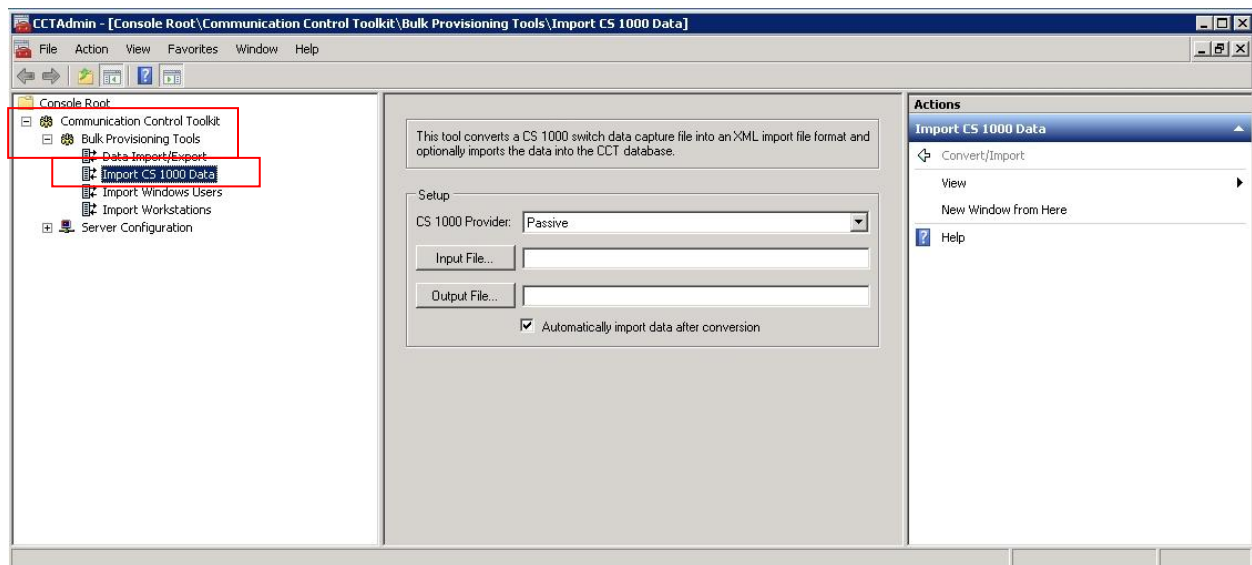
Select **Passive** for the **CS 1000 Provider** drop-down list. Select **Input File.** This opens a file explorer window titled **Select CS 1000 Data Capture File**. Select the file which was captured using PuTTY above (e.g. **CS1000E data.txt**) and click on **Open**.

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The path and selected file are displayed in the **Input File** box. A default path and file name also appears in the **Output File** box. To import the data into the database tick the box titled **Automatically import data after conversion**. In the Actions pane on the right hand side, select **Convert/Import**.
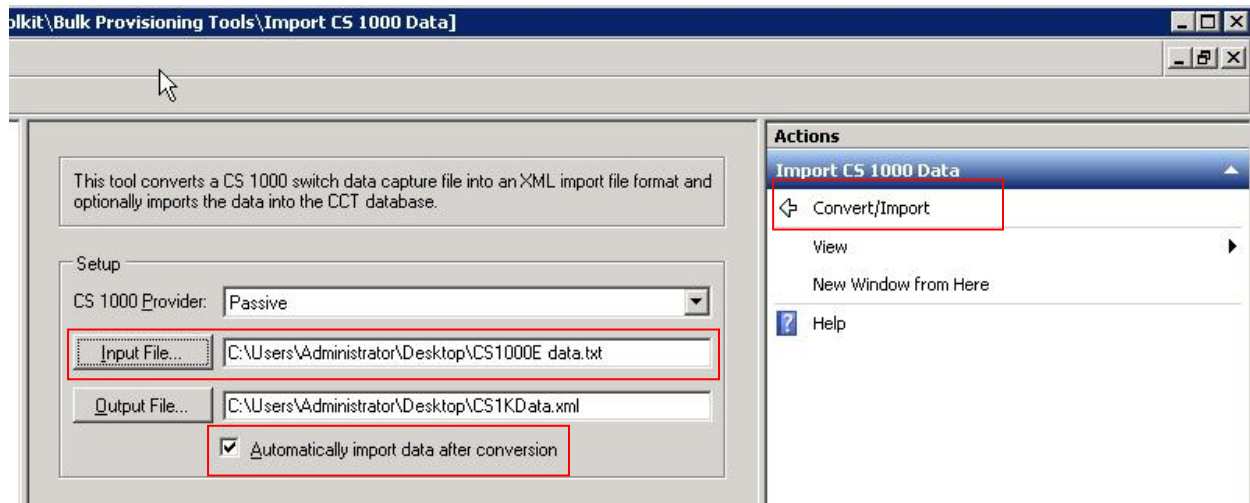
A progress bar appears only for a short time in the **Status** area indicating the conversion of the data capture file, generation of the output file and the import of the data into the database. The **Status** area then shows **Import completed** and displays the conversion results showing the number of **TNs**, **DNs**, and **CDNs** found. If an error occurs in the process, an error message will appear with line numbers where the errors were discovered in the supplied data capture file.
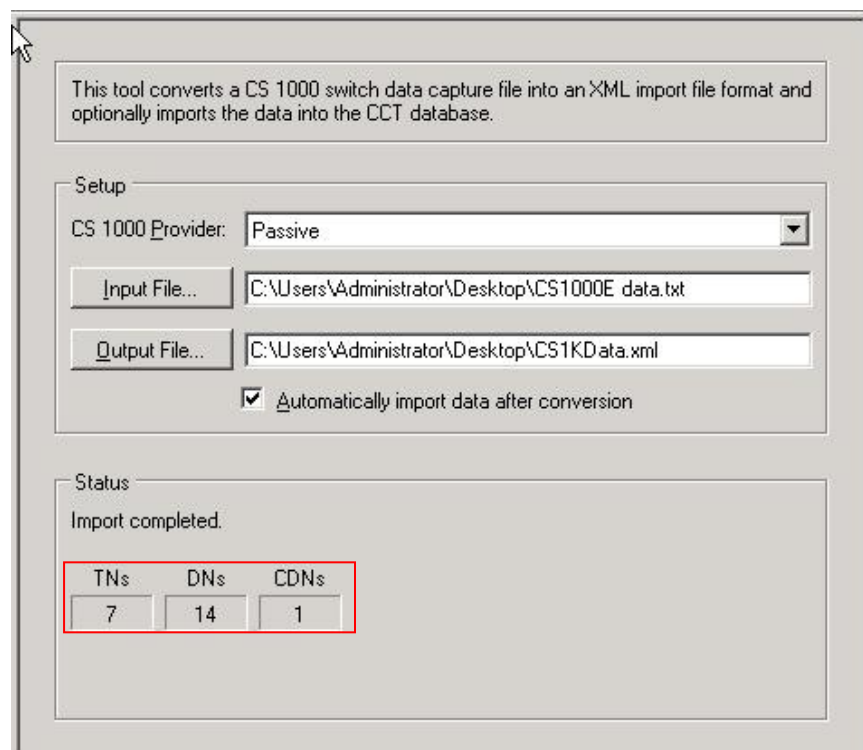
Close the CCT Console by selecting **File** and **Exit** from the toolbar.
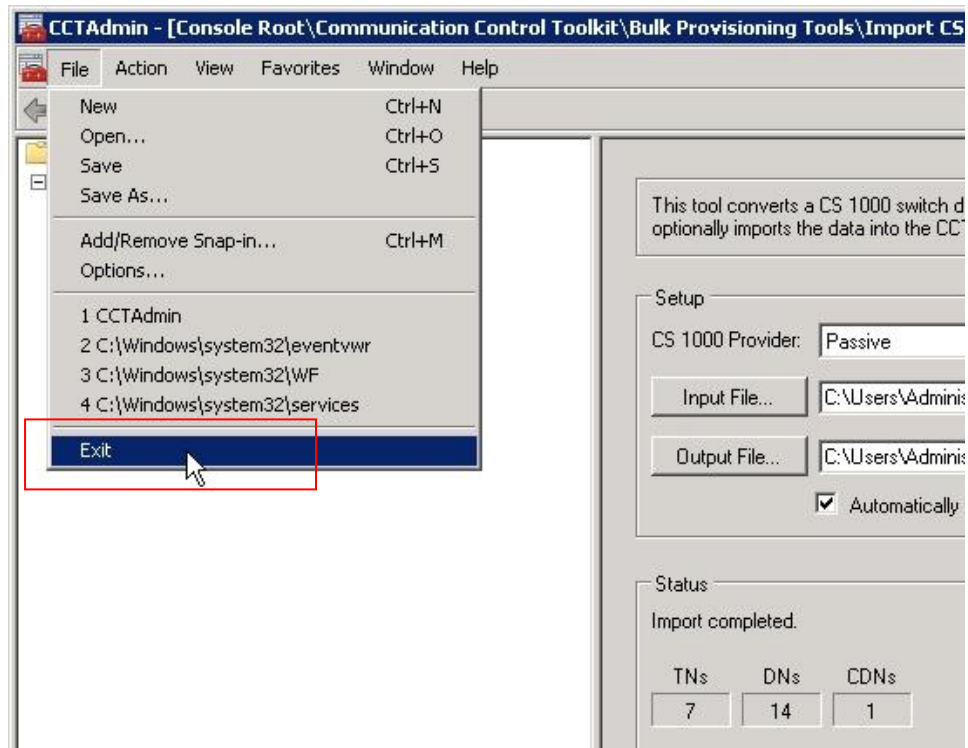
Select **Yes** to the question **Save console settings to CCTAdmin?**
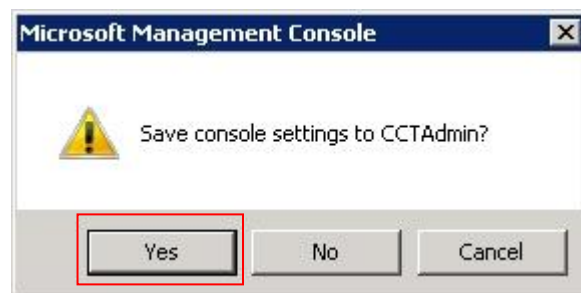
6.7. Configure the CDN on CCMS

Login to CCMA as before and from the main **Launchpad** window click on **Configuration**.

In the left hand pane of the Configuration screen, click on the + (plus) sign to expand the previously configured CCMS server instance (e.g. called **CCMS-AML**). On the system tree, the server expands to reveal the resources. Click the **CDNs (Route Points)** folder.

The **CDNs (Route Points)** window appears.
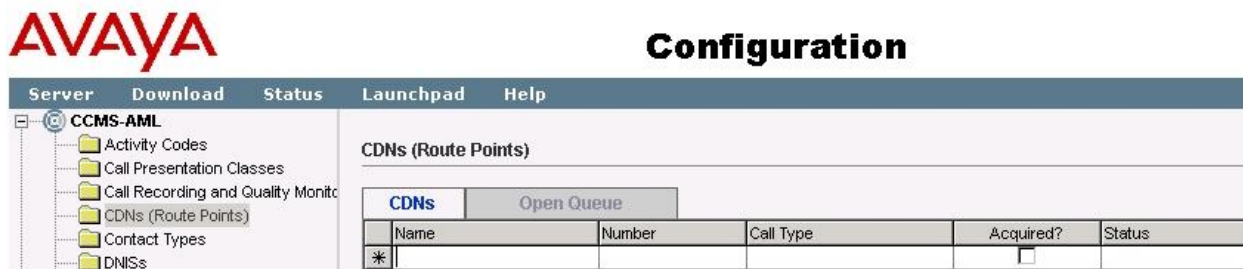
In the **Name** box, type the name of the CDN as the user wants it to appear in reports (e.g. **Finance**). In the **Number** box, enter the CDN number (e.g. **60000**). This number must match the CDN number configured on the CS1000E per Section 3.7 above. From the **Call Type** list select **Local.** Click any other table row. The system adds the CDN, and **Not Acquired** appears in the **Status** column.

