



## **Avaya Solution & Interoperability Test Lab**

---

# **Application Notes for *Callmedia* Contact Centre Suite with Avaya Communication Manager and Avaya Application Enablement Services - Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for the *Callmedia* contact centre suite to successfully interoperate with Avaya Communication Manager and Avaya Application Enablement Services.

The *Callmedia* contact centre suite is designed to handle inbound and outbound telephone calls, emails, web interactions, SMS messages and faxes. The Avaya Telephony Services API (TSAPI) interface is a service on the Application Enablement Services used to monitor and control agent stations, and handle routing of external calls. The *Callmedia* contact centre suite comprises of three core components: *Callmedia* Enterprise, *Callmedia* Advance and *Callmedia* Professional. An additional component called *Callmedia* Express was not compliance tested.

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

# 1. Introduction

These Application Notes describe the compliance-tested configuration using a *Callmedia* 4.0.1 contact centre server, Avaya Communication Manager 3.1, with Avaya Application Enablement Services (AES) 3.1.

The *Callmedia* suite comprises three core components:

- *Callmedia* Professional – *Callmedia* Professional is the foundation layer for the *Callmedia* contact centre suite.
- *Callmedia* Enterprise – Designed to handle inbound calls, emails, web interactions, SMS messages and faxes. Only inbound calls were tested during compliance testing.
- *Callmedia* Advance – Provides preview, progressive and predictive dialling. A separate application called *softdial* by Sytel is used for the predication of predictive calls, this was not compliance tested. Only preview and progressive calls were tested during compliance testing.

*Callmedia* agents log on to *Callmedia* with a username and password configured within the *Callmedia* application. This logon is linked to a phone extension configured on Avaya Communication Manager.

## *Callmedia* Inbound call routing and allocating to users.

*Callmedia* users (agents) and their teams have skills defined on the *Callmedia* Enterprise Queues. Inbound calls arrive on the Avaya Communication Manager Vector Directory Number (VDN). The VDN is mapped to a *Callmedia* Enterprise queue. When *Callmedia* Enterprise has an available skilled user, *Callmedia* will route the call to the user's phone using TSAPI adjunct routing capabilities.

## *Callmedia* Outbound.

Preview and Progressive *Callmedia* outbound users are given customer telephone numbers, contained in the *Callmedia* calling list (in the *Callmedia* database) to dial from. These calls are launched from the user's extensions using TSAPI call control capabilities. The call progress is monitored and controlled using TSAPI.

*Callmedia* is composed of four Windows Services:

- |                               |   |   |
|-------------------------------|---|---|
| ▪ <i>Callmedia</i> Log        | - | Manages logging for <i>Callmedia</i> Applications |
| ▪ <i>Callmedia</i> Server     | - | Client connections and CTI link                   |
| ▪ <i>Callmedia</i> Enterprise | - | Task Allocation Engine                            |
| ▪ <i>Callmedia</i> Scheduler  | - | Outbound Engine. Callslist management             |

An additional component called *Callmedia* Express that allows the agent to transfer and conference calls was not compliance tested as part of the *Callmedia* contact centre suite.

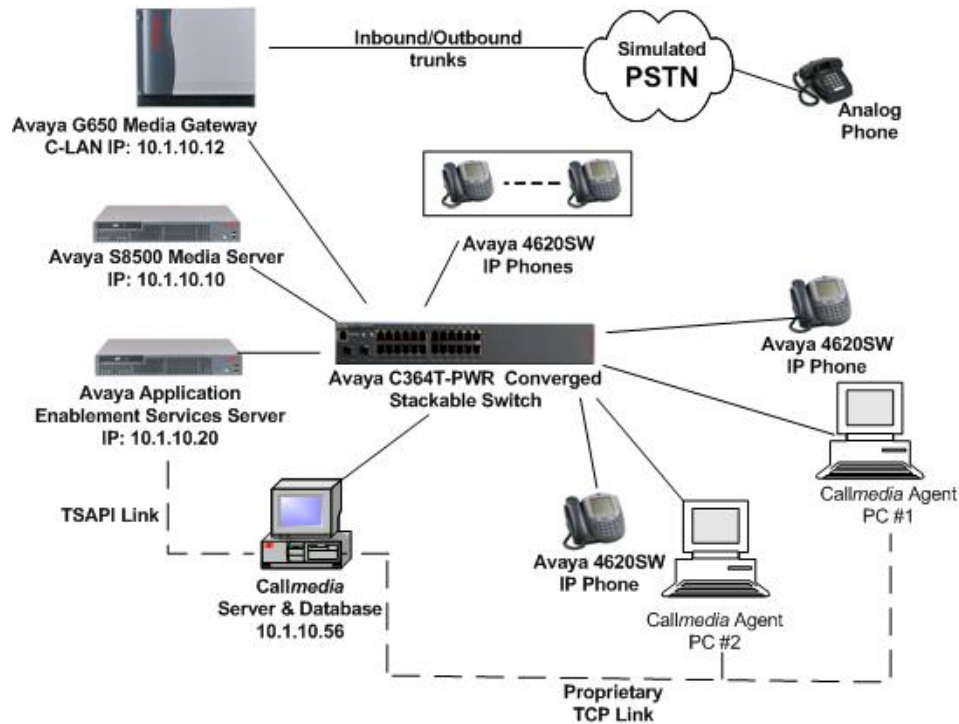


Figure 1: Avaya Communication Manager with Callmedia Contact Centre Suite

## 2. Equipment and Software Validated

Equipment	Software
Avaya S8500 Media Server – Avaya communication Manager	3.1 (03.1-01.0.628.6)
Application Enablement Services Server	3.1 (r3-1-0-build-33-1-0)
Avaya C364T-PWR Converged Stackable Switch	4.3.12
Avaya 4600 Series IP Telephones	2.2.3 (4620SW)
Callmedia contact centre suite	4.0.1
Callmedia Server	3.4.13 (Windows 2003 SP1)
Callmedia Log	2.4.1.1
Callmedia Enterprise	2.1.0.781
Callmedia Scheduler	2.5.1.22
Callmedia Communication Manager Switch Driver	3.4.11.122
Microsoft SQL Server	SQL 2000 SP3
Operating System for Callmedia Agent PCs	Windows XP

### 3. Configure Avaya Communication Manager

Basic configuration of Avaya Communication Manager and Avaya Application Enablement Services are beyond the scope of these Application Notes. See Section 10 for Avaya documentation references.

