Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Call*media* and Avaya Communication Manager 5.0 – Issue 1.0

Abstract

These Application Notes describe the steps to configure Call*media*, Avaya Communication Manager, and Avaya Application Enablement Services to allow the Call*media* contact center software to be used with Avaya Communication Manager.

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

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1. Introduction

The Call*media* program suite together with Avaya Communication Manager serves as a contact center. The Call*media* server programs consist of the following individual components:

- Call*media* Server
- Call*media* Enterprise
- Call*media* Scheduler
- Call*media* Log Viewer
- Call*media* Dialer

The Call*media* Dialer was not tested, and is not covered by these Application Notes.

In addition to the server components, the Call*media* Desktop runs on a desktop PC, enabling contact center agents to accept incoming calls or control outbound calling campaigns.

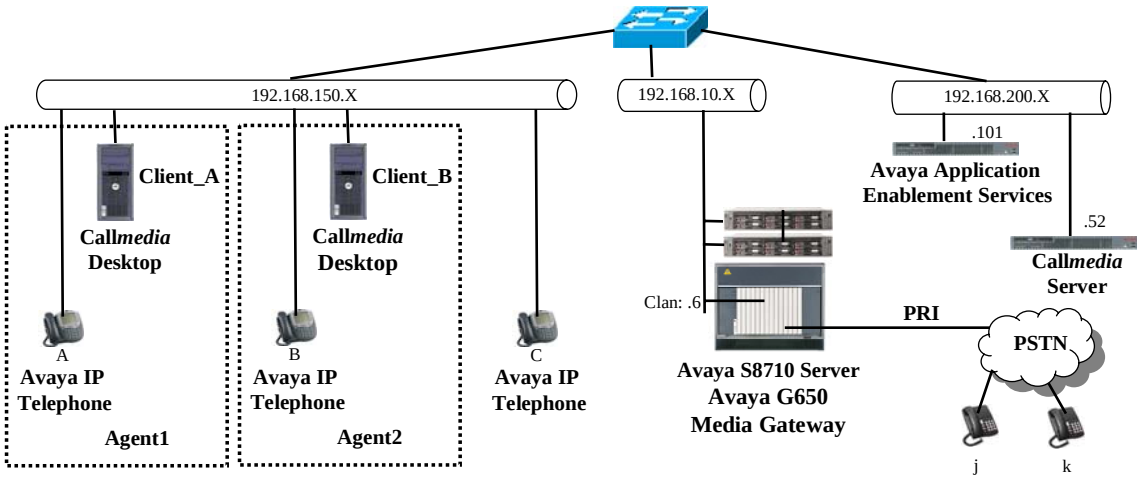

Figure 1: Test Configuration

The following table contains additional information about each of the telephones contained in the above diagram. Note that the entire number is not shown, for security reasons.

Phone	Agent	Extn.	PSTN.
A	Agent1	10113	
B	Agent2	10114	
C	Overflow	10126	
j			069 xxxx 6645
k			069 xxxx 6630
VDN		11037	069 9073 xxxx 11037

Table 1: Extensions Used for Testing

2. Equipment and Software Validated

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

Software Component	Version
Avaya Communication Manager Avaya S8710 Server	5.0(R015x.00.0.825.4)
Avaya TN2312BP IP Server Interface	HW11 / FW042
Avaya TN799DP Control LAN Interface	HW01 / FW026
Avaya TN2302AP Media Processor Interface	HW20 / FW117
Avaya Application Enablement Services	4.1(R4-1-0-31-2-0)
Avaya 4610SW IP Telephone	2.887
Call*media* Enterprise	2.3.20.45
Call*media* Server	3.6.1.4082
CMLucent.dll	4.0.1.319
Call*media* Scheduler	2.7.20.618
Call*media* Log	2.6.1.199
Call*media* Client	4.3.7.336
Microsoft Windows XP Pro (clients)	SP3
Microsoft Windows 2003 SP 2 (Call*media* server)	5.2.3790
Microsoft Internet Explorer SP 2	6.0.3790.3959
Microsoft .NET Framework	2.0.50727.42
Microsoft SQL Server 2005 Express Edition	9.00.3042.00
Microsoft SQL Server Management Studio Express	9.00.3042.00

Table 2: Equipment and Software Validated

Note that the Microsoft .NET package was installed as a requirement for the Microsoft SQL Server 2005 Express Edition, and is not otherwise required by the Call*media* server components. If another SQL package is chosen instead, the .NET package may not be required.

The server PC which was used for testing is an IBM X-Series 306M with an Intel Pentium 4 CPU with 1GM of RAM running at 3GHz.

3. Configure System Components

The configuration sequence described in this section includes the following steps:

1. Configure Avaya Communication Manager
2. Configure Avaya Application Enablement Services
3. Install the AES TSAPI Client on the Call*media* Server
4. Configure SQL databases used by Call*media*

5. Configure Call*media* Server components
6. Install Call*media* Client on agent desktop PCs

3.1. Configure Avaya Communication Manager

The Avaya Communication Manager configuration was performed using the System Access Terminal (SAT).