Select the **Acquired?** check box in the row containing the CDN that was just added. Click any other row in the table to acquire the CDN. The system acquires the CDN, and the **Status** changes to **Acquired**. If necessary, click **Refresh Status** to view the current status of the acquisition.

6.8. Configure the IVR-ACD DNs

An IVR ACD-DN is a queue to which voice-processing contacts are directed. Each IVR ACD-DN must have dedicated voice ports to provide voice-processing treatment for various contact types. Next configure the IVR-ACD DN as follows. In the same CCMA **Configuration** screen in the left hand CCMS system tree, click on **IVR ACD-DNs** folder.

The **IVR ACD-DNs** folder page appears as follows.
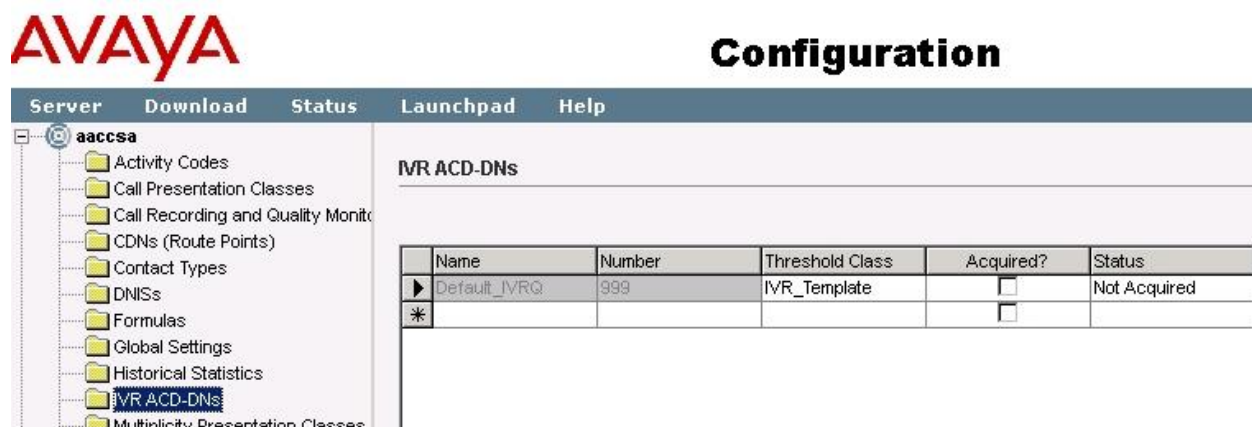
In the first empty **Name** box, type the name of the IVR ACD-DN as the user wants it to appear in reports (e.g. **IVRQ**). In the associated **Number** box, type the IVR ACD-DN number. This

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number must match the ACD DN number configured on the CS1000E earlier (e.g. **60500**). From the **Threshold Class** list, select the **IVR_Template** threshold class for the IVR ACD-DN. Click any other row of the table to add the IVR ACD-DN.

Not Acquired appears in the **Status** column. Select the **Acquired?** check box and click any other row in the table to save these changes. Click **Refresh Status** to view the current status. The newly added IVR ACD-DN should not be shown as **Acquired**.

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6.9. Configure the Phonesets and Voiceports

In the same CCMA **Configuration** screen in the left hand CCMS system tree, click on the **Phonesets and Voice Ports** folder.

In the **Phonesets and Voice Ports** window, add and acquire each phone that an agent or supervisor uses to log on to the system. After Contact Center Manager Server acquires a phone, the Avaya Communication Server 1000 PABX sends messages about the phone to the system.
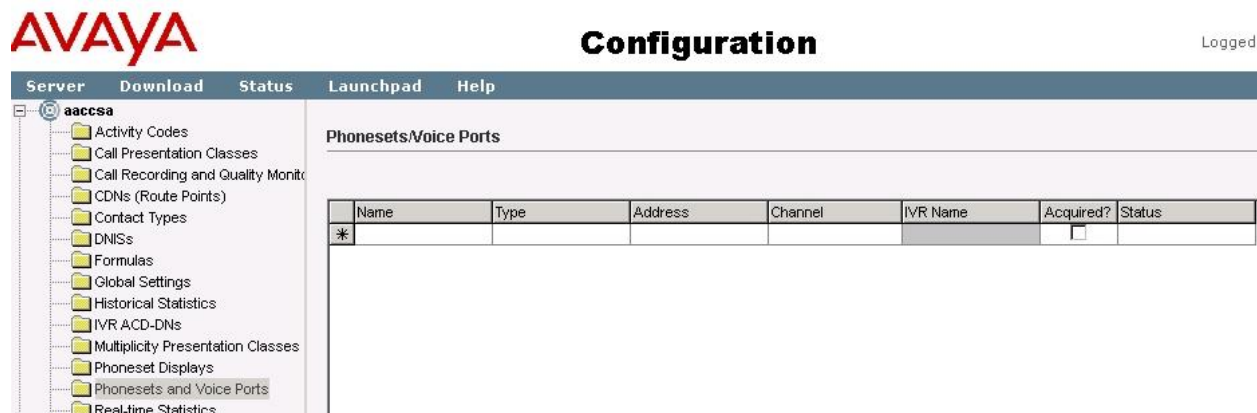
In the **Phonesets and Voice Ports** window, in the **Name** box, type the name of the phone or voice port as the user wants it to appear in reports (e.g. **Agent66100**). From the **Type** list, select **Not Voice Port.** In the **Address** box, type the Terminal Number (TN) address of the phone. This

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is the same TN address used when configuring the Agent sets on CS1000E back in Section 5.10. Note: Do not use leading zeros or the TN acquire will fail (e.g. for TN 004-0-3-0, enter 4-0-3-0). So in this example for Agent66100, the TN configured on CS1000E was **104-0-0-0**. Click any other row of the table to add the phone or the voice port. **Not Acquired** appears in the **Status** column.

Phonesets/Voice Ports

Name	Type	Address	Channel	IVR Name	Acquired?	Status
Agent66100	Not Voice Port	104-0-0-0			☐	Not Acquired
*					☐	

Select the **Acquired?** check box and click any other row in the table to acquire the phone or voice port. Click **Refresh Status** to view the current status which should now show as **Acquired**.

Phonesets/Voice Ports   Server: aaccsa

Refresh Status

Name	Type	Address	Channel	IVR Name	Acquired?	Status
Agent66100	Not Voice Port	104-0-0-0			☑	Acquired
*					☐	

Complete these steps for all agents and the final picture should look like the following.

Phonesets/Voice Ports

Name	Type	Address	Channel	IVR Name	Acquired?	Status
Agent66100	Not Voice Port	104-0-0-0			☑	Acquired
Agent66101	Not Voice Port	104-0-0-1			☑	Acquired
Agent66200	Not Voice Port	104-0-0-3			☑	Acquired
Agent66300	Not Voice Port	4-0-3-0			☑	Acquired
Agent66500	Not Voice Port	104-0-0-6			☑	Acquired
*		▼			☐	

6.10. Adding a Supervisor/Agent in CCMA

After the CCMS and CCT servers have been added and configured in CCMA and the CS1000E data has been imported to CCT, the next step is to create the agents in CCMA and associate them with the appropriate contact center windows users. Typically either Supervisors or Supervisor/Agents are added first and Agents are then added under the Supervisor or Supervisor/Agent in a hierarchical structure. So following on from the example used in this Application note (per Section 5.10), the Supervisor/Agent is added first (Agent 66100) and other Agents are then added under this Supervisor/Agent.

Logon to CCMA and select **Contact Center Management**.

The **Contact Center Management** window appears. In the left pane click on **CCM Servers (Supervisors)** and the CCMS server name which was added previously will appear (e.g. **CCMS-AML**). Clicking on this CCMS server name will expand the view to show the **Supervisor Default**. Every CCMS has a default supervisor which is considered the top level in the hierarchy. If Supervisors or Supervisor/Agents are added they can be nested into the hierarchy but ultimately the top level Supervisor or Supervisor/Agent has to have the default supervisor as their Primary Supervisor. Agents are typically added under Supervisors or Supervisor/Agents. An example showing the Supervisor/Agent, Agent 66100, is shown next.
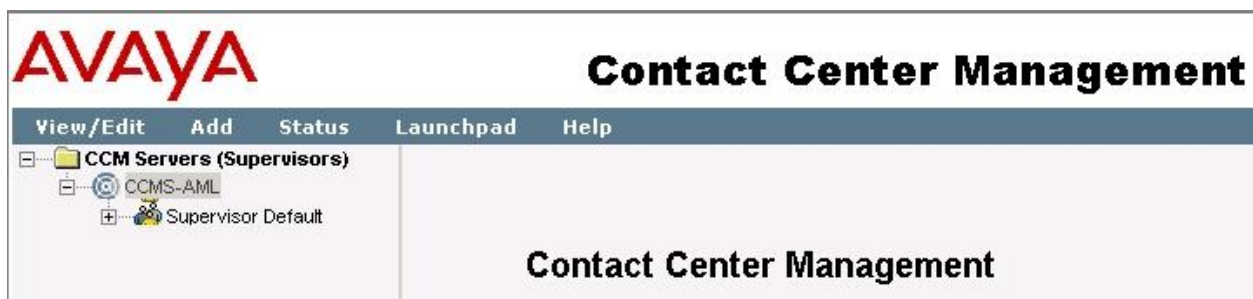
Having selected the CCMS server (e.g. CCMS-AML), from the dropdown **Add** menu, select **Supervisor/Agent**.
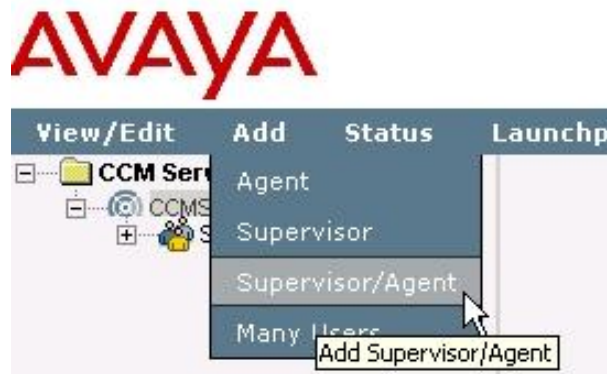
In the **New Supervisor/Agent Details** window, enter the mandatory information as shown by the red asterisk (*****) beside those fields. For **First Name**, enter **Agent66100** and in the **Last Name** field, enter **CS1K**. In the **Login ID** field, enter **66100**.

Tick the box **Create CCT Agent**. The screen changes slightly and the First Name and Last Name fields disappear as the application is expecting the data to be imported from an Active Directory server or from the local server. Click on the **Associate User Account** link which also appears.

The **Associate User Account** link expands to show a new window. The **Search domain users** radio button is checked by default. In the **Domain Details** pane, enter the name of the domain to be searched for the agent windows users in the **Domain Name** box (e.g. **silstack.com**). Select the **Specify Domain Account** radio button.

Under the **Domain Account** pane, enter the domain user ID (this is the domain and user ID required to logon to that domain) into the **User ID (Domain\User ID)** field (e.g. silstack\Administrator). In the Password field enter the domain password. Click on **List All** button to get a list of all available users from the Active directory domain. Alternatively, enter a search criteria to narrow down the list of available users (in this example, a **Last Name** search is carried out using **CS1K** in the **starts with** field and press **Search** to get the list).

Select **Agent66100** by clicking on its radio button in the list returned from the Active Directory domain server.

The **Supervisor/Agent Details** screen updates and the information at the top reflects the new Supervisor/Agent details. In the box titled **CCT Agent Login and CCMA Login Account Details**, enter a password for this Supervisor/Agent in the **Password** box.

Scroll down this screen and click on the **Agent Information** link. From the **Primary Supervisor** dropdown box, select **Supervisor Default**. Click on the **Supervisor Information** link and enter **1000** in the **Telephony/Port** box. Click on the **Contact Types** link and scroll down to select the **Voice** checkbox. Click on the **Skillsets** link and then click on the **Assign Skillsets** link.

Click on the **List All** button. A list of all available skillsets appears. The Voice contact type is the only one available for Priority selection as it's the only contact type assigned to this Supervisor/Agent. From the dropdown **Priority** list, select **1**. Finally, click on the **Submit** button at the bottom of the page.