#### 3.1. Verify Avaya Communication System parameters

Log into the System Access Terminal (SAT) to verify that the Avaya Communication Manager license has proper permissions for features illustrated in these Application Notes. On the OPTIONAL FEATURES screen, verify that the **Computer Telephony Adjunct Links** is set to “y” as shown below.

display system-parameters customer-options		Page 3 of 11
OPTIONAL FEATURES		
Abbreviated Dialing Enhanced List? n	Audible Message Waiting? n	
Access Security Gateway (ASG)? n	Authorization Codes? n	
Analog Trunk Incoming Call ID? n	Backup Cluster Automatic Takeover? n	
A/D Grp/Sys List Dialing Start at 01? n	CAS Branch? n	
Answer Supervision by Call Classifier? n	CAS Main? n	
ARS? y	Change COR by FAC? n	
ARS/AAR Partitioning? n	<b>Computer Telephony Adjunct Links? y</b>	
ARS/AAR Dialing without FAC? N	Cvg Of Calls Redirected Off-net? n	
ASAI Link Core Capabilities? y	DCS (Basic)? n	
ASAI Link Plus Capabilities? y	DCS Call Coverage? n	
Async. Transfer Mode (ATM) PNC? n	DCS with Rerouting? n	

On the CALL CENTER OPTIONAL FEATURES screen, verify **Vectoring (Basic)** is set to “y” as shown below.

display system-parameters customer-options		Page 6 of 11
CALL CENTER OPTIONAL FEATURES		
Call Center Release: 3.0		
ACD? n	Reason Codes? n	
BCMS (Basic)? n	Service Level Maximizer? n	
BCMS/VuStats Service Level? n	Service Observing (Basic)? y	
BSR Local Treatment for IP & ISDN? n	Service Observing (Remote/By FAC)? y	
Business Advocate? n	Service Observing (VDNs)? y	
Call Work Codes? n	Timed ACW? n	
DTMF Feedback Signals For VRU? n	<b>Vectoring (Basic)? y</b>	
Dynamic Advocate? n	Vectoring (Prompting)? y	
Expert Agent Selection (EAS)? y	Vectoring (G3V4 Enhanced)? n	
EAS-PHD? n	Vectoring (3.0 Enhanced)? n	

### 3.2. Administer CTI Link with TSAPI Service

Enter the **add cti-link n** command, where “n” is an available CTI link number. Enter an available extension number in the **Extension** field. Set **Type** to “ADJ-IP” and enter a descriptive name in the **Name** field.

add cti-link 3	Page 1 of 2
CTI LINK	
CTI Link: 3	
Extension: 13000	
Type: ADJ-IP	
	COR: 1
Name: TSAPI link 3	

### 3.3. Administer Call Vectors and VDNs

Administer a set of call vectors and Vector Directory Numbers (VDNs) per *Callmedia* contact centre installation documentation. VDNs and vectors are created to allow inbound calls to be handled by the *Callmedia* contact centre server agents. Two vectors and related VDNs are created (Entry & Queuing). New calls arriving at the Entry VDN will be routed to the Queuing VDN by *Callmedia*. Calls will be queued in the Queuing VDN until *Callmedia* Enterprise allocates the calls to users. If for any reason *Callmedia* has not routed the call from the Entry VDN to the Queuing VDN, then the Entry VDN’s vector will take control of the call after a timeout, which will ensure that the call is not lost when the CTI link is down.

Enter the **change vector n** command, where “n” is an unused vector number. The CTI link configured in Section 3.2 used by the *Callmedia* Server needs to be specified in the adjunct routing vector step. The command running in this step turns control of the call over to the *Callmedia* server so that the *Callmedia* server may transfer it to a specific agent. Step 3 provides treatment to the call in case of unsuccessful routing by the adjunct.

change vector 7	Page 1 of 3
CALL VECTOR	
Number: 7	Name: Callmedia Entry
Attendant Vectoring? n	Meet-me Conf? n
Lock? n	
Basic? y	EAS? y G3V4 Enhanced? n
ANI/II-Digits? n	ASAI Routing? y
Prompting? y	LAI? n G3V4 Adv Route? n
CINFO? n	BSR? n
Holidays? n	
Variables? n	3.0 Enhanced? n
01 adjunct	routing link 3
02 wait-time	2 secs hearing silence
03 route-to	number 10000 with cov n if unconditionally
04 stop	
05	

Enter the **add vdn n** command, where “n” is an unused VDN number. On Page 1 of the VECTOR DIRECTORY NUMBER screen, assign a **Name** for the VDN. For **Vector Number**, enter the number of the vector configured above.

add vdn 17007	Page 1 of 2
VECTOR DIRECTORY NUMBER	
Extension: 17007	
Name: Callmedia Entry	
Vector Number: 7	
Attendant Vectoring? N	
Meet-me Conferencing? N	
Allow VDN Override? N	
COR: 1	
TN: 1	
Measured: none	
1 <sup>st</sup> Skill:	
2 <sup>nd</sup> Skill:	

Enter the **change vector n** command, where “n” is an unused vector number . The CTI link configured in Section 3.2 used by the *Callmedia* server needs to be specified in the adjunct routing vector step. The command running in this step turns control of the call over to the *Callmedia* server. Subsequent steps in this vector can be used to play announcements or ringback to the caller. The vector should not end, so the “goto step” command is used to create a continues loop.

change vector 8	Page 1 of 3
CALL VECTOR	
Number: 8	Name: Callmedia Quing
Attendant Vectoring? n	Meet-me Conf? n
Basic? y	EAS? y
G3V4 Enhanced? n	ANI/II-Digits? n
Prompting? y	LAI? n
G3V4 Adv Route? n	CINFO? n
Variables? n	3.0 Enhanced? n
01 adjunct	routing link 3
02 wait-time	2 secs hearing ringback
03 goto step	2 if unconditionally
04 stop	
05	

Enter the **add vdn n** command, where “n” is an unused VDN number. On Page 1 of the VECTOR DIRECTORY NUMBER screen, assign a **Name** for the VDN. For **Vector Number**, enter the number of the vector configured above.

add vdn 17008	Page 1 of 2
VECTOR DIRECTORY NUMBER	
Extension: 17008	
Name: Callmedia Queuing	
Vector Number: 8	
Attendant Vectoring? N	
Meet-me Conferencing? N	
Allow VDN Override? N	
COR: 1	
TN: 1	
Measured: none	
1 <sup>st</sup> Skill:	
2 <sup>nd</sup> Skill:	

## 4. Configure Avaya Application Enablement Services

This section provides the procedures for configuring Avaya Application Enablement Services. Basic configuration related to the switch connection between Avaya Communication Manager and Avaya Application Enablement Services is assumed to be established.

### 4.1. Verify Avaya Application Enablement Services License

Log into the Avaya Application Enablement Services (AES) Server OAM web interface to verify that the Avaya Application Enablement Services license has proper permissions for features illustrated in these Application Notes. Select **CTI OAM Admin** and verify that the TSAPI service is licensed as shown below.

The screenshot displays the Avaya CTI OAM Admin web interface. The top navigation bar includes the Avaya logo and a 'OAM' link. A sidebar on the left contains a menu with options: OAM Home, CTI OAM Home, Administration, Status and Control, Maintenance, Logs, Utilities, Help, and Logout. The main content area shows the user is logged in as '[craft]' on 'Thu Oct 2 17:51:56 E.S.T., 2005'. Below this, a table lists services and their controller status:

Service	Controller Status
ASAI Link Manager	Running
CMAPI Service	Running
CVLAN Service	Running
DLG Service	Running
Transport Layer Service	Running
TSAPI Service	Running

Below the table, a note states: 'For status on actual services, please use [Status and Control](#).' An important message follows: 'IMPORTANT: AE Services must be restarted for administrative changes to fully take effect. Changes to the Security Database do not require a restart.' The 'License Information' section indicates the user is licensed to run Application Enablement (CTI) version 3.0. and lists the following services: DLG, CVLAN, and TSAPI.

## 4.2. Administer TSAPI Service

From the CTI OAM menu, select **Administration** → **CTI Link Admin** → **TSAPI Links**. Click on **Add Link**. In the Add/ Edit TSAPI Links page shown below, select the **Link**, **Switch Connection** and **Switch CTI Link Number**. Click on **Apply Changes**.

- **Link:** Choose a link number between 1 and 16 that is available.
- **Switch Connection:** Select the appropriate switch connection from the drop down list.
- **Switch CTI Link Number:** Corresponding CTI link number configured in Section 3.2.