3.1.1. Verify system-parameters customer-options

Use the **display system-parameters customer-options** command to verify that Avaya Communication Manager is licensed to meet the minimum requirements to interoperate with the Call*media*. Those items shown in bold indicate required values or minimum capacity requirements. If these are not met in the configuration, please contact an Avaya representative for further assistance.

Verify that the parameters are set as shown in the following table:

Parameter	Usage
Maximum Concurrently Registered IP Stations (p.2)	This parameter must be large enough to support the number of IP stations to be attached.
Enhanced EC500? (p.4)	This parameter must be set to “y”.
ARS/AAR Dialing without FAC? (p.3)	This parameter must be set to “y”.
Extended Cvg/Fwd Admin? (p.4)	This parameter must be set to “y”.
IP Trunks? (p.4)	This parameter must be set to “y”.
Private Netorking? (p.5)	This parameter must be set to “y”.
Tenant Partitioning? (p.5)	This parameter must be set to “y”.

Table 3: System-Parameters Customer-Options Parameters

```
display system-parameters customer-options                      Page   2 of  10
                              OPTIONAL FEATURES

IP PORT CAPACITIES                                            USED
                     Maximum Administered H.323 Trunks: 0     0
          Maximum Concurrently Registered IP Stations: 12     0
            Maximum Administered Remote Office Trunks: 0     0
Maximum Concurrently Registered Remote Office Stations: 0     0
              Maximum Concurrently Registered IP eCons: 0     0
  Max Concur Registered Unauthenticated H.323 Stations: 0     0
                   Maximum Video Capable H.323 Stations: 0     0
                    Maximum Video Capable IP Softphones: 0     0
                       Maximum Administered SIP Trunks: 10    0
  Maximum Administered Ad-hoc Video Conferencing Ports: 0     0
   Maximum Number of DS1 Boards with Echo Cancellation: 0     0
                             Maximum TN2501 VAL Boards: 10    0
                     Maximum Media Gateway VAL Sources: 0     0
          Maximum TN2602 Boards with 80 VoIP Channels: 0     0
         Maximum TN2602 Boards with 320 VoIP Channels: 0     0
   Maximum Number of Expanded Meet-me Conference Ports: 0     0
```

Figure 2: CM System-Parameters Customers-Options Form

3.1.2. Set system-parameters features

Use the **change system-parameters features** command to set the parameters as shown in the following table:

Parameter	Usage
Trunk-to-Trunk Transfer (p.1)	Set this value to “all”.
Station Tone Forward Disconnect (p.10)	Set this value to “silence”.
Call Classification After Answer Supervision? (p.13)	Set this value to “y”.
Two-Digit Aux Work Reason Codes? (p.14)	Set this value to “y”.

Table 4: System-Parameters Features Parameters

```
change system-parameters features                              Page   1 of  17
                            FEATURE-RELATED SYSTEM PARAMETERS
                               Self Station Display Enabled? n
                                    Trunk-to-Trunk Transfer: all
    Automatic Callback - No Answer Timeout Interval (rings): 3
                         Call Park Timeout Interval (minutes): 10
        Off-Premises Tone Detect Timeout Interval (seconds): 20
                                  AAR/ARS Dial Tone Required? y
                               Music/Tone on Hold: none
              Music (or Silence) on Transferred Trunk Calls? no
                         DID/Tie/ISDN/SIP Intercept Treatment: attd
    Internal Auto-Answer of Attd-Extended/Transferred Calls: transferred
                  Automatic Circuit Assurance (ACA) Enabled? n




             Abbreviated Dial Programming by Assigned Lists? n
       Auto Abbreviated/Delayed Transition Interval (rings): 2
                    Protocol for Caller ID Analog Terminals: Bellcore
    Display Calling Number for Room to Room Caller ID Calls? n
```

Figure 3: CM System-Parameters Features Form, Page 1

```
change system-parameters features                              Page  10 of  17
                        FEATURE-RELATED SYSTEM PARAMETERS

                 Pull Transfer: n            Update Transferred Ring Pattern? n
         Outpulse Without Tone? y              Wait Answer Supervision Timer? n
         Misoperation Alerting? n               Repetitive Call Waiting Tone? n
    Allow Conference via Flash? y
 Vector Disconnect Timer (min):       Network Feedback During Tone Detection? y
   Hear Zip Tone Following VOA? y    System Updates Time On Station Displays? n

                     Station Tone Forward Disconnect: silence
                              Level Of Tone Detection: precise
          Charge Display Update Frequency (seconds): 30
                            Date Format on Terminals: dd/mm/yy
                        Onhook Dialing on Terminals? y


ITALIAN DCS PROTOCOL
  Italian Protocol Enabled? n
```