A confirmation message should appear when the information has been written into the database successfully.

The new Supervisor/Agent now appears in the left hand pane along with the Supervisor Default as follows:

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6.11. Adding Agents in CCMA

The steps to add an Agent are very similar to those for adding a Supervisor/Agent. Therefore refer to Section 6.10 above but with the following changes. Again, following on from the example used in this Application note (per Section 5.10 above), the Supervisor/Agent has just been added (Agent 66100) and other Agents can be added under this Supervisor/Agent (e.g. Agent 66101 shown here). Logon to CCMA and select **Contact Center Management**. Having selected the CCMS server (e.g. **CCMS-AML**), from the dropdown **Add** menu, select **Agent**.

In the **New Agent Details** window, enter the mandatory information as shown by the red asterisk (*****) beside those fields. For **First Name**, enter **Agent66101** and in the **Last Name** field, enter **CS1K**. In the **Login ID** field, enter **66101**.

Tick the box **Create CCT Agent**. The screen changes slightly and the First Name and Last Name fields disappear as the application is expecting the data to be imported from an Active Directory server or from the local server. Click on the **Associate User Account** link, which also appears. The **Associate User Account** link expands to show a new window.

Follow the same steps as before to connect to the Active directory domain (e.g. silstack.com) and get a list of all available users from the domain. Once the list is available, select **Agent66101** by clicking on its radio button in the list returned from the Active Directory domain server.

The **New Agent Details** screen updates and the information at the top reflects the new Agent details.

Scroll down this screen and click on the **Agent Information** link. From the **Primary Supervisor** dropdown box, select **CS1K Agent66100**. Click on the **Contact Types** link and scroll down to select the **Voice** checkbox. Click on the **Skillsets** link and then click on the **Assign Skillsets** link.

Click on the **List All** button. A list of all available skillsets appears. The **Voice** contact type is the only one available for Priority selection as it's the only contact type assigned to this Supervisor/Agent. From the dropdown **Priority** list, select **1**. Finally, click on the **Submit** button at the bottom of the page.

A confirmation message should appear, as before, when the information has been written into the database successfully. The new Agent now appears in the left hand pane under the Supervisor/Agent, which was added previously.

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6.12. Assigning Resources in CCT

Creating the contact center agents in CCMA stores the contact center windows user and agent information into the CCT database. The next step is to assign resources in the CCT database. The simplest way to do this is just to map the Terminal Assignments to the CCT Users. The following example shows how this is done for the Supervisor/Agent (Agent66100). The same steps apply for other agents as required. Logon to CCMA and select **Configuration**.

The **Configuration** window appears. In the left hand pane, click on the + sign beside the CCT server to expand it (e.g. **CCT-AML**). Click on CCT Administration and in the main window, click on **Launch CCT Console**.
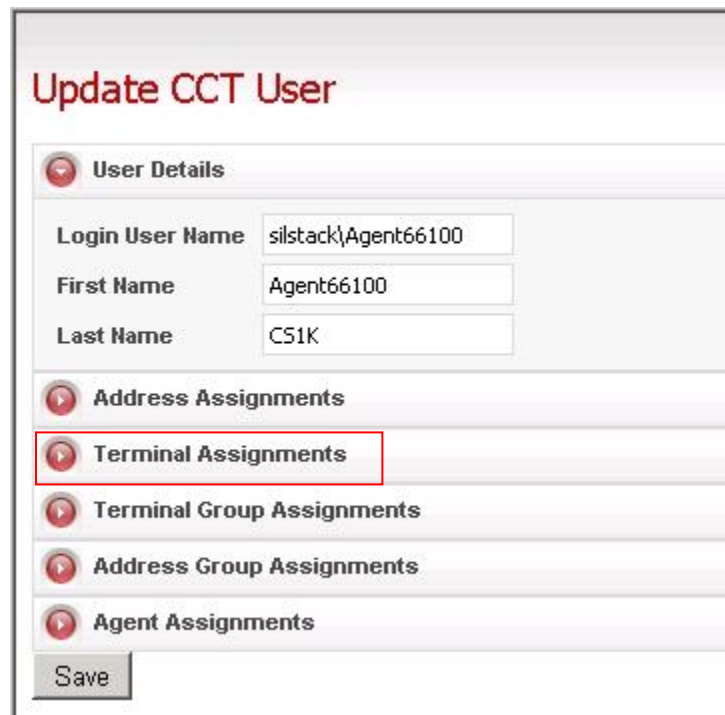
This launches a new window titled **CCT Administration**. In the left hand pane, click **Users**.
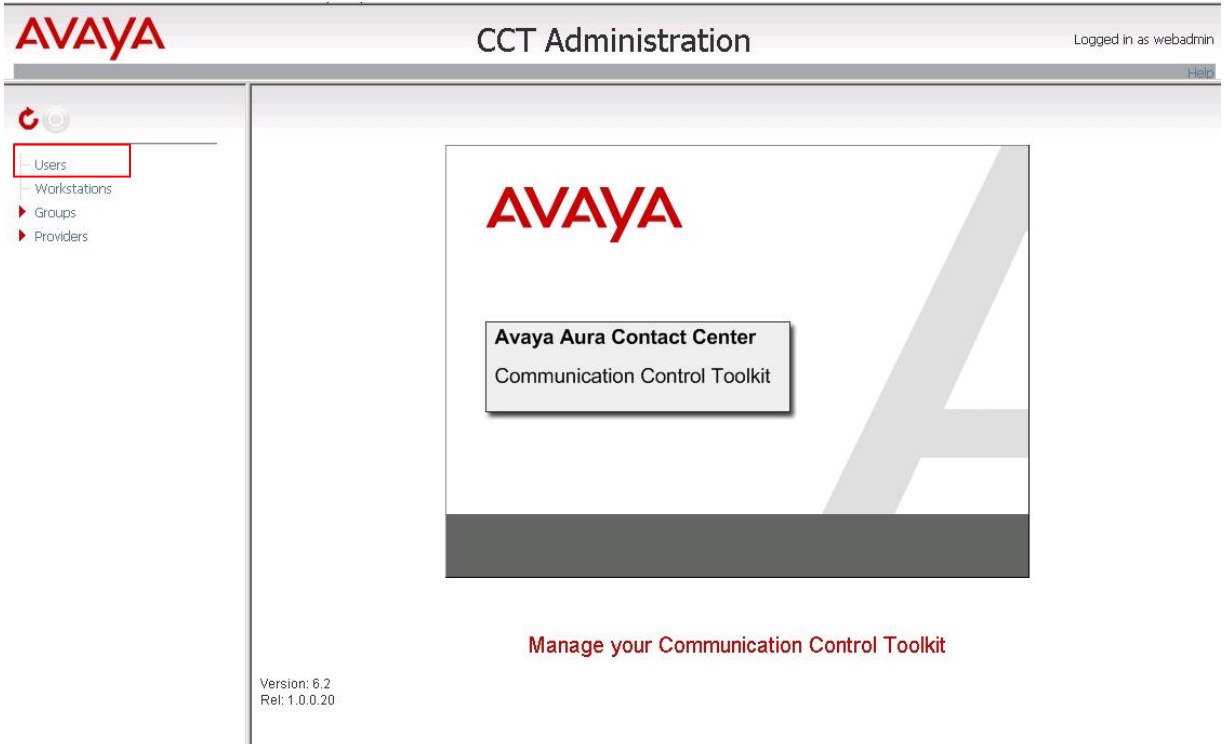
This displays a list of the **CCT users** in the main **CCT Administration** window as follows. Click on the line for **Agent66100**.

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AACC6_2AML
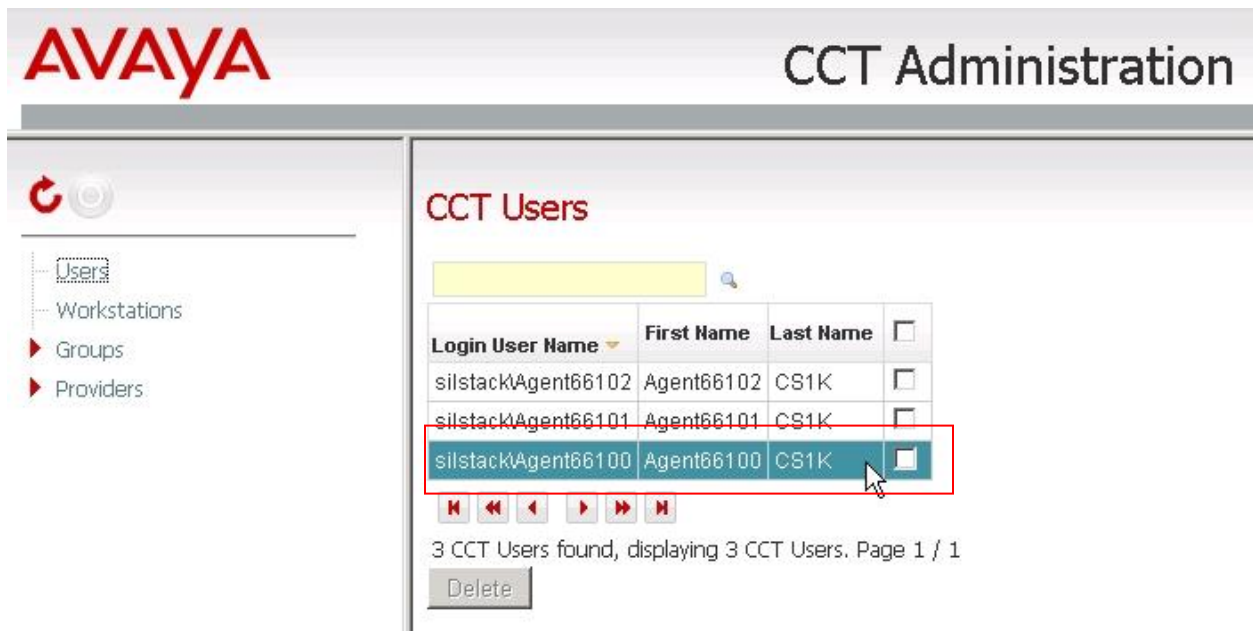
The **Update CCT User** window appears which displays the data for the agent. Click on **Terminal Assignments** to display the list of **Available Resources** and **Assigned Resources**.

Then check the box to select the CS1000E terminal address, which has been previously configured for this agent (e.g. **Line 104.0.0.0**). Click on the right arrow icon in the middle of the page to map this resource to the **Assigned Resources** list on the right hand side.

The page changes to show that Line **104.0.0.0** has now been assigned.
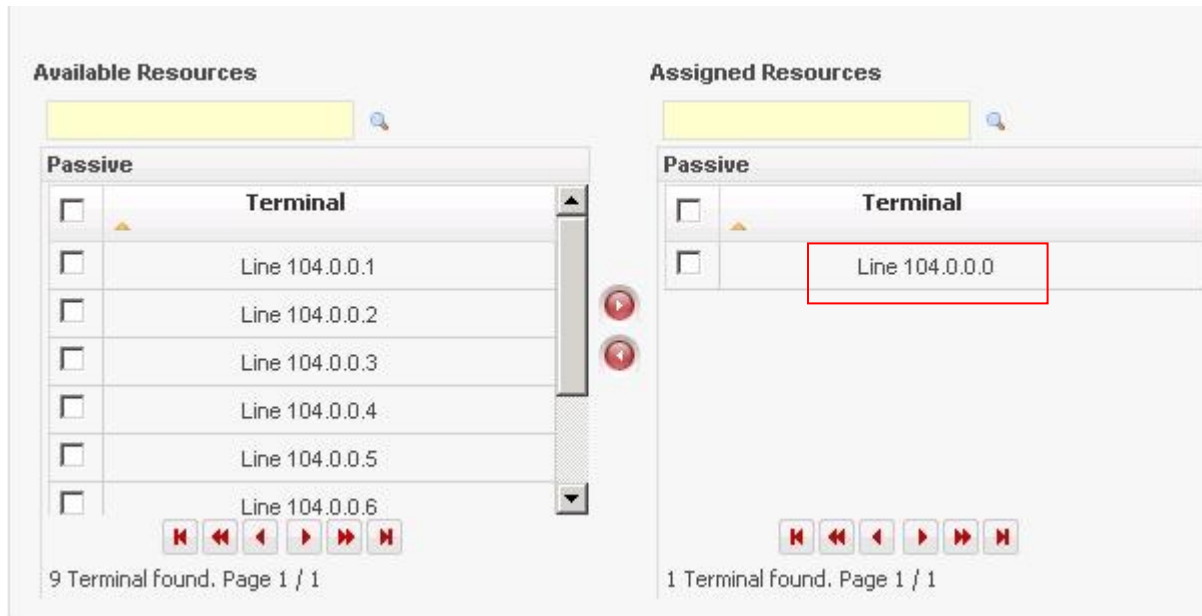
Click on **Save** at the bottom of the screen and a confirmation message appears.