AVAYA OAM

OAM Home

CTI OAM Home

You are here: > Administration > CTI Link Admin > TSAPI Links

Administration

Local IP

Ports

Switch Connections

CTI Link Admin

TSAPI Links

CVLAN Links

DLG Links

CMAPI Configuration

TSAPI Configuration

Security Database

Status and Control

**Add / Edit TSAPI Links**

Link: 3

Switch Connection: S8500aDC1

Switch CTI Link Number: 3

Apply Changes Cancel Changes

The Security Database (SDB) stores information about users and the devices they control. By default the SDB setting is enabled. For convenience during compliance testing, the TSAPI Security Database (SDB) was disabled. Select **Administration** → **TSAPI Configuration**, verify that **Enable SDB** box is not ticked on the TS Configuration page.

AVAYA OAM

OAM Home

CTI OAM Home

You are here: > Administration > TSAPI Configuration

Administration

Local IP

Ports

Switch Connections

CTI Link Admin

CMAPI Configuration

TSAPI Configuration

Security Database

Status and Control

Maintenance

Logs

**TS Configuration**

TCP Preferred Naming Format: IP Address

Extended Worktop Access: ☐

Auto Admin of LAN Addresses: ☐

Enable SDB: ☐

Apply Changes

**Note:** In environments where the TSAPI SDB is enabled, the devices to be monitored must be configured in the TSAPI SDB.



Navigate to the Tlinks page by selecting **Administration → Security Database → Tlinks**. Note the value of the **Tlink Name**, as this will be needed for configuring the contact centre server in Section 5.1. The **Tlink Name** shown below is automatically created by the AES server.



### 4.3. Administer Callmedia Contact Centre User

A user id and password needs to be configured for the *Callmedia* contact centre server to communicate as a TSAPI Client with the AES server. Click on **OAM Home → User Management** and log into the User Management pages. Click on **User Management → Add User**. In the **Add User** page shown below, enter the following values:

- **User Id:** This will be used by the *Callmedia* contact centre server in Section 5.1.
- **Common Name and Surname:** Enter descriptive names.
- **CT User:** Select “Yes” from the drop down menu.
- **New Password and Confirm Password:** This will be used with the User Id in Section 5.1.

The screenshot shows the AVAYA OAM 'Add User' page. The breadcrumb trail at the top reads 'You are here: > User Management > Add User'. The left sidebar shows 'User Management' expanded with options like 'List All Users', 'Add User', 'Search Users', 'Modify Default User', 'Change User Password', 'Service Management', 'Help', and 'Logout'. The main form area is titled 'Add User' and includes a note: 'Fields marked with \* can not be empty.' The form fields are:
 

- \* User Id: Callmedia
- \* Common Name: Callmedia
- \* Surname: Callmedia
- New Password: (masked with asterisks)
- Confirm New Password: (masked with asterisks)
- Admin Note: (empty text box)
- Avaya Role: None (dropdown menu)
- Business Category: (empty text box)
- Car License: (empty text box)
- CM Home: (empty text box)
- Ciss Home: (empty text box)
- CT User: Yes (dropdown menu)

## 5. Configure the Callmedia Contact Centre Server

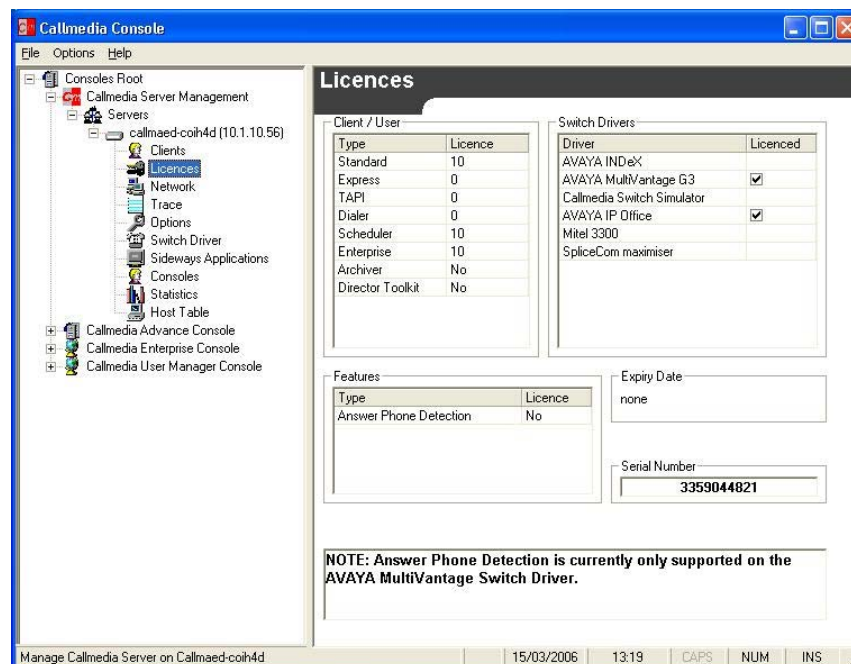
The Callmedia Server and SQL database was pre-installed on the same machine for convenience, during the compliance testing. The standard practice would be to install the SQL database on a separate machine. Note the Callmedia Enterprise Database and Callmedia Advance Database are preconfigured during the installation stage of the Callmedia server. Refer to Section 10, Callmedia Advance Book 2 and Callmedia Enterprise Book 2 for documentation related to Callmedia database configuration.

### 5.1. Callmedia Server Configuration

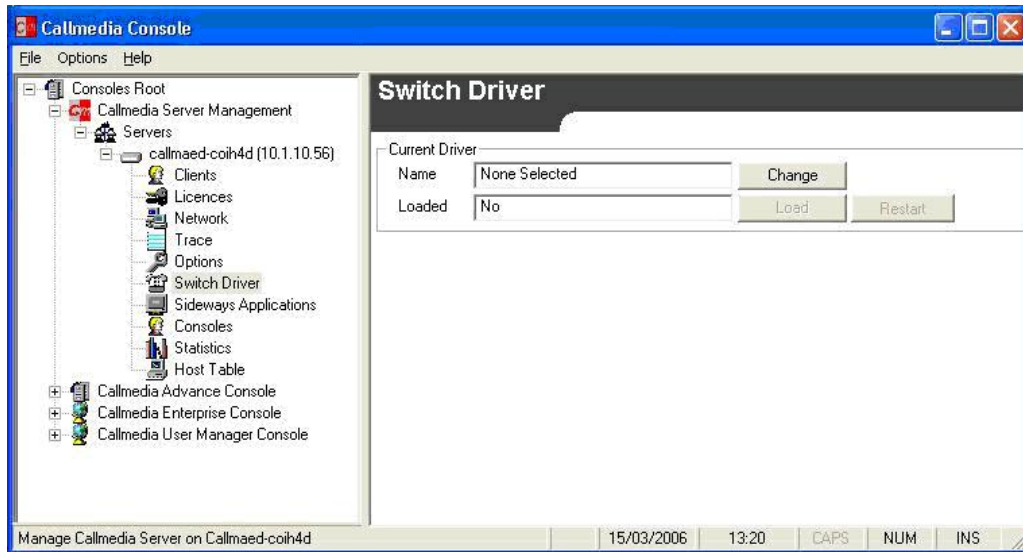
Launch the Callmedia console by clicking **Start → Programs → Callmedia → Callmedia Console** and log in with the appropriate **User name** and **Password**.