Figure 4: CM System-Parameters Features Form, Page 10

```
change system-parameters features                                Page  13 of  17
                        FEATURE-RELATED SYSTEM PARAMETERS

 CALL CENTER MISCELLANEOUS
                          Clear Callr-info: next-call
        Allow Ringer-off with Auto-Answer? n

    Reporting for PC Non-Predictive Calls? n


  ASAI
            Copy ASAI UUI During Conference/Transfer? n
       Call Classification After Answer Supervision? y
                                  Send UCID to ASAI? n
```

Figure 5: CM System-Parameters Features Form, Page 13

```
change system-parameters features                                Page  14 of  17
                        FEATURE-RELATED SYSTEM PARAMETERS
 REASON CODES
                         Aux Work Reason Code Type: none
                           Logout Reason Code Type: none
                   Two-Digit Aux Work Reason Codes? y

 REDIRECTION ON IP CONNECTIVITY FAILURE
                Switch Hook Query Response Timeout:
       Auto-answer IP Failure Aux Work Reason Code: 0


 FORCED AGENT LOGOUT PARAMETERS
     Maximum Time Agent in ACW before Logout (sec):
                     ACW Forced Logout Reason Code: 0
              Clock Time Forced Logout Reason Code: 0
```

Figure 6: CM System-Parameters Features Form, Page 14

3.1.3. Configure IP Node Names

Use the **change node-names ip** to assign IP address to meaningful names, as shown in the following table.

Parameter	Usage
clan	Enter the IP address of Control LAN interface.

Table 5: Node-Names Ip Parameters

```
change node-names ip                                             Page   1 of   2
                                  IP NODE NAMES
    Name              IP Address
default             0.0.0.0
procr               192.168.31.29
clan                192.168.10.6
```

Figure 7: CM Node-Names Ip Form

3.1.4. Configure Dial Plan

Use the **change dialplan analysis** command to configure the dial plan as shown in the following table.

Parameter	Usage
Dialed string: "0"	Use a "0" as Facilities Access Code (FAC) to access external telephone numbers, as configured in **Table 1.**
Dialed string: "1"	Five digits numbers starting with "1" are allocated to local extensions as shown in **Table 1.**
Dialed string: "*9"	The dialed string "*9" is the Trunk Access Code (TAC) shown in **Figure 16**

Table 6: Dial Plan Analysis Parameters

```
change dialplan analysis                                        Page   1 of  12
                          DIAL PLAN ANALYSIS TABLE
                               Location:  all           Percent Full:    0

      Dialed   Total  Call    Dialed   Total  Call     Dialed   Total  Call
      String   Length Type    String   Length Type     String   Length Type
    0            1    fac
    1            5    ext
    *9           2    dac
```

Figure 8: CM Dialplan Analysis Form

3.1.5. Configure Agent Telephone

Use the **add station** command to allocate the agent and overflow telephones shown in **Table 1**. Use the parameters shown in the following table.

Parameter	Usage
Type (p.1)	Enter the type identifier of local telephone.
Security Code (p.1)	Enter the security code to be assigned to the station for security purposes.
Name (p.1)	Enter a name to identify the station or its user.

Table 7: Station Parameters for Agent Telephones

```
change station 60113                                      Page   1 of   5
                                    STATION

Extension: 60113                        Lock Messages? n              BCC: 0
     Type: 4610                         Security Code: 31106           TN: 1
     Port: S00101                     Coverage Path 1: 1               COR: 1
     Name: extn 60113                 Coverage Path 2:                 COS: 1
                                      Hunt-to Station:
STATION OPTIONS
                                           Time of Day Lock Table:
              Loss Group: 19          Personalized Ringing Pattern: 1
                                                Message Lamp Ext: 60113
           Speakerphone: 2-way               Mute Button Enabled? y
       Display Language: english
 Survivable GK Node Name:
         Survivable COR: internal              Media Complex Ext:
   Survivable Trunk Dest? y                         IP SoftPhone? n




                                           Customizable Labels? y
```

Figure 9: CM Station Form for Agent Telephone, p. 1

3.1.6. Configure Interface to Avaya AES

The Avaya Application Enablement Services server TSAPI interface provides Call*media* with a means of communicating with Avaya Communication Manager to perform telephony operations. Avaya Communication Manager requires the configuration parameters shown in this section.