Once the resources have been assigned for all agents, close the **CCT Administration** window by clicking on the **x** at the top right hand side of the window.

6.13. Configure a basic script using Orchestration Designer

Launch the Orchestration Designer to manage Contact Center applications. Applications are used to route contacts based on certain criteria from the contact such as skillset or customer name. Orchestration Designer should already have been installed either on the AACC server itself or on a separate client machine. If this has not been done, please refer to **NN44400-510_03.03_Orchestration-Designer** product document. Logon to CCMA and select **Scripting**.

The **Scripting** window appears. From the toolbar, select **Orchestration Designer** and from the drop down menu select **Launch Orchestration Designer**.

A pop-up window appears as **Avaya Aura® Orchestration Designer** launches.

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AACC6_2AML
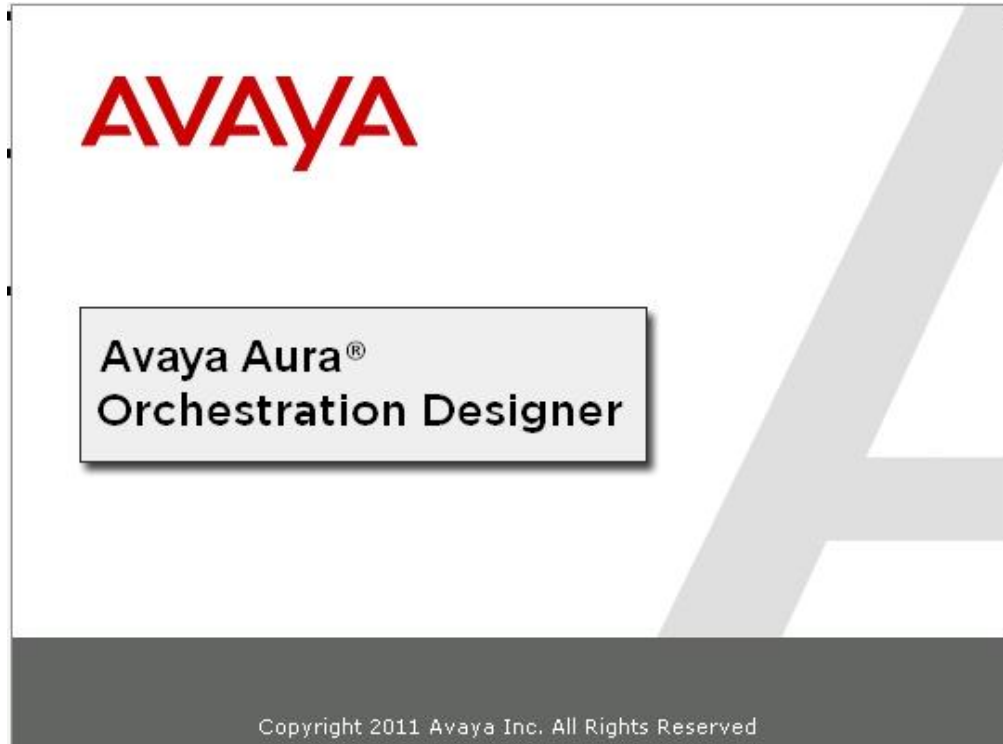
The window disappears and the **Avaya Aura Orchestration** window appears. In the top left hand **Contact Center** pane the CCMA server name appears (e.g. **AACCSA.SILStack.com**) and down in the bottom right hand side a progress bar appears which shows **Reading CCMA Data**.
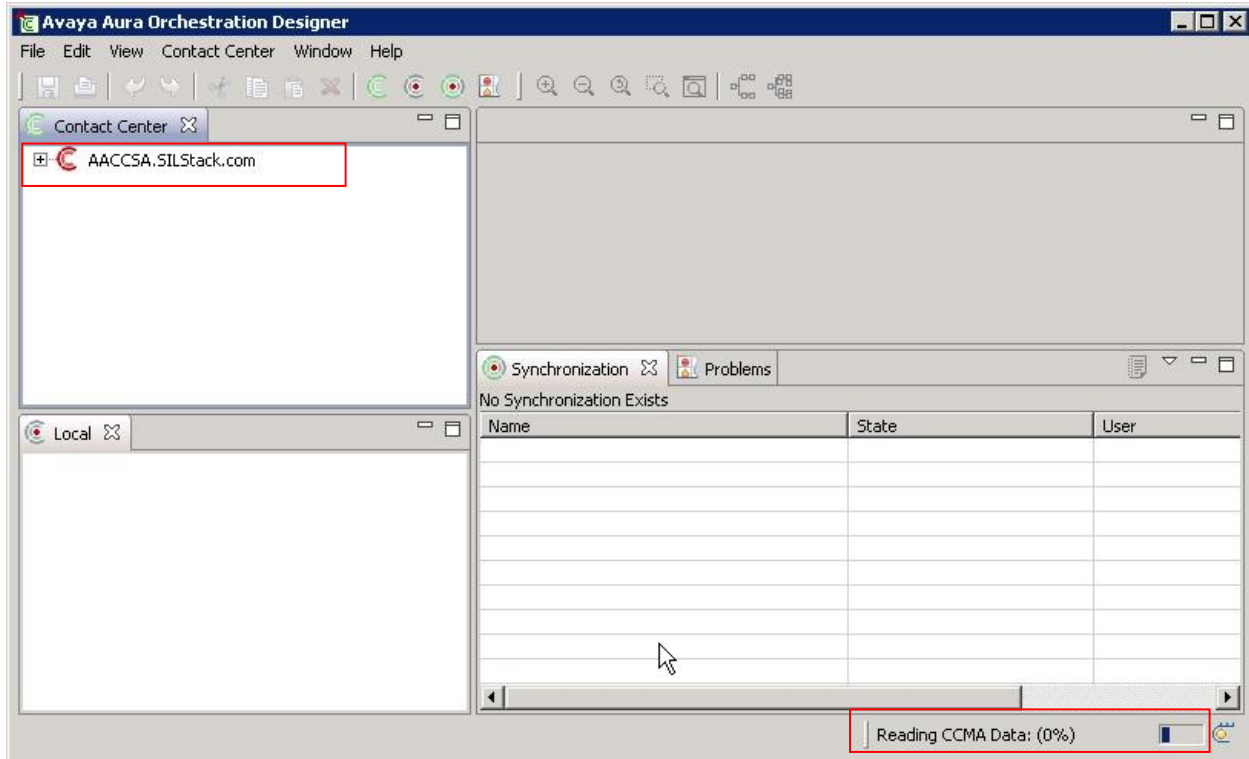
Click on the + sign beside the CCMA server name to expand the tree. This reveals the CCMS server (called **CCMS-AML**) as read in from the CCMA database. Click on the + sign beside this CCMS server name to reveal three sub-folders as follows. Click on the **Applications [Full Control]** folder to expand it.
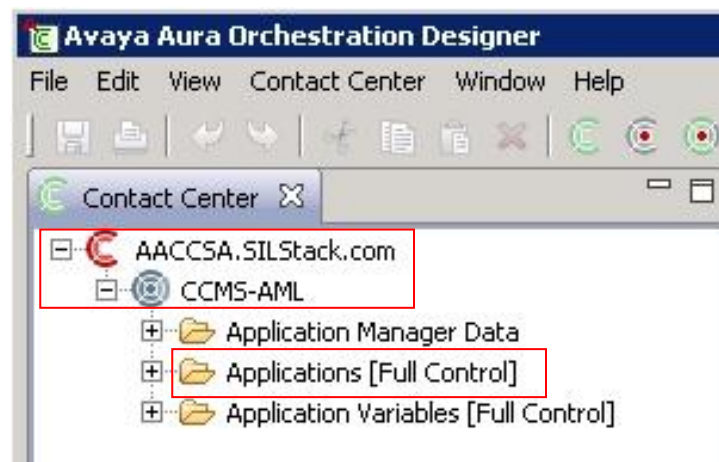
Then right click on this folder and from the popup menu, select **New** and then **Application**.
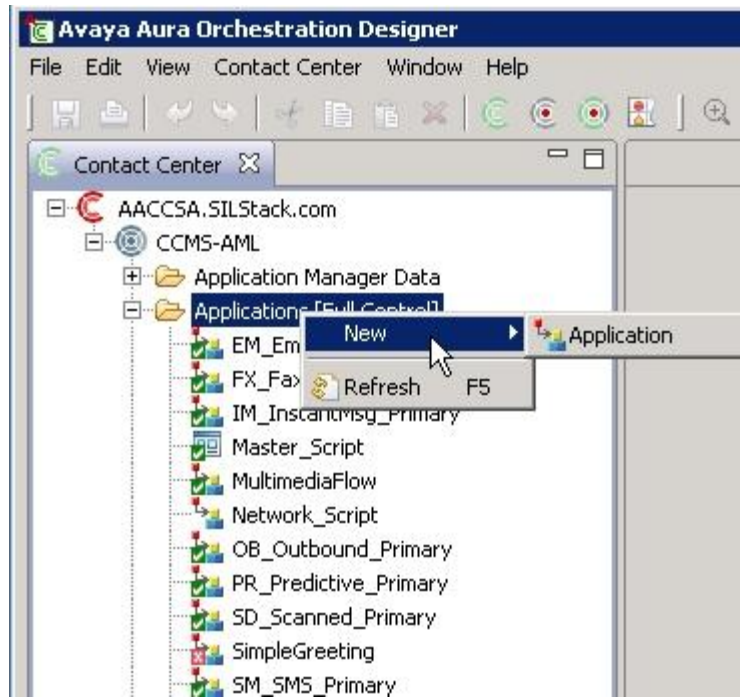
A **New Contact Center Application** window pops up. Select the **Create in Contact Center** button. In the **Application Name** box, enter a name for the new application e.g. **StackTest**. For **Application Type**, select the **Script** button. Then select the **Finish** button.
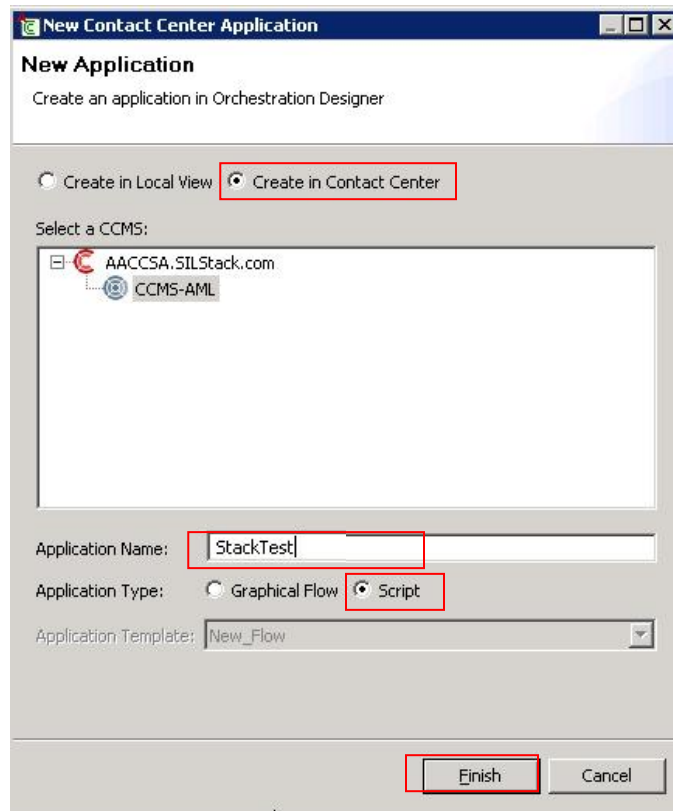
This then opens a new window on the right hand side of the main Orchestration Designer application with a title above it called **StackTest**. In the blank pane below that, on line number 1, there is a comment automatically written as **/* StackTest */**. Here it is possible to enter some basic script commands like those shown in the example below. These command examples will be executed on every call which is sent to the CDN on CCMS.
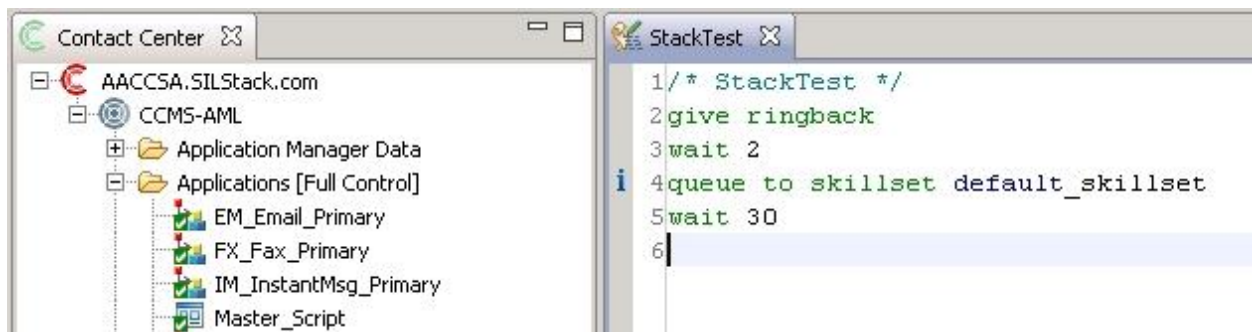
Once the basic script has been written, then save it by selecting the **File** menu and selecting **Save**.