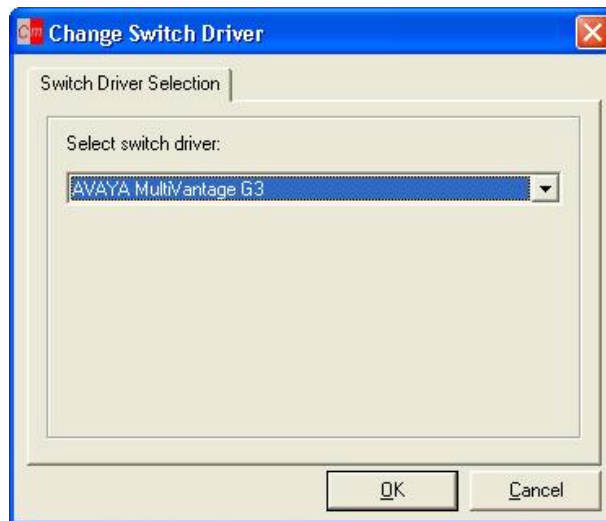
Expand the tree view in the Callmedia Console by clicking on **Callmedia Server Management → Servers** and expand the node for the preinstalled Callmedia Server (callmaed-coih4d). Click on **Licences** to ensure that the **AVAYA MultiVantage G3** under the Switch Drivers section is licensed by having a tick in the check box.



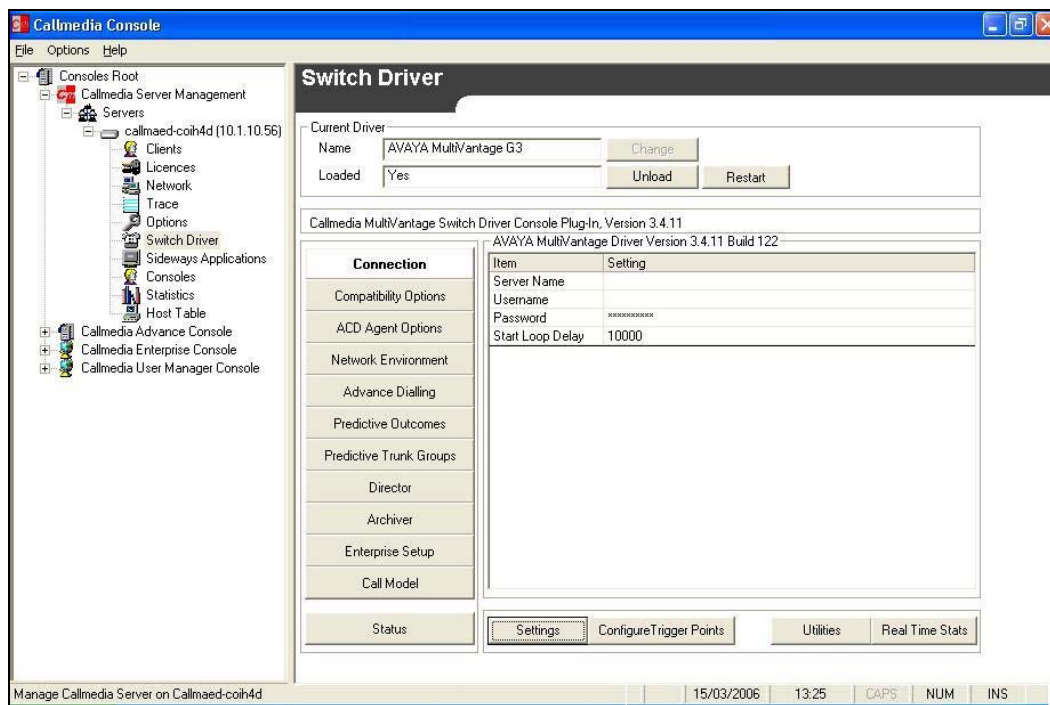
Under the same preinstalled *Callmedia* Server options, click on **Switch Driver** and click **Change** in the Current Driver section.



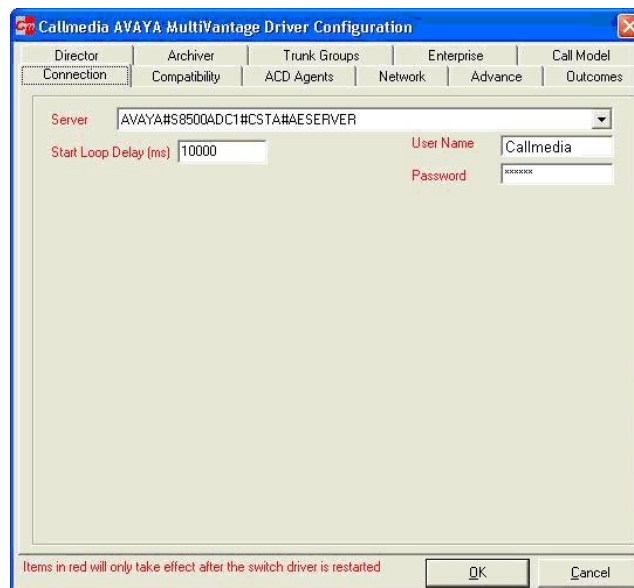
Select **AVAYA MultiVantage G3** from the drop down list in the **Select switch driver** field. Click **OK**.



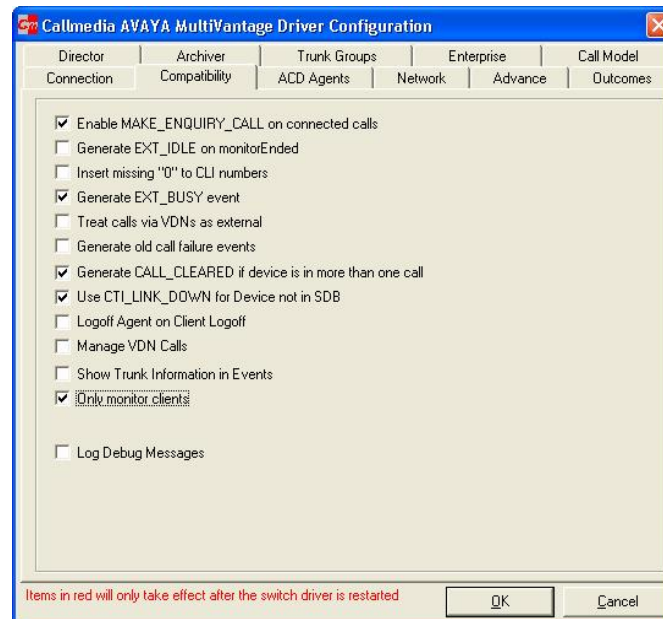
In the Current Driver section, click on the **Load** button to load the switch driver. The **Loaded** field changes to 'Yes' and the **Load** button changes to **Unload**. Once the switch driver has loaded, it's console snap-in should load into the *Callmedia* Console.