Use the **add ip-interface** command to allocate a call control interface. The slot value specified should be the Clan interface. The value used as "Node Name" must be one of the names from the list defined by the **change node-names ip** command. The "Subnet Mask" and "Gateway Address" should be assigned to the values used by the Ethernet network to which the Control LAN interface is attached.

```
add ip-interface 01a02                                        Page   1 of   1
                                 IP INTERFACES


                  Type: C-LAN
                  Slot: 01A02
            Code/Suffix: TN799  D
              Node Name: clan
             IP Address: 192.168.10.6
            Subnet Mask: 255.255.255.0                         Link:
         Gateway Address: 192.168.10.254
  Enable Ethernet Port? y                          Allow H.323 Endpoints? y
        Network Region: 1                           Allow H.248 Gateways? y
                  VLAN: n                             Gatekeeper Priority: 5

 Target socket load and Warning level: 400
       Receive Buffer TCP Window Size: 8320
                               ETHERNET OPTIONS
                  Auto? y
```

Figure 10: CM Add Ip-Interface Form

Use the **change ip-services** command to set the parameters for **AESVCS** service as shown below for the C-LAN which was defined above to serve as the interface to the Avaya AES server.

```
change ip-services                                            Page   1 of   3

                                  IP SERVICES
 Service     Enabled     Local        Local       Remote      Remote
  Type                   Node         Port        Node        Port
AESVCS        y      clan             8765
```

Figure 11: CM Change Ip-Services Form, page 1

An entry for the Avaya AES server must be made in the list in the screen shown below. The name assigned to the Avaya AES server when it was installed must be entered in the "AE Services Server" field for that entry. The "Password" entry must the same as was assigned to the switch connection, as shown in **Figure 40** of this document.

```
change ip-services                                          Page   3 of   3
                          AE Services Administration

   Server ID    AE Services       Password          Enabled    Status
                   Server
      1:      aes-server1       xxxxxxxx     y        idle
```

Figure 12: CM Change Ip-Services Form, page 2

Use the **add cti-link** command to add a CTI link for use by TSAPI. The link number can be any value between 1 and 64 which is not currently assigned to another link. The link number specified must be the same value that is used in the "Add / Edit TSAPI Links" configuration screen shown in **Figure 43**. Use an unused extension as the value for the "Extension" parameter. The value chosen for the "Name" parameter is a matter of personal preference. Specify a "Type" of "ADJ-IP", as required for a TSAPI link.

```
Add cti-link 4                                              Page   1 of   3
                                   CTI LINK
 CTI Link: 4
Extension: 19996
     Type: ADJ-IP
                                                                    COR: 1
     Name: AES-devcon223-tsapi
```

Figure 13: CM Add Cti-Link Form

Use the **add data-module <x>** command, where <x> is an unassigned extension, to allocate an extension to be used as the data interface for the clan module. The value used as "extension" can be any free extension. The "Name" value is only used for identification purposes. The "Type" field must be "ethernet". The "Port" should be assigned to port 17 of the Clan interface. The "Link" number should be assigned a value between 1 and 99.

```
add data-module 10000                                       Page   1 of   1
                              DATA MODULE

  Data Extension: 10000           Name: clan
            Type: ethernet
            Port: 01A0217
            Link: 1



Network uses 1's for Broadcast Addresses? Y
```

Figure 14: CM Add Data-Module Form

3.1.7. Configure Interface to PSTN

Use the **add ds1** command to configure a DS1 circuit pack for connection to the PSTN. Set the parameters for this command as shown in **Table 8**.

Parameter	Usage
Name	Choose a name to identify this interface.
Line Coding	Enter "hdb3" for Alternate Mark Inversion with high density bipolar 3-bit substitution.
Signaling Mode	Enter "isdn-pri" Integrated Services Digital Network Primary Rate.
Connect	Enter "network".
Country Protocol	Enter "etsi" to specify the European Telecommunications Standards Institute standard ISDN protocol.
Interworking Message	Enter "PROGress" to have the public network cut through the B-channel and let the caller hear tones such as ringback or busy tone.
Protocol Version	Enter "b".
Interface Companding	Enter "alaw" for use in Europe.
CRC?	Enter "y" to enable Cyclical Redundancy Check.
Idle Code	Specify an idle code bit pattern of "01010101".

Table 8: Configuration Values for DS1 Circuit Pack

```
add ds1 01a06                                              Page   1 of   1
                              DS1 CIRCUIT PACK

            Location: 01A06                          Name: PSTN
            Bit Rate: 2.048                   Line Coding: hdb3

      Signaling Mode: isdn-pri
             Connect: network
   TN-C7 Long Timers? n                  Country Protocol: etsi
Interworking Message: PROGress           Protocol Version: b
Interface Companding: alaw                          CRC? y
           Idle Code: 01010101
                             DCP/Analog Bearer Capability: 3.1kHz

                                          T303 Timer(sec): 4


      Slip Detection? n                Near-end CSU Type: other
```

Figure 15: CM DS1 Circuit Pack Form

Use the **add trunk-group** command to allocate a trunk group for the PSTN. Set the parameters for this command as shown in **Table 9**.