The new script will be available in the **Applications [Full Control]** folder as **StackTest**.
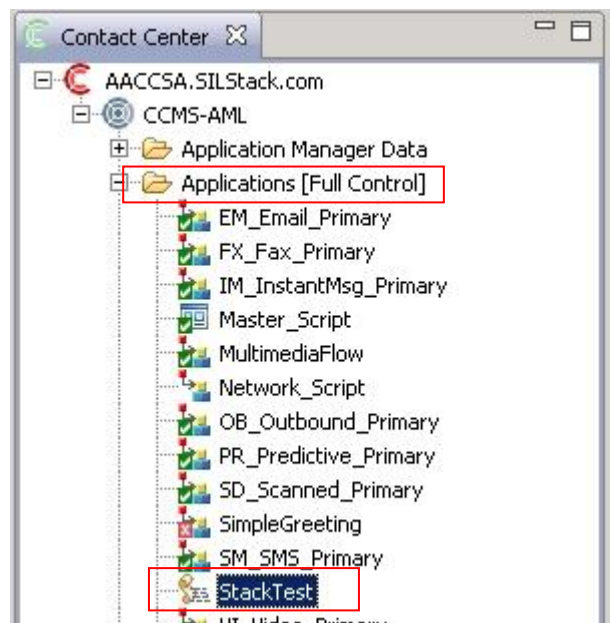
The next step is to link this new application to the CDN in the Master Script. From the list in the **Applications [Full Control]** folder, double click on **Master_Script**. A new pane appears on the top right hand side called **Contact_Router**. Under the **Route Configuration** and **Available Routes** section, in **Application Manager Data** folder, click on the + sign beside the **CDNs** folder to open it. This opens and the CDN name which was configured earlier now appears (e.g. **Finance**).
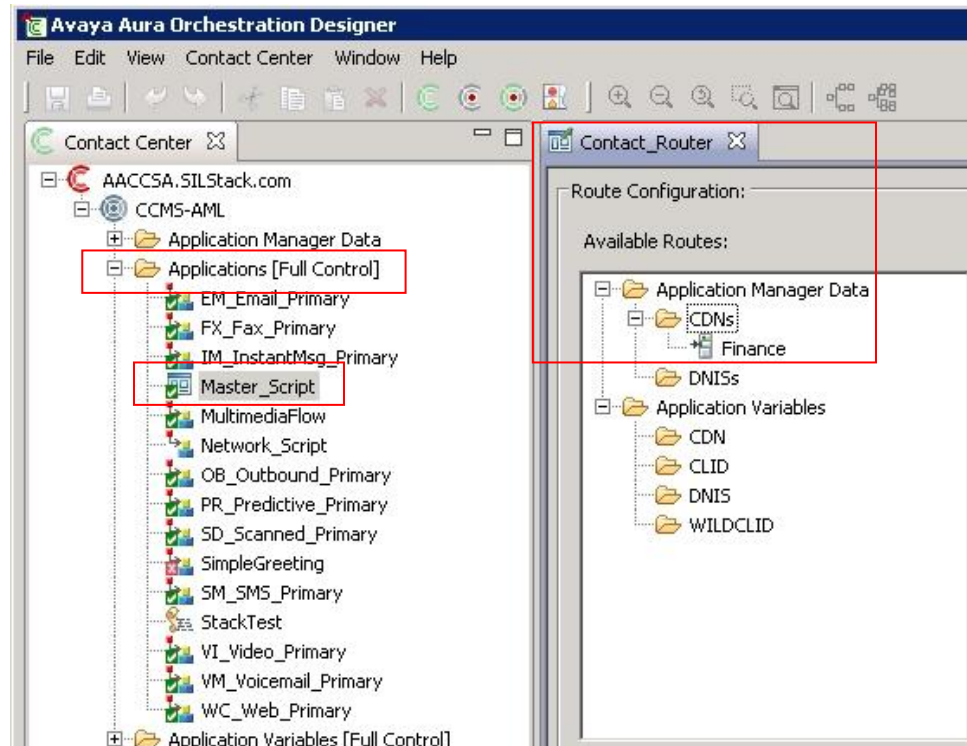
Click on the CDN called **Finance** and then on the **Add >** button to map this from the list of **Available Routes** to the **Configured Routes**.
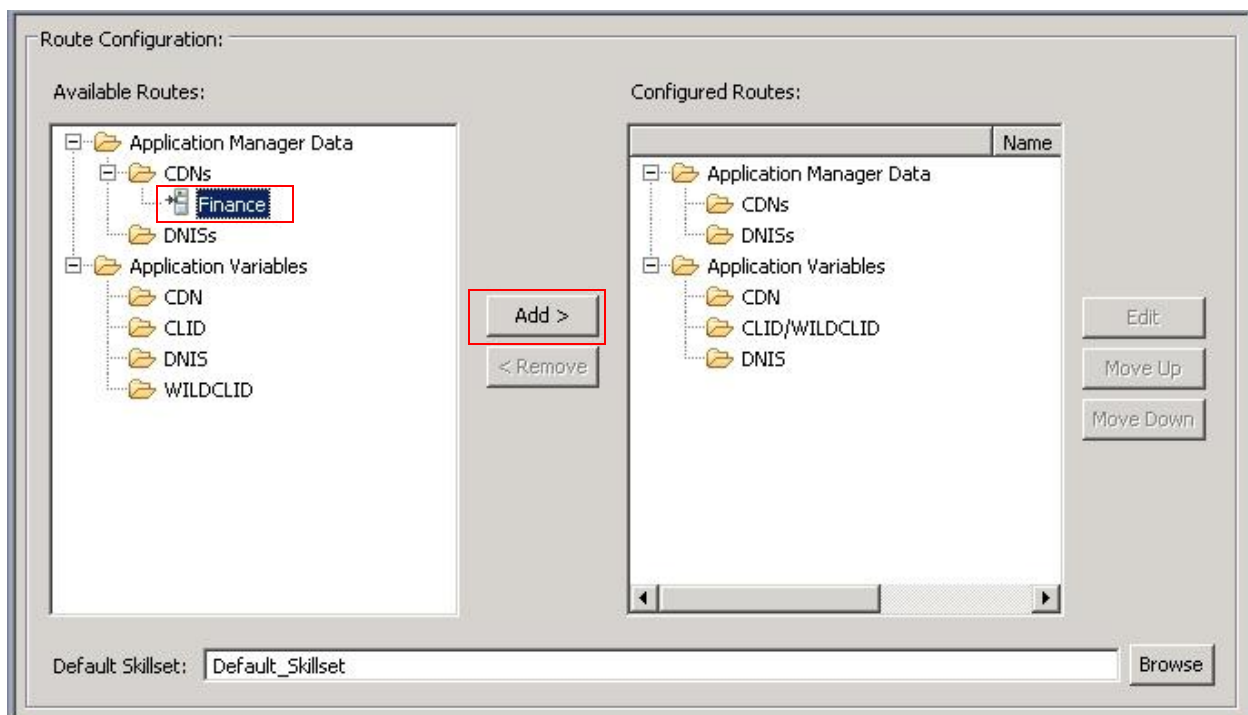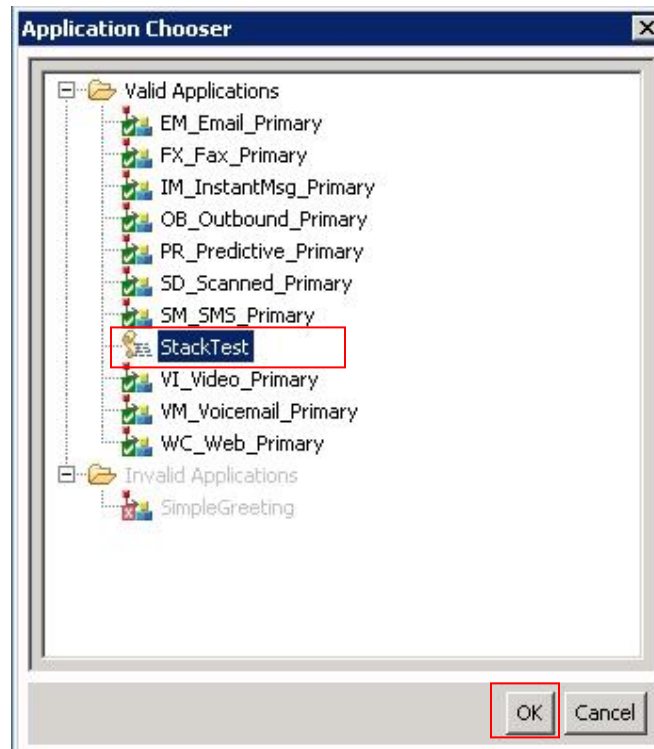
This links the Finance CDN to the StackTest application. In the **Configured Routes** pane, click on the + sign beside the CDNs to expand it and the **Finance** CDN appears along with **StackTest** under the linked **Name**.
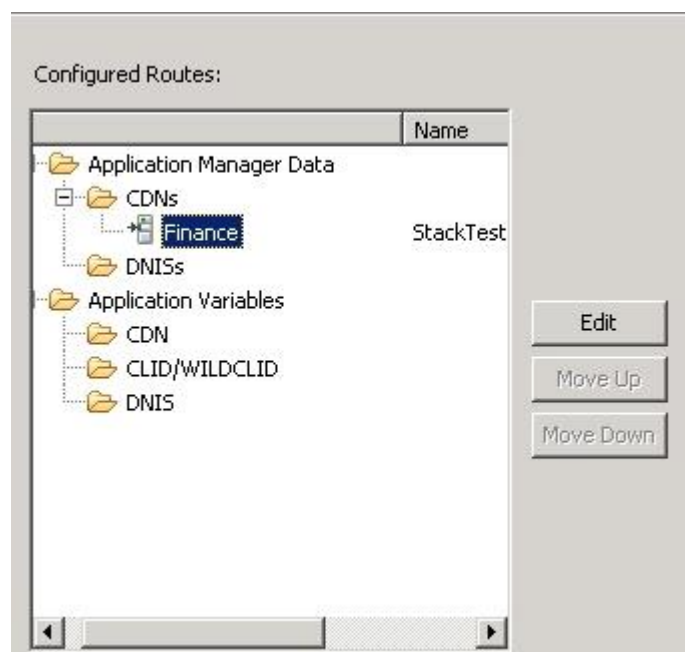
Save this configuration by selecting the **File** menu and selecting **Save**.