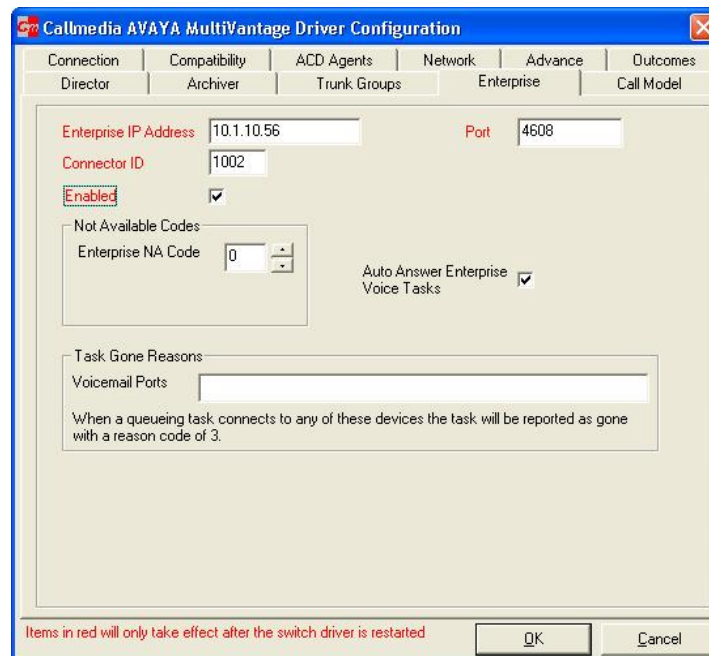
In the Switch Driver screen in the main *Callmedia* Console above, click on the **Settings** button. In the AVAYA MultiVantage Driver Configuration dialog box, click the **Connection** tab. From the **Server** drop down list, select the Tlink name from Section 4.2. Enter the **User Name** and **Password** with the user id and password configured in Section 4.3 on the Avaya AES.



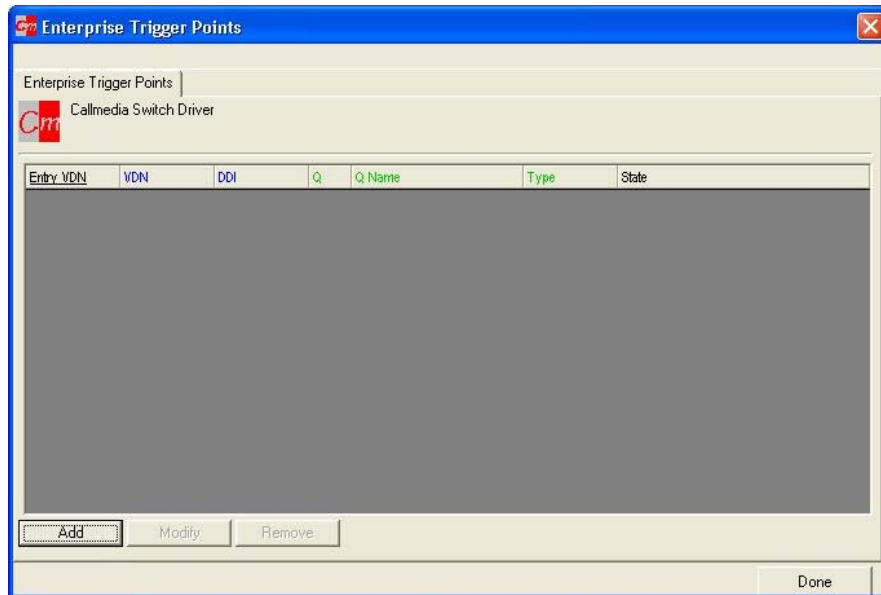
Click on the **Compatibility** tab and tick the **Only monitor clients** check box. The other options can be left with default values of ticked or unticked. Using 'only monitor clients' means that the Callmedia contact centre server will only use a TSAPI Basic License for logged on Callmedia clients.



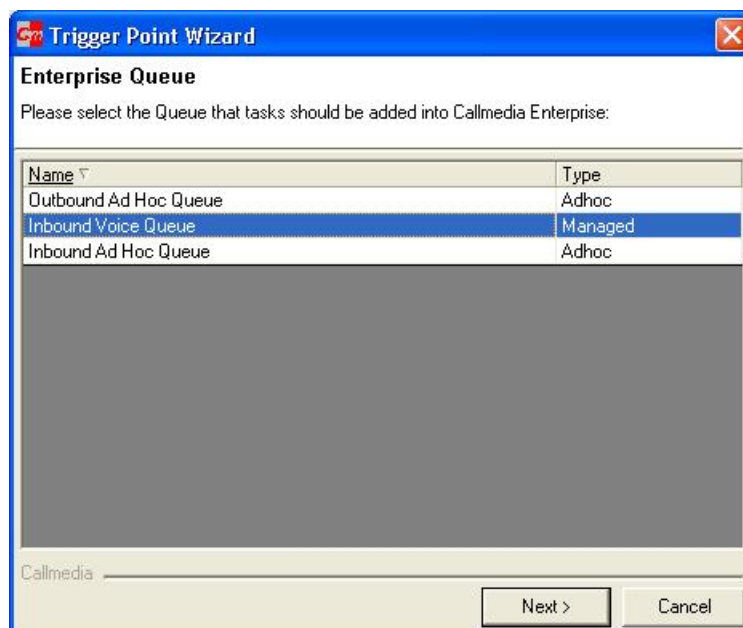
Click on the **Enterprise** tab and tick the **Enabled** check box. By default the Callmedia switch driver will not attempt to connect to Callmedia Enterprise. The **Enterprise IP Address**, **Connector ID** and **Port** are populated by default. Click **OK**.



In the Switch Driver screen in the main *Callmedia* Console, click on the **Configure Trigger Points** button. Click the **Add** button in the Enterprise Trigger Points dialog box below.



The Trigger Point Wizard is launched and three queues present were configured as part of the *Callmedia* server installation. Select the **Inbound Voice Queue** and click **Next**.





Enter “17007” in the **Entry VDN** field and “17008” in the **VDN** field, relating to the VDNs configured on Avaya Communication Manager in Section 3.3. Click **Next**.

The screenshot shows the 'Trigger Point Wizard' window with the 'VDN' tab selected. The window title is 'Trigger Point Wizard'. Below the title bar, the text 'VDN' is displayed, followed by the instruction 'Please enter the VDN Settings'. The window contains three main sections: 'Managed Queue VDN Settings' with a sub-instruction 'This VDN should have an adjunct step and route elsewhere after a timeout.' and an 'Entry VDN' field containing '17007'; 'Queueing VDN' with a sub-instruction 'This VDN should have an adjunct step then loop until the call is routed to an agent by Enterprise.' and a 'VDN' field containing '17008'; and a 'DDI' section with an empty field and the text 'Only respond to calls with this DDI'. At the bottom, there is a 'Callmedia' label and three buttons: '< Back', 'Next >', and 'Cancel'.

Alternative Routes are used in situations where *Callmedia* Enterprise cannot handle the call. For example, when the *Callmedia* Enterprise Queue is outside of its working hours, or when there are no skilled users logged on, the call can be routed elsewhere. During compliance testing, one of the Avaya IP Phone extensions “10000” configured on Avaya Communication Manager was used for Alternative Routes. Other Alternative Route choices can be an interactive voice response system or a voice mail number. Click **Next**.

The screenshot shows the 'Trigger Point Wizard' window with the 'Alternative Routes' tab selected. The window title is 'Trigger Point Wizard'. Below the title bar, the text 'Alternative Routes' is displayed, followed by the instruction 'Please enter alternative destinations for occasions when the task cannot be taken by Enterprise'. The window contains a list of five conditions, each with a corresponding text field and a small 'x' icon: 'Out of Queue working hours' with '10000', 'No Skilled Users' with '10000', 'Queue Full' with '10000', 'Task Wait Exceeded' with '10000', and 'Callmedia Enterprise not connected' with an empty field and the text '(Blank) No Action' in red. Below the list, there is a note: '\* Check Queue settings are correct for these routes to be used'. At the bottom, there is a 'Callmedia' label and three buttons: '< Back', 'Next >', and 'Cancel'.