Parameter	Usage
Group Type (p.1)	Enter "isdn" for Integrated Services Digital Network.
Group Name (p.1)	Choose a name to identify this interface.
TAC (p.1)	Select "*9" as the Trunk Access Code to identify this trunk group.
Dial Access? (p.1)	Enter "y" to allow dial access to this trunk group.
Service Type (p.1)	Enter "public-ntwrk".
Charge Advice (p.2)	Enter "automatic".
Supplementary Service Protocol (p.2)	Enter "c" for ETSI.
Digit Handling (in/out) (p.2)	Enter "overlap/overlap" to specify overlap digit handling for both sending and receiving.
Digit Treatment (p.2)	Specify "insertion" to have Communication Manager add the digits specified by the following field at the beginning of the incoming digit string.
Digits (p.2)	Specify "0*" as the digits to be added at the beginning of the incoming digit string.
Incoming Calling Number Insert (p.2)	Specify "0" to have these digits prepended to the calling party number. This allows missed calls to be correctly dialed from the call log.
Disconnect Supervision Out? (p.2)	Enter "y" to allow trunk-to-trunk transfers of calls within this group.
Send Calling Number (p.3)	Enter "y" to have the calling party number sent.
Charge Conversion (p.3)	Enter "12" as the value to be multiplied by the number of charge units to compute the currency amount.
Decimal Point (p.3)	Enter "comma", which is the character used for decimal point in Germany.
Charge Type (p.3)	Enter "units" to specify that calling charges are reported in units.
Send Connected Number (p.3)	Enter "y".
Send UUI IE? (p.3)	Enter "n".
Send Codeset 6/7 LAI IE? (p.3)	Enter "n".
Port (p. 5,6)	Enter port numbers on the DS1 circuit pack to be used as trunks. Port 16 is reversed for signaling.
Sig Group (p. 5,6)	Enter "9" to select the PSTN signaling group as shown in **Figure 21**. Note that this value can only be entered after the signaling group has been allocated.

Table 9: Configuration Values for PSTN Routing Pattern

```
add trunk-group 9                                          Page   1 of  21
                            TRUNK GROUP

Group Number: 9                    Group Type: isdn          CDR Reports: y
  Group Name: PSTN                       COR: 1        TN: 1        TAC: *9
   Direction: two-way        Outgoing Display? y         Carrier Medium: PRI/BRI
 Dial Access? y              Busy Threshold: 255  Night Service:
Queue Length: 0
Service Type: public-ntwrk          Auth Code? n            TestCall ITC: rest
                        Far End Test Line No:
TestCall BCC: 4
```

Figure 16: CM PSTN Trunk-Group Form, p. 1

```
add trunk-group 9                                          Page   2 of  21
      Group Type: isdn

TRUNK PARAMETERS
         Codeset to Send Display: 6     Codeset to Send National IEs: 6
        Max Message Size to Send: 260   Charge Advice: automatic
  Supplementary Service Protocol: c     Digit Handling (in/out): overlap/overlap
       Digit Treatment: insertion                        Digits: 0*
            Trunk Hunt: cyclical
                                                 Digital Loss Group: 13
Incoming Calling Number - Delete:     Insert: 0              F  ormat:
              Bit Rate: 1200         Synchronization: async    Duplex: full
 Disconnect Supervision - In? y  Out? y
 Answer Supervision Timeout: 0
          Administer Timers? N
```

Figure 17: CM PSTN Trunk-Group Form, p. 2

```
add trunk-group 9                                          Page   3 of  21
TRUNK FEATURES
          ACA Assignment? n            Measured: none      Wideband Support? n
                                                          Maintenance Tests? y
                               Data Restriction? n     NCA-TSC Trunk Member:
                                     Send Name: n       Send Calling Number: y
            Used for DCS? n                            Send EMU Visitor CPN? n
   Suppress # Outpulsing? n    Format: public
 Outgoing Channel ID Encoding: preferred     UUI IE Treatment: service-provider
       Charge Conversion: 12
           Decimal Point: comma                  Replace Restricted Numbers? n
         Currency Symbol: EUR                   Replace Unavailable Numbers? n
             Charge Type: units                       Send Connected Number: y
Network Call Redirection: none                   Hold/Unhold Notifications? n
             Send UUI IE? n                    Modify Tandem Calling Number? n
               Send UCID? n
 Send Codeset 6/7 LAI IE? n                          Ds1 Echo Cancellation? n

    Apply Local Ringback? n
 Show ANSWERED BY on Display? y
                            Network (Japan) Needs Connect Before Disconnect? N
```

Figure 18: CM PSTN Trunk-Group Form, p. 3

```
add trunk-group 9                                              Page   5 of  21
                              TRUNK GROUP
                                   Administered Members (min/max):   0/0
GROUP MEMBER ASSIGNMENTS               Total Administered Members:   0

       Port    Code Sfx Name        Night           Sig Grp
  1: 01a0601  TN2464 C                                 9
  2: 01a0602  TN2464 C                                 9
  3: 01a0603  TN2464 C                                 9
  4: 01a0604  TN2464 C                                 9
  5: 01a0605  TN2464 C                                 9
  6: 01a0606  TN2464 C                                 9
  7: 01a0607  TN2464 C                                 9
  8: 01a0608  TN2464 C                                 9
  9: 01a0609  TN2464 C                                 9
 10: 01a0610  TN2464 C                                 9
 11: 01a0611  TN2464 C                                 9
 12: 01a0612  TN2464 C                                 9
 13: 01a0613  TN2464 C                                 9
 14: 01a0614  TN2464 C                                 9
 15: 01a0615  TN2464 C                                 9
```