This concludes the configuration of AACC for interoperability with CS1000E over AML.

7. Verification Steps

Perform the following steps to quickly verify the configuration has been successful. First check on the CS1000E that the agent telephone sets have been acquired by the AACC. Then use the Reference Client software as a test tool to login an agent and make a test call. Finally, launch the Avaya Aura® Agent Desktop (AAAD) client and login an agent. Then make a test call to the CDN and verify that this agent can answer the call ok.

7.1. Verifying the Agent sets after they have been acquired by AACC

After the Supervisor/Agent telephone sets have been properly configured both on CS1000E and on AACC, they should be in an "acquired" state which means that they are under control of the AACC. This can be verified by using Overlay 20 on CS1000E to print the Terminal Number Block (TNB) for any agent as per the following example (the important fields to check are those shown below in **red + bold**):

```
>LD 20              ← Load Overlay 20

REQ: PRT            ← Enter PRT to print
TYPE: TNB           ← Enter TNB for Terminal Number Block
TN   104 0 0 0      ← Enter the TN number for any agent
CUST                ← Press Enter to default
DATE
PAGE
DES


DES  AACC
TN   104 0 00 00   VIRTUAL
TYPE 1165
CDEN 8D
CTYP XDLC
CUST 0
NUID
NHTN
CFG_ZONE 00002
CUR_ZONE 00002
MRT
ERL  0
ECL  0
FDN
TGAR 0
LDN  NO
NCOS 0
SGRP 0
RNPG 0
SCI  0
SSU
XLST
SFLT NO
CAC_MFC 0
CLS  UNR FBD WTA LPR MTD FND HTD TDD HFA CRPD
```

```
      MWD LMPN RMMD SMWD AAD IMD DOS XHD IRD NID OLD VCE DRG1
      POD SLKD CCSD SWD LND CNDD
      CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBD
      ICDD CDMD LLCN MCTD CLBD AUTU
      GPUD DPUD DNDD CFXD ARHD CNTD CLTD ASCD
      CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD
      UDI RCC HBTD AHA IPND DDGA NAMA MIND PRSD NRWD NRCD NROD
      DRDD EXR0
      USMD USRD ULAD CCBD RTDD RBDD RBHD PGND FLXD FTTC DNDY DNO3 MCBN
      FDSD NOVD VOLA VOUD OUSD OBPD CDMR PRED RECD MCDD T87D SBMD
      KEM3 MSNV FRA  PKCH MUTA MWTD DVLD CROD ELCD
CPND LANG ENG
HUNT
PLEV 02
PUID
UPWD
DANI NO
AST  00 03
IAPG 1
AACS YES              ← Text shown in red appears when the agent is acquired
ACQ  AS: TN,AST-DN,AST-POSID
ASID 16
SFNB  1  2  3  4  5  6  7  8  9  10  11  12  13  15  16  17  18  19  22  24
25  26  28  29  31  33  34  35  36  37  38  39
SFRB  1  2  15
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
MLNG ENG
DNDR 0
KEY  00 ACD 60500 0  1000
     SPV
     01 NRD
     02 MSB
     03 SCR 66100 0     MARP
        CPND
          CPND_LANG ROMAN
            NAME Agent 66100
            XPLN 13
            DISPLAY_FMT FIRST,LAST
     04 AMG
     05 AAG
     06
     07
     08
     09
     10
     11
     12
     13
     14
```

```
     15
     16
     17 TRN
     18 AO6
     19 CFW 16
     20 RGA
     21 PRK
     22 RNP
     23
     24 PRS
     25 CHG
     26 CPN
     27
     28
     29
     30
     31
DATE 11 APR 2012

NACT
REQ: END      ← Type END to exit Overlay 20
```

The meaning of the fields above (in Red + Bold) is as follows:

Prompt	Response	Meaning
AACS	YES	The phone is acquired by CCMS
ACQ AS:	TN,AST-DN,AST-POSID	The TN, DN and POSID are acquired
ASID	16	CCMS acquired the set via AML 16
SFNB	Check for a string of numbers like the example above – values not important	Bitmap that controls which messages are sent to CCMS and is not user-definable
SFRB	Check for a string of numbers like the example above – values not important	Bitmap that controls which messages are sent to CCMS and is not user-definable
USFB	Check for a string of numbers like the example above – values not important	Bitmap that controls which messages are sent to CCMS and is not user-definable
CALB	Check for a string of numbers like the example above – values not important	Bitmap that controls which messages are sent to CCMS and is not user-definable

7.2. Verifying CCT using the Reference Client

Verify CCT configuration by using the Reference Client to ensure that all resources are available and accessible to route contacts for CCMS. The Reference Client is an installation testing tool so it is not designed for deployment in a production contact center. On the CCT server, logon with Administrator user ID and password. Click **Start**, **All Programs**, **Avaya, Contact Center, Communication Control Toolkit, Ref Client**.
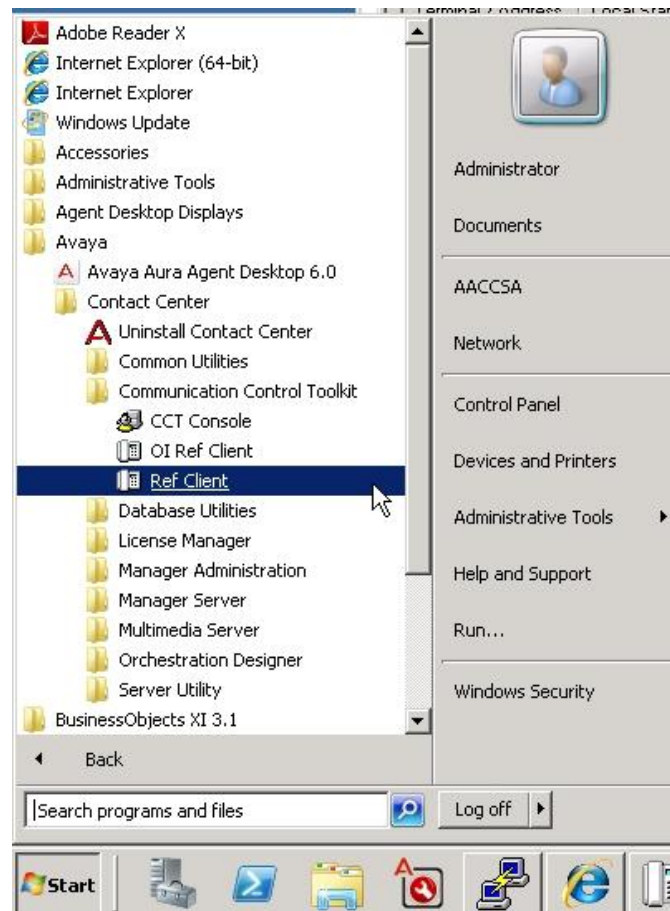
This launches the **CCT Reference Client** application. Click on **Session** and from the dropdown menu, choose **Connect**.
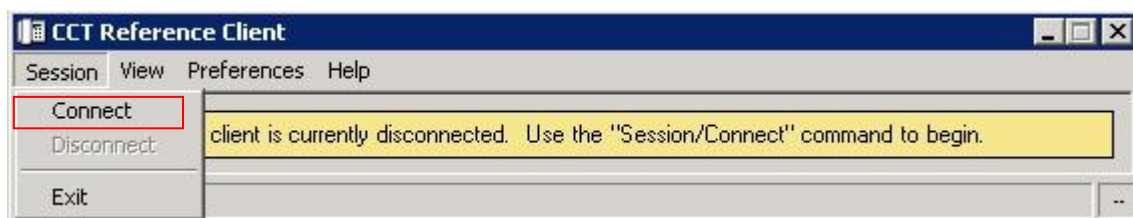
In the **User Credentials** dialog box, click on the **Specified User** button and enter the agent's **User ID** (e.g. Agent66100), **Domain** (e.g. silstack.com) and **Password**. Click **OK**.

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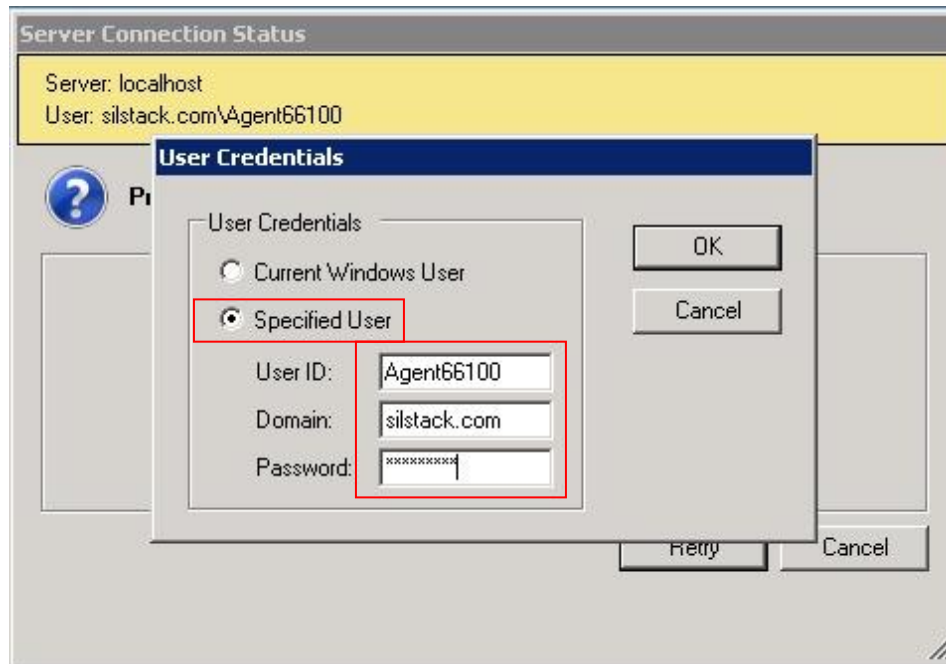
The Reference Client application is now logged in. Enter a telephone number in the text box to the right of the **Originate** button (e.g. 66101) and click on **Originate** to make a call to that number.
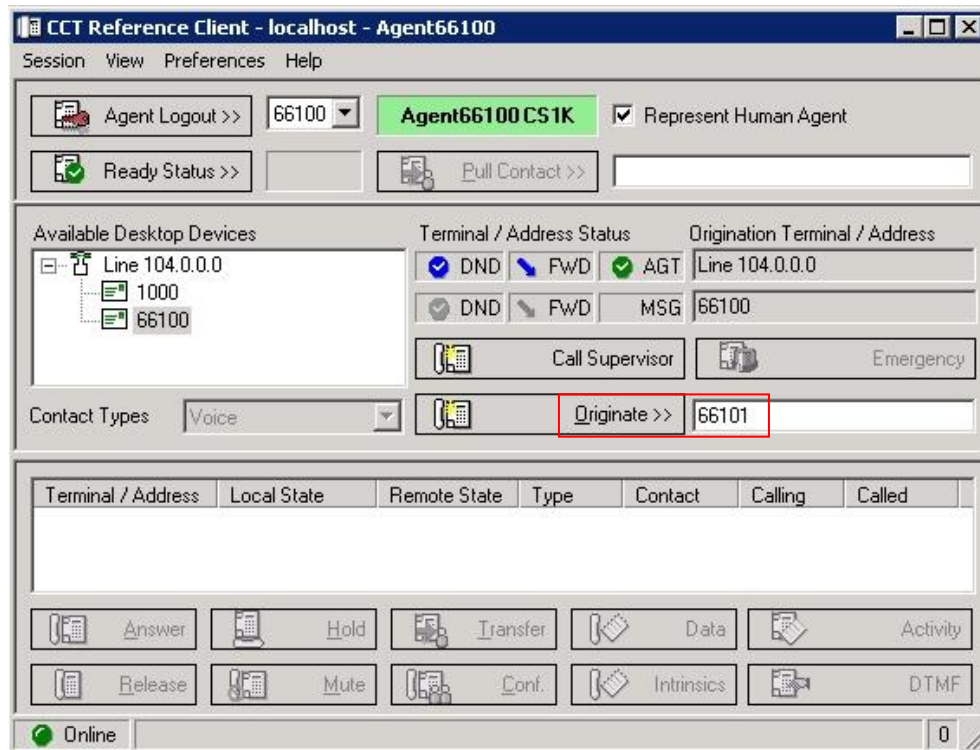
The far end phone should ring. Answer the call and the Reference Client will show the call details in the bottom pane. Press the Release button to drop the call.
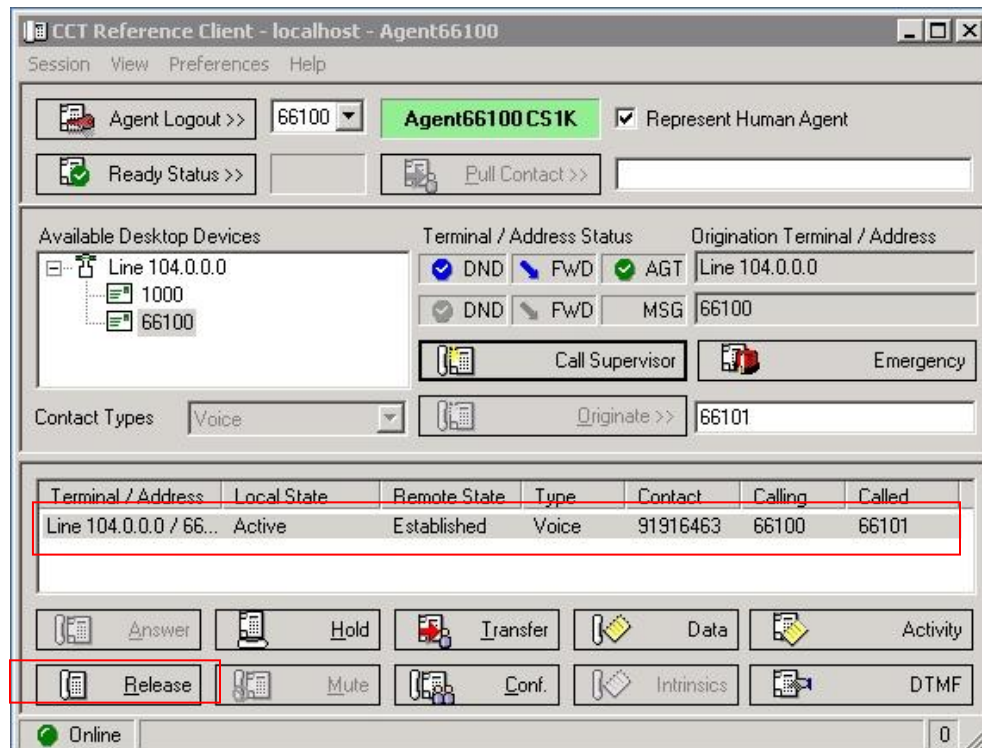
7.3. Verifying the Contact Center operation using Avaya Aura® Agent Desktop