The Task Recall form is left blank for the purposes of this test. This feature is used to pull back calls that have been delivered to agents without the agent answering the call before a timeout. Click **Next**.

The final screen is the Trigger Point Summary. Click **Finish**.

Trigger Point Summary			
Queue	Inbound Voice Queue		
Type	Managed		
Entry VDN	17007	New calls arriving at the entry VDN should be routed elsewhere after a few seconds.	
Queueing VDN	17008	Call will queue at the queueing VDN until Callmedia Enterprise allocates it to a user.	
DDI	5002	DDI to match	
<b>Failure handling</b>	Out of Hours	10000	Call will be routed here if the Queue is out of hours
	No Skilled Users	10000	Call will be routed here if there are no skilled users logged on
	Queue Full	10000	Call will be routed here if the Queue is full
	Task Wait Exceeded	10000	Call will be routed here if a Router fails to route the call within the timeout
	Enterprise not connected	10000	Call will be routed here if Callmedia Server is connected but Enterprise is not



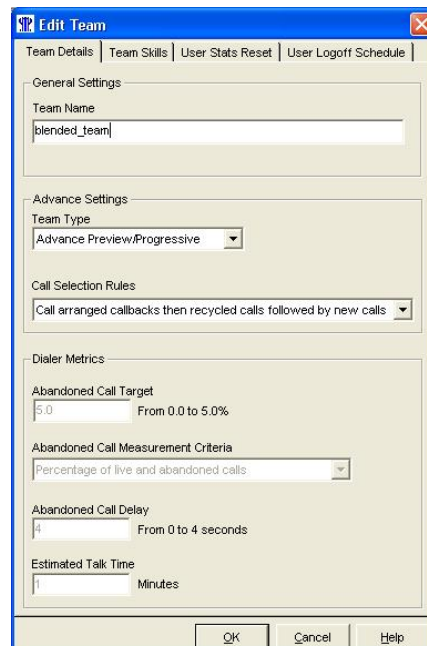
## 5.2. Create Callmedia Teams and Users

Three sets of teams and users were created for the compliance testing. This section shows the setup for the blended team and blended user only. For compliance testing, inbound and outbound teams and users were also configured.

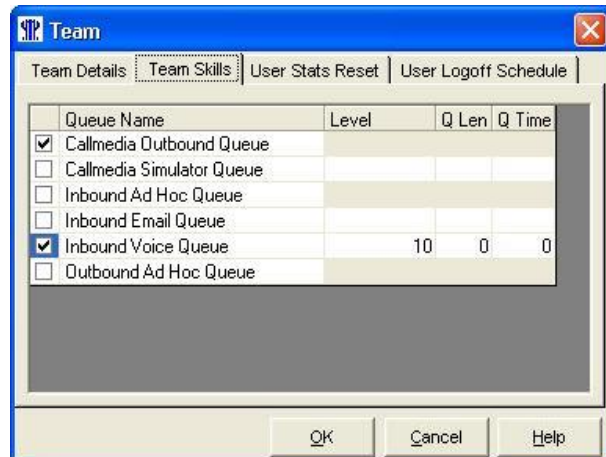
Expand the tree view in the Callmedia Console by clicking on **Callmedia User Manager Console** → **CallmediaEnterprise**, and right click on **Teams**. Click on **New Team**.



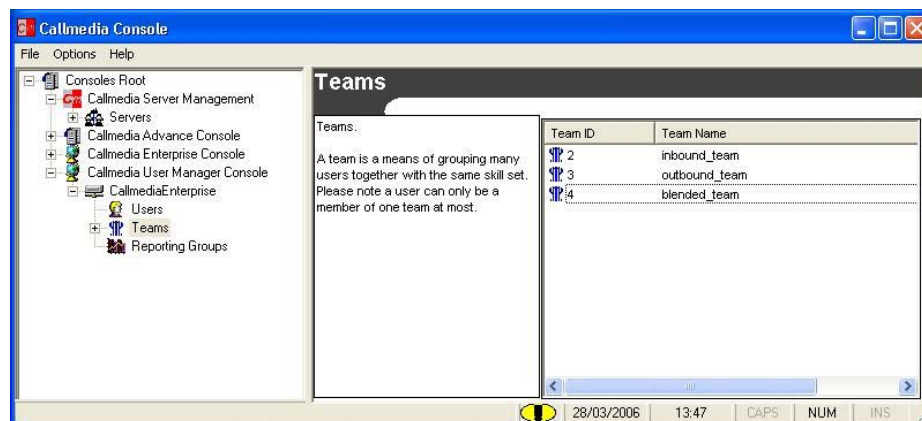
In the Edit Team dialog box, click on the **Team Details** tab, and enter a team name in the **Team Name** field. From the **Team Type** drop down list, select “Advance Preview/Progressive.” The **Call Selection Rules** can be left with the default choice.



Click on the **Team Skills** tab and tick the **Callmedia Outbound Queue** and **Inbound Voice Queue** check boxes. Click **OK**.



The Teams page in the main Callmedia Console shows a summary of all teams. Ensure that the three teams are correctly set up. In this setup, there are three teams: “inbound\_team”, “outbound\_team” and “blended\_team”.



Expand the tree view in the Callmedia Console by clicking on **Callmedia User Manager Console** → **CallmediaEnterprise**, and right click on **Users**. Click on **New User**.



In the User form, click on the **User Details** tab and complete the agent user information. The **Logon ID** and **Password** will be used during agent logon. Select the appropriate team from the drop down list in the **Team** field.

**User**

User Details | Skills | Stats Reset

Firstname: user\_blend

Surname: user\_blend

Logon ID: user\_bl

Password: \*

Email Address:

SMS:

Comments:

User Type: Normal

Reporting Group: <= None =>

Team: blended\_team

Advance User Type: No Delay Preview

Connector Info

Description	Value
Agent ID	
Agent Password	
PCS Password	
Auto Answer	

\* All changes take effect on user logon.

OK Cancel Help

The Users page in the main Callmedia Console shows a summary of all users configured. Ensure that the three users are correctly set up. In this setup, there are three users; “user\_inbound”, “user\_outbound” and “user\_blend”.

**Callmedia Console**

File Options Help

Consoles Root

- Callmedia Server Management
- Callmedia Advance Console
- Callmedia Enterprise Console
- Callmedia User Manager Console
- CallmediaEnterprise
  - Users
  - Teams
  - Reporting Groups

**Users**

Users.

A user is an account which is used to identify who you are to Callmedia Enterprise.

There are several types of User in Enterprise, they are managed by a Supervisor and/or System Administrator. They have various permission levels:

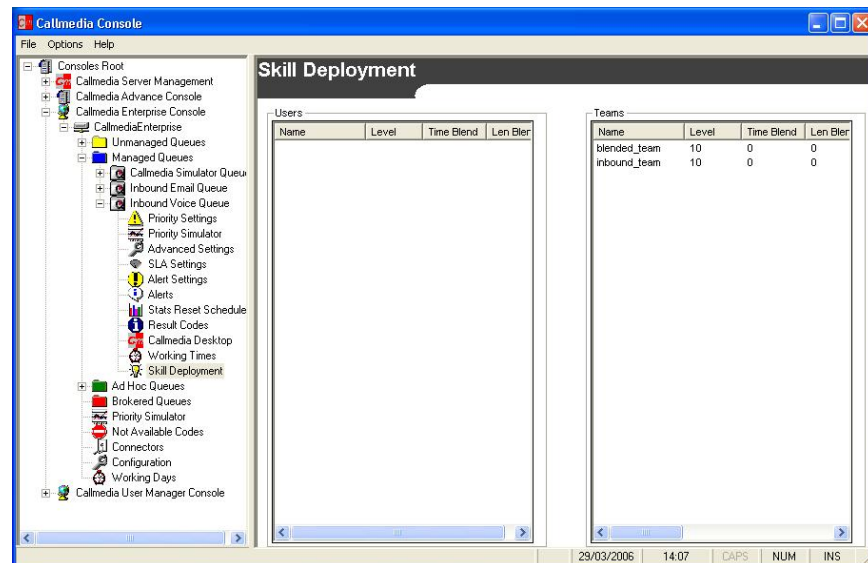
Normal - Default agent access.  
Supervisor - Allows user management and reporting.  
Administrator - Access all areas of the system.