Figure 19: CM PSTN Trunk-Group Form, p. 5

```
add trunk-group 9                                              Page   6 of  21
                              TRUNK GROUP
                                   Administered Members (min/max):   0/0
GROUP MEMBER ASSIGNMENTS               Total Administered Members:   0

       Port    Code Sfx Name        Night           Sig Grp
 16: 01a0617  TN2464 C                                 9
 17: 01a0618  TN2464 C                                 9
 18: 01a0619  TN2464 C                                 9
 19: 01a0620  TN2464 C                                 9
 20: 01a0621  TN2464 C                                 9
 21: 01a0622  TN2464 C                                 9
 22: 01a0623  TN2464 C                                 9
 23: 01a0624  TN2464 C                                 9
 24: 01a0625  TN2464 C                                 9
 25: 01a0626  TN2464 C                                 9
 26: 01a0627  TN2464 C                                 9
 27: 01a0628  TN2464 C                                 9
 28: 01a0629  TN2464 C                                 9
 29: 01a0630  TN2464 C                                 9
 30: 01a0631  TN2464 C                                 9
```

Figure 20: CM PSTN Trunk-Group Form, p. 6

Use the **add signaling-group** command to allocate a signaling group to be used by calls to the PSTN.

Parameter	Usage
Group Type	Specify “isdn-pri” for ISDN Primary Rate.
Max number of NCA TSC	Enter “8”.
Primary D-Channel	Enter the address of port 16 of the DS1 Circuit Pack which is used to connect to the PSTN.
Trunk Group for NCA TSC	Enter “9”.
Trunk Group for Channel Selection	Enter “9”.
TSC Supplementary Service Protocol	Enter “a”.

Table 10: Configuration Parameters IP Telephones

```
add signaling-group 9                                          Page   1 of   5
                              SIGNALING GROUP

 Group Number: 9              Group Type: isdn-pri
                    Associated Signaling? y          Max number of NCA TSC: 8
                       Primary D-Channel: 01A0616     Max number of CA TSC: 0
                                                   Trunk Group for NCA TSC: 9
       Trunk Group for Channel Selection: 9
     TSC Supplementary Service Protocol: a
```

Figure 21: CM PSTN Signaling-Group Form

3.1.8. Configure Call Routing

Use the **change feature-access-codes** specify that "0" is to be used as the Auto Route Selection (ARS) access code.

```
change feature-access-codes                                    Page   1 of   6
                            FEATURE ACCESS CODE (FAC)
         Abbreviated Dialing List1 Access Code:
         Abbreviated Dialing List2 Access Code:
         Abbreviated Dialing List3 Access Code:
Abbreviated Dial - Prgm Group List Access Code:
                      Announcement Access Code:
                       Answer Back Access Code:
                         Attendant Access Code:
      Auto Alternate Routing (AAR) Access Code:
    Auto Route Selection (ARS) - Access Code 1: 0     Access Code 2:
                 Automatic Callback Activation:        Deactivation:
Call Forwarding Activation Busy/DA:        All:        Deactivation:
   Call Forwarding Enhanced Status:        Act:        Deactivation:
                         Call Park Access Code:
                       Call Pickup Access Code:
CAS Remote Hold/Answer Hold-Unhold Access Code:
                  CDR Account Code Access Code:
                        Change COR Access Code:
                   Change Coverage Access Code:
                   Contact Closure   Open Code:          Close Code:
```

Figure 22: CM Feature-Access-Codes Form

Use the **change ars analysis** command to specify that an ARS dialed string of an indeterminate value ("x") of at least "7" digits, but not exceeding "15" digits is a public ("pubu") number which should be routed via routing pattern "9".

```
change ars analysis 0                                          Page   1 of   2
                            ARS DIGIT ANALYSIS TABLE
                                  Location:  all           Percent Full:    0

          Dialed           Total     Route    Call   Node  ANI
          String          Min  Max  Pattern   Type   Num   Reqd
    x                     7    15    9        pubu         n
```

Figure 23: CM ARS Analysis Form

Use the **change route-pattern** command to specify parameter values to be used for route pattern "9", which is used for access to the PSTN. Set the parameter values as shown in **Table 8.**

Parameter	Usage
Pattern Name	Choose an appropriate name to be used for descriptive purposes.
Grp No	Specify the Trunk Group number which is used to access the PSTN which is shown in **Figure 16**.