Contact Center agents use the Avaya Aura® Agent Desktop (AAAD) client in their day to day handling of Customer contacts. The next test is to login an agent using the AAAD client and make a CDN call from another set and test that the call is routed and presented to this agent. Launch Internet Explorer and in the Address box, enter http://AACC_hostname/agentdesktop e.g., http://aaccsa/agentdesktop and press Enter. The Avaya Aura® Agent Desktop window launches. It is presumed that the prerequisites have already been installed. If not, click on the **Install Prerequisites** button and follow the online instructions. Click on the **Launch AAAD** button.

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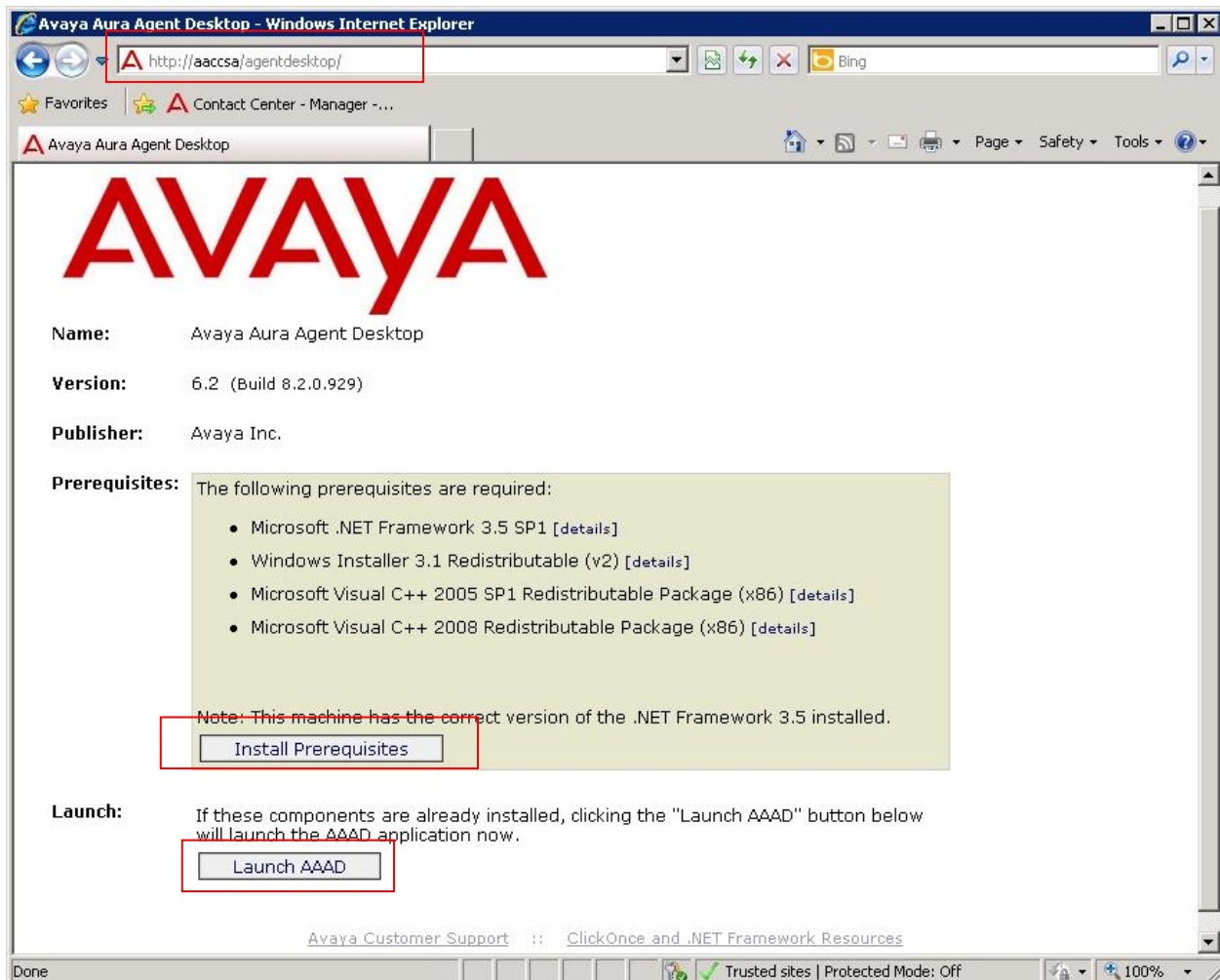
After a few moments, the Avaya Aura® Agent Desktop banner appears.

This is then followed by a login box where the **User Credentials** are entered. Enter an agent **User ID** e.g. **Agent66201**. Enter the **Password** for this agent which in this example is the windows domain password. Type the **Domain** e.g. **silstack.com** and press **OK** to login.
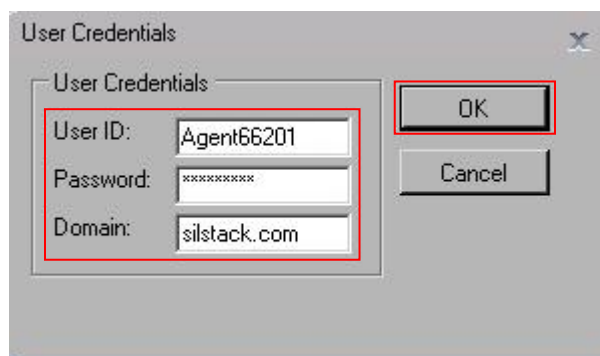
The AAAD client launches as follows. Click on the top left hand circular button and from the drop down menu, select **Login**.
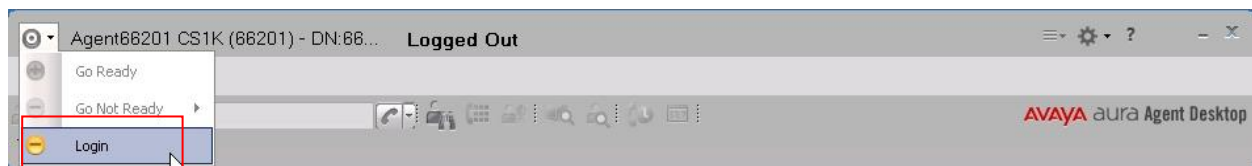
A new window pops up requesting another login level. This is typical where Contact Center Multimedia is installed. Under **Account Info**, the **ID** will be pre-populated with the agent ID (e.g. **66201**). Enter a corresponding password for this agent in the **Password** box. Click on the **Login** button.
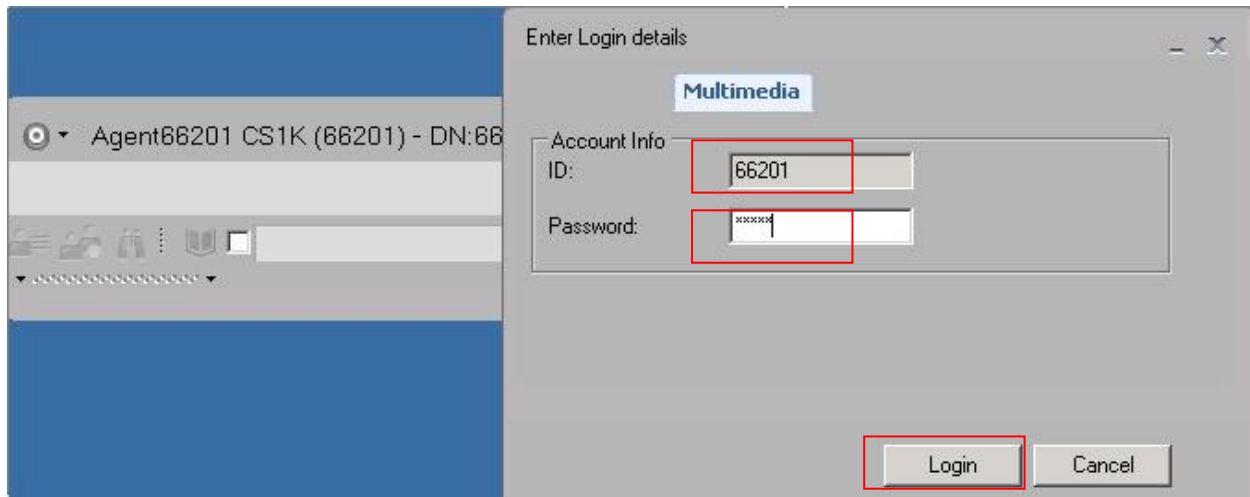
The AAAD logs in and presents as follows. Click on the top left hand circular button and from the drop down menu, select **Go Ready**.
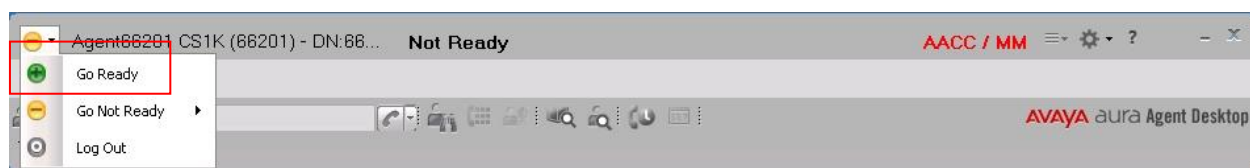
The AAAD screen changes to the logged in Ready state as follows.
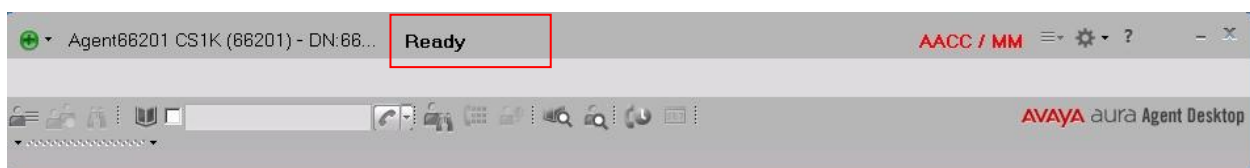
To test the operation, make a call from any non agent telephone set on the CS1000E and call the CDN number (e.g. 60000). The call should be routed to AACC and presented to AAAD as shown below. Select the **Answer icon** to answer the call. Check speech path is ok.
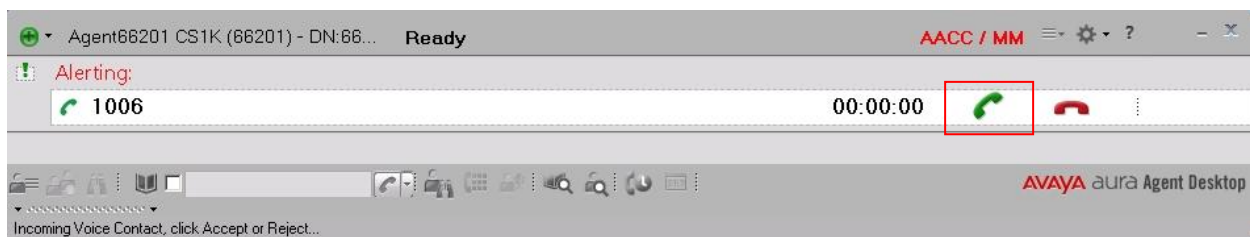
With the call answered, the AAAD looks like the following. Press the release icon to drop the call.
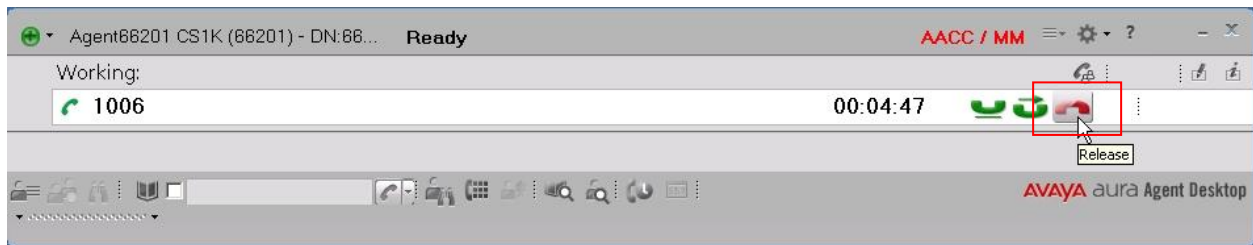
That concludes the verification of the configuration of CS1000E and AACC to inter-operate over an AML link.