User ID	FirstName	Surname	Extension	Team Name	LogonID
1	Systems	Administrator			Admin
10	user_blend	user_blend		blended_team	user_bl
2	Guest	User			Guest
3	Supervisor	Supervisor			Super
4	Callmedia	Support			Callmedia
5	WebView	Account			WebView
6	Stats	Console			Sys_Stats
7	agent1	agent1		inbound_team	agent1
8	user_inbound	user_inbound		inbound_team	user_in
9	user_outbound	user_outbound	20000	outbound_team	user_out

28/03/2006 14:41 CAPS NUM INS

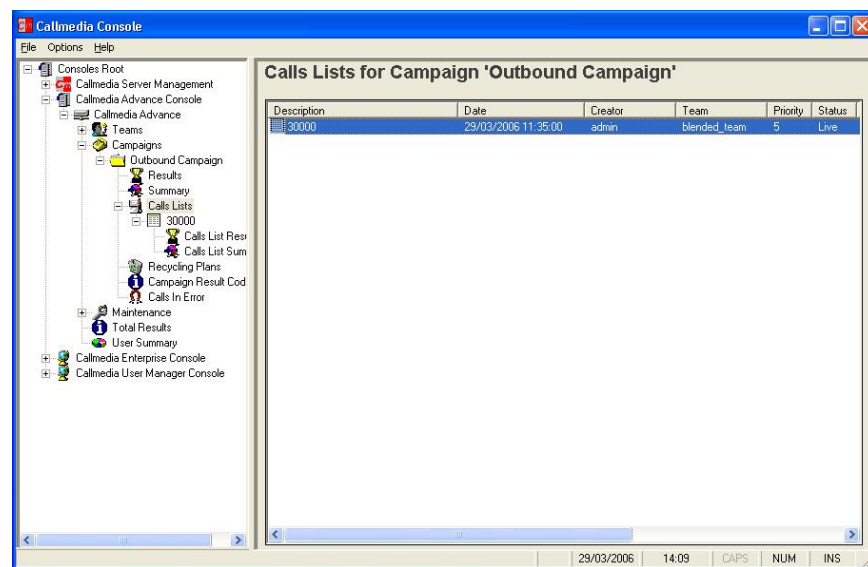
### 5.3. Check Inbound Voice Queues

To check that the necessary skills for the teams have been set up correctly, expand the tree view in the Callmedia Console. Click on **Callmedia Enterprise Console → Callmedia Enterprise → Managed Queues → Inbound Voice Queue → Skill Deployment**. The configured teams that will be used for inbound calls will be listed.



### 5.4. Check Outbound Call List

For Preview and Progressive outbound dialling, a call list was pre-configured. Refer to the Callmedia documentation in Section 10. Click on **Callmedia Advance Console → Callmedia Advance → Campaigns → Outbound Campaign → Calls Lists → Calls List Summary**. The outbound call list is displayed.

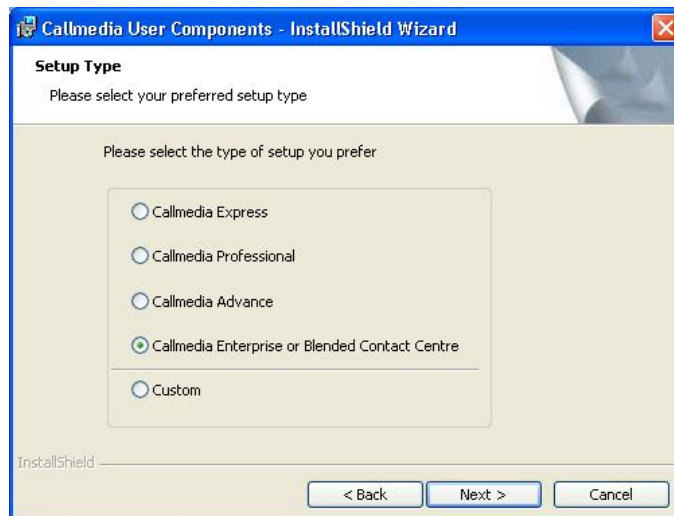


## 5.5. Callmedia Agent Application Configuration

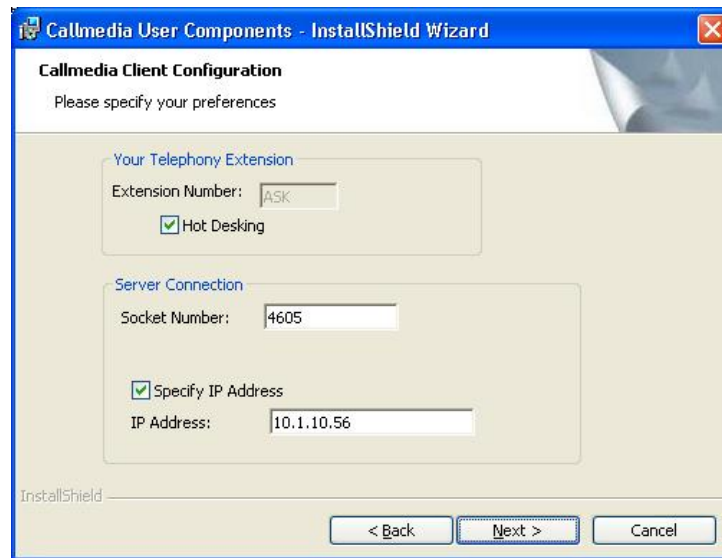
Insert the Callmedia installation CD, and in the Main item selection section, select **Callmedia Core Products**. In the Sub item selection, select **User Components**. Click **Install Selection**.



The type of user components must be selected, choose the **Callmedia Enterprise or Blended Contact Centre** option. Click **Next**.



Tick the **Hot Desking** check box to allow the user to enter an extension during login. The **Socket Number** appears as “4605” by default. Tick **Specify IP Address**, and enter the **IP Address** of the *Callmedia* server. Click **Next**.



The Callmedia Desktops Configuration screen allows the desktops to start a browser, which can be used as a link into the clients own application. Ensure that **Enable browser** is unchecked (this is the default). Click **Next**.



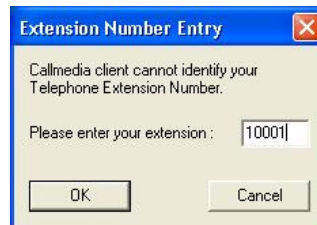
Click **Install** to start the installation.



## 5.6. Callmedia Agent Application

The Callmedia client will automatically start when Windows start, and may also be started by selecting **Start → Programs → Callmedia → Callmedia Client**.

When Hot Desking is enabled (as in this installation), enter the user's extension, and click **OK**. This can be any station configured on Avaya Communication Manager.



The user must login, and enter a valid **Login ID** and **Password** with the user name and password configured in Section 5.2. Click **OK**.



When the user logs on, the desktop will display the user in the “Not available” state.



When the user clicks **Available**, the desktop display will change showing the “Waiting” state.



## 6. Interoperability Compliance Testing

The interoperability compliance test included feature functionality, performance and serviceability testing. The feature functionality testing focused on verifying *Callmedia* contact centre handling of TSAPI messages in the areas of routing, call control and event notification. The serviceability testing focused on verifying the *Callmedia* contact centre ability to recover from adverse conditions, such as busying out the CTI link and disconnecting the Ethernet cable for the CTI link. Performance testing included placing inbound calls with a call generator over an extended period to a *Callmedia* test harness (configured with 30 agents).

### 6.1. General Test Approach

Testing included validation of correct operation of typical call centre functions including inbound voice calls and outbound campaign calls both in preview and progressive modes. Functionality testing included basic telephony operations such as answer, hangup and hold/retrieve, exercised from both the agent telephones and the agent softphones for the inbound and outbound campaign calls. The serviceability test cases were performed manually by busying out and releasing the CTI link, and by disconnecting and reconnecting the LAN cables. Performance testing included placing inbound calls to the *Callmedia* entry VDN using a call generator over an extended period to a *Callmedia* test harness (configured with 30 agents).

### 6.2. Test Results

All test cases passed successfully. *Callmedia* does not support transfers and conference from the *Callmedia* agent bar. A separate application called *Callmedia* Express allows you to have more control functionality over the agent phones, such as transfer and conference although this was not compliance tested.



## 7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya Application Enablement Services, and *Callmedia* contact centre.

### 7.1. Verify Avaya Communication Manager

The following steps can ensure that the communication between Avaya Communication Manager and the Avaya Application Enablement Services server is working.

Verify that the service state of the TSAPI link is established.

status aesvcs cti-link						
AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1	4	no	AEServer	established	15	15
3	4	no	AEServer	established	15	15

### 7.2. Verify Avaya Enablement Services

Verify the status of the TSAPI link by selecting **Status and Control** → **Services Summary**. Click on **TSAPI Service**, followed by **Details**. The TSAPI Link Details screen is displayed as shown below.

[OAM](#)

[OAM Home](#)  
[CTI OAM Home](#)  
[Administration](#)  
[Status and Control](#)  
    [Switch Conn Summary](#)  
    [Services Summary](#)  
[Maintenance](#)  
[Logs](#)  
[Utilities](#)  
[Help](#)  
[Logout](#)

You are here: > [Status and Control](#) > [Services Summary](#)

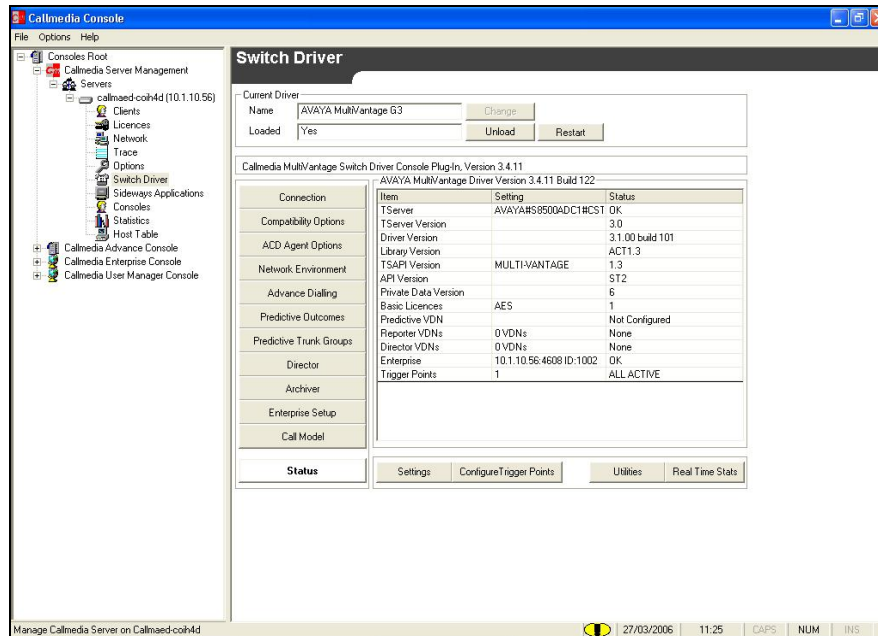
 **TSAPI Link Details**

Link	Switch Conn Name	Switch CTI Link Number	Conn Status	Since	Service State	Switch Version	Number of Associations	ASAI Message Rate
 3	8500	3	Talking	2005-09-09 19:36:24.0	Online	13	0	72

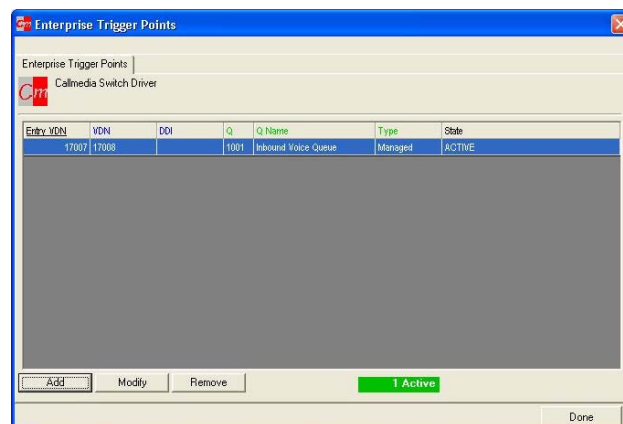
For service-wide information, choose one of the following:

### 7.3. Callmedia Contact Centre

- From the Switch Driver screen, check that the **Tserver** status is **OK**, **Enterprise** status is **OK** and the Trigger Points status is **ALL ACTIVE**.



- Check that the trigger points are set up and active. In the Callmedia Switch Driver screen, click on the **Configure Trigger Points** button. Ensure that the correct VDN numbers are listed, in this case 17007 and 17008, and ensure that the State is shown as **ACTIVE**.



## 8. Support

For technical support on *Callmedia*, contact *Callmedia* Support at +44 (0)1489 553525 or via e-mail at [support@callmedia.co.uk](mailto:support@callmedia.co.uk).

## 9. Conclusion

These Application Notes describe the configuration steps required for *Callmedia* 4.0.1 contact centre suite to successfully interoperate with Avaya Communication Manager 3.1 using Avaya Application Enablement Services 3.1. All feature functionality, performance and serviceability test cases were completed successfully.

## 10. Additional References

This section references the Avaya and *Callmedia* contact centre product documentation that are relevant to these Application Notes.

- *Administrator Guide for Avaya Communication Manager*, Document ID 03-300509, Issue 2, Feb 2006, available at <http://support.avaya.com>
- *Avaya Application Enablement Services 3.1 Administration and Maintenance Guide*, Document ID 02-300357, Issue 2, Feb 2006, available at <http://support.avaya.com>

The following documents can be found on the *Callmedia* Installation CD:

- *Callmedia* Enterprise Book 1
- *Callmedia* Enterprise Book 2
- *Callmedia* Advance Book 1
- *Callmedia* Advance Book 2
- *Callmedia* MultiVantage Switch Driver Guide
- *Callmedia* Planning Guide

---

**©2006 Avaya Inc. All Rights Reserved.**

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya Developer*Connection* Program at [devconnect@avaya.com](mailto:devconnect@avaya.com).