8. Conclusion

These Application Notes document the procedures to be used when configuring a CS1000E to interoperate with an Avaya Aura® Contact Center over an AML link. By following these procedures, it will be possible to configure these systems to work for basic Contact Center voice contacts.

9. References

The following product documentation references are relevant to this Application Note.

AACC:
- Avaya Aura® Contact Center Configuration – Avaya Communication Server 1000 Integration (NN44400-512).
- Avaya Aura® Contact Center Administration (NN44400-610).
- Avaya Aura® Contact Center Commissioning (NN44400-312).
- Avaya Aura® Agent Desktop (NN44400-114).
- Avaya Aura® Contact Center Administration – Client Administration (NN44000-611).

CS1000E:
- Software Input Output Reference – Administration Avaya Communication Server 1000 (NN43001-611).
- Software Input Output Reference – Maintenance Avaya Communication Server 1000 (NN43001-711).

10. Appendix A – CS1000E Call Server Software

This Application Note is based on a CS1000E R7.5 system which has the latest Dependency List (DepList) patches installed at the time. The system type, software version and installed DepList version information are given by Overlay 22 and 143.

```
>LD 22            ← Load Overlay 22

REQ  ISSP         ← Type ISSP to display Issue and Patch list

10/05/12 13:24:42
TID: 46379

VERSION 4021

System type is - Communication Server 1000E/CP PM
CP PM - Pentium M 1.4 GHz

IPMGs Registered:             2
IPMGs Unregistered:           0
IPMGs Configured/unregistered:  0

RELEASE 7
ISSUE 50 Q  +
IDLE_SET_DISPLAY NORTEL
DepList 1: core Issue: 01(created: 2012-01-10 16:47:54 (est))

MDP>LAST SUCCESSFUL MDP REFRESH :2012-01-24 10:14:40(Local Time)
MDP>USING DEPLIST ZIP FILE DOWNLOADED :2012-01-24 04:49:57(est)
SYSTEM HAS NO USER SELECTED PEPS IN-SERVICE


LOADWARE VERSION: PSWV 103

INSTALLED LOADWARE PEPS : 0

ENABLED PLUGINS : 0

REQ  END          ← Type END to exit Overlay 22

>LD 143           ← Load Overlay 143

.MDP ISSP         ← Print all in-service patches (detailed view)

VERSION 4021
RELEASE 7
ISSUE 50 Q +
DepList 1: core Issue: 01 (created: 2012-01-10 16:47:54 (est))

IN-SERVICE PEPS
PAT# CR #          PATCH REF #    NAME      DATE        FILENAME
SPECINS
000  wi00856991    ISS1:1OF1      p17588_1  14/03/2012  p17588_1.cpm   NO
```

```
001   wi00950857      ISS1:1OF1       p24307_1    14/03/2012   p24307_1.cpm    NO
002   wi00881777      ISS1:1OF1       p25747_1    14/03/2012   p25747_1.cpm    NO
003   wi00905660      ISS1:1OF1       p27968_1    14/03/2012   p27968_1.cpm    NO
004   wi00937119      ISS1:1OF1       p28005_1    14/03/2012   p28005_1.cpm    NO
005   WI00839794      ISS1:1OF1       p28647_1    14/03/2012   p28647_1.cpm    NO
006   wi00688381      ISS1:1OF1       p30104_1    14/03/2012   p30104_1.cpm    NO
007   wi00961267      ISS1:1OF1       p30288_1    14/03/2012   p30288_1.cpm    NO
008   wi00896680      ISS1:1OF1       p30357_1    14/03/2012   p30357_1.cpm    NO
009   wi00825488      ISS1:1OF1       p30371_1    14/03/2012   p30371_1.cpm    NO
010   wi00825486      ISS1:1OF1       p30382_1    14/03/2012   p30382_1.cpm    NO
011   wi00897176      ISS1:1OF1       p30418_1    14/03/2012   p30418_1.cpm    NO
012   wi00903381      ISS1:1OF1       p30421_1    14/03/2012   p30421_1.cpm    NO
013   wi00854130      ISS1:1OF1       p30443_1    14/03/2012   p30443_1.cpm    NO
014   wi00824257      ISS1:1OF1       p30447_1    14/03/2012   p30447_1.cpm    NO
015   wi00836182      ISS1:1OF1       p30450_1    14/03/2012   p30450_1.cpm    NO
016   wi00826075      ISS1:1OF1       p30452_1    14/03/2012   p30452_1.cpm    NO
017   WI00900668      ISS1:1OF1       p30456_1    14/03/2012   p30456_1.cpm    NO
018   wi00854150      ISS1:1OF1       p30468_1    14/03/2012   p30468_1.cpm    NO
019   wi00827950      ISS2:1OF1       p30471_2    14/03/2012   p30471_2.cpm    NO
020   WI00836334      ISS1:1OF1       p30481_1    14/03/2012   p30481_1.cpm    NO
021   wi00833910      ISS2:1OF1       p30492_2    14/03/2012   p30492_2.cpm    NO
022   wi00853031      ISS1:1OF1       p30531_1    14/03/2012   p30531_1.cpm    NO
023   wi00877367      ISS1:1OF1       p30534_1    14/03/2012   p30534_1.cpm    NO
024   wi00834382      ISS1:1OF1       p30548_1    14/03/2012   p30548_1.cpm    NO
025   wi00832106      ISS1:1OF1       p30550_1    14/03/2012   p30550_1.cpm    NO
026   WI00836292      ISS1:1OF1       p30554_1    14/03/2012   p30554_1.cpm    NO
027   wi00835294      ISS1:1OF1       p30565_1    14/03/2012   p30565_1.cpm    NO
028   wi00856702      ISS1:1OF1       p30573_1    14/03/2012   p30573_1.cpm    NO
029   wi00838073      ISS1:1OF1       p30588_1    14/03/2012   p30588_1.cpm    NO
030   wi00839255      ISS1:1OF1       p30591_1    14/03/2012   p30591_1.cpm    NO
031   wi00854415      ISS1:1OF1       p30593_1    14/03/2012   p30593_1.cpm    NO
032   wi00836981      ISS1:1OF1       p30613_1    14/03/2012   p30613_1.cpm    NO
033   wi00841980      ISS1:1OF1       p30618_1    14/03/2012   p30618_1.cpm    NO
034   wi00839821      ISS1:1OF1       p30619_1    14/03/2012   p30619_1.cpm    NO
035   wi00842409      ISS1:1OF1       p30621_1    14/03/2012   p30621_1.cpm    NO
036   WI00853473      ISS1:1OF1       p30625_1    14/03/2012   p30625_1.cpm    NO
037   WI00843571      ISS1:1OF1       p30627_1    14/03/2012   p30627_1.cpm    NO
038   wi00867905      ISS1:1OF1       p30640_1    14/03/2012   p30640_1.cpm    NO
039   wi00852389      ISS1:1OF1       p30641_1    14/03/2012   p30641_1.cpm    NO
040   wi00859123      ISS1:1OF1       p30648_1    14/03/2012   p30648_1.cpm    NO
041   wi00869695      ISS1:1OF1       p30654_1    14/03/2012   p30654_1.cpm    NO
042   WI00900213      ISS1:1OF1       p30656_1    14/03/2012   p30656_1.cpm    NO
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045   wi00839134      ISS1:1OF1       p30698_1    14/03/2012   p30698_1.cpm    YES
046   wi00852365      ISS1:1OF1       p30707_1    14/03/2012   p30707_1.cpm    NO
047   wi00850521      ISS1:1OF1       p30709_1    14/03/2012   p30709_1.cpm    YES
048   wi00841273      ISS1:1OF1       p30713_1    14/03/2012   p30713_1.cpm    NO
049   wi00853178      ISS1:1OF1       p30719_1    14/03/2012   p30719_1.cpm    NO
050   wi00843623      ISS1:1OF1       p30731_1    14/03/2012   p30731_1.cpm    YES
051   wi00856410      ISS1:1OF1       p30749_1    14/03/2012   p30749_1.cpm    NO
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056   wi00857362      ISS1:1OF1       p30782_1    14/03/2012   p30782_1.cpm    NO
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061   wi00896394      ISS1:1OF1        p30807_1    14/03/2012    p30807_1.cpm    NO
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065   wi00932942      ISS1:1OF1        p30843_1    14/03/2012    p30843_1.cpm    NO
066   wi00877442      ISS1:1OF1        p30844_1    14/03/2012    p30844_1.cpm    NO
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072   wi00938555      ISS1:1OF1        p30881_1    14/03/2012    p30881_1.cpm    YES
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093   wi00900096      ISS1:1OF1        p31006_1    14/03/2012    p31006_1.cpm    NO
094   wi00879526      ISS1:1OF1        p31007_1    14/03/2012    p31007_1.cpm    NO
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112   wi00898327      ISS1:1OF1        p31136_1    14/03/2012    p31136_1.cpm    NO
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134  wi00927321    ISS1:1OF1      p31286_1    14/03/2012    p31286_1.cpm    YES
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