Table 11: Configuration Values for PSTN Route Pattern

```
change route-pattern 9                                          Page   1 of   3
                  Pattern Number: 9   Pattern Name: PSTN
                                SCCAN? n     Secure SIP? n
    Grp FRL NPA Pfx Hop Toll No.  Inserted                      DCS/ IXC
    No          Mrk Lmt List Del  Digits                      QSIG
                                  Dgts                        Intw
 1: 9    0                                                       n   user
 2:                                                              n   user
 3:                                                              n   user
 4:                                                              n   user
 5:                                                              n   user
 6:                                                              n   user

     BCC VALUE  TSC CA-TSC    ITC BCIE Service/Feature PARM  No. Numbering LAR
    0 1 2 M 4 W     Request                                    Dgts Format
                                                            Subaddress
 1: y y y y y n  n           rest                                     none
 2: y y y y y n  n           rest                                     none
 3: y y y y y n  n           rest                                     none
 4: y y y y y n  n           rest                                     none
 5: y y y y y n  n           rest                                     none
 6: y y y y y n  n           rest                                     none
```

Figure 24: CM PSTN Route-Pattern Form

Use the **change public-unknown-numbering** command to specify parameter values to be used to transform the Calling Party Number for outgoing calls from local extension numbers to PSTN numbers via Trunk Group 9. Set the parameter values as shown in **Table 12.**

Parameter	Usage
Ext Len	Enter "5" for the length of local extension shown in **Figure 8**.
Ext Code	Enter "6" which is the leading digit of local extensions.
Trk Grp	Enter "9" to select the trunk group which connects to the PSTN as shown in **Figure 16**.
CPN Prefix	Enter "69907xxxxx" which is the prefix assigned to trunk 9.
CPN Len	Enter "15" as the Calling Party Number Length.

Table 12: Configuration Values Public-Unknown-Numbering

```
change public-unknown-numbering 5                              Page   1 of   2
                     NUMBERING - PUBLIC/UNKNOWN FORMAT
                                          Total
Ext Ext           Trk       CPN            CPN
Len Code          Grp(s)    Prefix         Len
                                                 Total Administered: 1
 5  1             9         69907xxxxx     15          Maximum Entries: 9999
```

Figure 25: CM Public-Unknown-Numbering Form

Use the **change ars digit-conversion** command to specify how the Called Party Number of an incoming call is converted to local extension. Set the parameter values as shown in **Table 13.**

Parameter	Usage
Matching Pattern	Enter "*90739887", where the "*" matches the character which was inserted by the Trunk Group,.
Min	Enter "9" as the minimum Called Party Number length for an incoming call.
Max	Enter "14" as the maximum Called Party Number length for an incoming call.
Del	Enter "9" to delete all but the local extension or the Topic.
Net	Enter "ext".

Table 13: Configuration Values for ARS Digit-Conversion

```
change ars digit-conversion *                                  Page   1 of   2
                     ARS DIGIT CONVERSION TABLE
                               Location: all               Percent Full: 0

  Matching Pattern     Min   Max   Del   Replacement String   Net  Conv ANI Req

  *90739887            9     14    9                          ext   n       n
```

Figure 26: CM ARS Digit-Conversion Form

3.1.9. Allocate Stations for Agents

Use the **add station** command to create IP stations for the agent and overflow extensions shown in **Table 1** using the values shown below.

Parameter	Usage
Type	Use a type value which corresponds to the physical station to be used.
Security Code	Assign a string of decimal digits as a Security Code. For convenience, the reverse of the extension is used.
Name	Any alphanumeric string can be assigned as an extension name.

Table 14: Configuration Values Agent Stations

```
add station 10113                                        Page   1 of   5
                                    STATION

Extension: 10113                        Lock Messages? n               BCC: 0
     Type: 4610                         Security Code: 31101            TN: 1
     Port: S00241                     Coverage Path 1:                 COR: 1
     Name: extn 10113                 Coverage Path 2:                 COS: 1
                                      Hunt-to Station:
STATION OPTIONS
                                           Time of Day Lock Table:
             Loss Group: 19           Personalized Ringing Pattern: 1
                                                Message Lamp Ext: 10113
           Speakerphone: 2-way                Mute Button Enabled? y
        Display Language: english
 Survivable GK Node Name:
          Survivable COR: internal               Media Complex Ext:
   Survivable Trunk Dest? y                           IP SoftPhone? n




                                               Customizable Labels? y
```

Figure 27: CM Station Form

3.1.10. Configure Announcements

Announcements are used by Call*media* to inform callers of the progress of operations which it performs. To create an announcement, follow the following procedure:

Use the **change cos** command to define one class of service (COS) to have console permission. The selection of a COS value is arbitrary, but should not conflict with existing COS usage.

```
change cos                                                  Page   1 of   2
                            CLASS OF SERVICE

                            0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15
 Auto Callback              n  y  y  n  y  n  y  n  y  n  y  n  y  n  y  y
 Call Fwd-All Calls         n  y  n  y  y  n  n  y  y  n  n  y  y  n  n  y
 Data Privacy               n  y  n  n  n  y  y  y  y  n  n  n  n  y  y  y
 Priority Calling           n  y  n  n  n  n  n  n  n  y  y  y  y  y  y  y
 Console Permissions        n  n  n  n  n  n  n  y  n  n  n  n  n  n  n  y
 Off-hook Alert             n  y  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Client Room                n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Restrict Call Fwd-Off Net  y  y  y  y  y  y  y  y  y  y  y  y  y  y  y  y
 Call Forwarding Busy/DA    n  y  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Personal Station Access (PSA) n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Extended Forwarding All    n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Extended Forwarding B/DA   n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Trk-to-Trk Transfer Override  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 QSIG Call Offer Originations  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Contact Closure Activation  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
```

Figure 28: CM Cos Settings for Announcement Recording

Use the **change station** command to set the (COS) value for the station that will be used to record announcements to the value of the above-defined COS.

```
change station 10126                                        Page   1 of   4
                                   STATION

Extension: 10126                        Lock Messages? n          BCC: 0
     Type: 4620                         Security Code: 62101       TN: 1
     Port: S00033                     Coverage Path 1:            COR: 1
     Name: ext 10126                  Coverage Path 2:            COS: 7
                                      Hunt-to Station:

STATION OPTIONS
             Loss Group: 19           Personalized Ringing Pattern: 1
                                                 Message Lamp Ext: 10126
           Speakerphone: 2-way                Mute Button Enabled? y
       Display Language: english                 Expansion Module? n
 Survivable GK Node Name:
         Survivable COR: internal                Media Complex Ext:
   Survivable Trunk Dest? y                           IP SoftPhone? n




                                               Customizable Labels? Y
```

Figure 29: CM Station Setting Changes for Announcement Recording

Use the **change dialplan analysis** command to add a feature access code to the dial plan to be used to initiate the recording of announcements.

```
change dialplan analysis                                    Page   1 of  12
                          DIAL PLAN ANALYSIS TABLE
                                                        Percent Full:    0

      Dialed  Total  Call      Dialed  Total  Call      Dialed  Total  Call
      String  Length Type      String  Length Type      String  Length Type
        0       1    fac
        1       5    ext
        *9      2    dac
        *71     3    fac
```

Figure 30: CM Dialplan Changes for Announcement Recording

Use the **change feature-access-codes** command to add the facility announcement access code to list of feature-access-codes.

```
change feature-access-codes                                 Page   1 of   7
                             FEATURE ACCESS CODE (FAC)
         Abbreviated Dialing List1 Access Code:
         Abbreviated Dialing List2 Access Code:
         Abbreviated Dialing List3 Access Code:
Abbreviated Dial - Prgm Group List Access Code:
                      Announcement Access Code: *71
                       Answer Back Access Code:
                         Attendant Access Code:
      Auto Alternate Routing (AAR) Access Code:
    Auto Route Selection (ARS) - Access Code 1:       Access Code 2:
                Automatic Callback Activation:        Deactivation:
Call Forwarding Activation Busy/DA:        All:       Deactivation:
                        Call Park Access Code: *12
                      Call Pickup Access Code: *13
CAS Remote Hold/Answer Hold-Unhold Access Code:
                  CDR Account Code Access Code:
                        Change COR Access Code:
                   Change Coverage Access Code:
                   Contact Closure   Open Code:          Close Code:
                   Contact Closure  Pulse Code:
```

Figure 31: CM Feature Access Code Changes for Announcement Recording

Use the **change announcements** command to create announcement records on the physical medium, in this case the Avaya TN2501AP VAL interface. The "Ext" value used is the extension which is to be assigned to the announcement. This can be any unused extension. Assign the "Type" to "integrated". Any text value can be assigned to "Name", as it is only used for informational purposes. The VAL interface port should be assigned to "Group/Port".

```
change announcements                                          Page   1 of  16
                         ANNOUNCEMENTS/AUDIO SOURCES

Ann.                                                                    Group/
No.  Ext.     Type       COR TN  Name                      Q QLen P Rt Port

1    11101    integrated 1   1   WELCOME                   n      n 64 01a09
2    11102    integrated 1   1   BUSY                      n      n 64 01a09
3    11103    integrated 1   1   LATER                     n      n 64 01a09
4    11104    integrated 1   1   MOH                       n      n 64 01a09
5                        1   1                             n
6                        1   1                             n
7                        1   1                             n
8                        1   1                             n
9                        1   1                             n
10                       1   1                             n
11                       1   1                             n
12                       1   1                             n
13                       1   1                             n
14                       1   1                             n
15                       1   1                             n
16                       1   1                             n
```

Figure 32: CM Announcements Required for Call*media*

Record the required announcements from the station which has the COS with console permission (Ext. 10126) via the following procedure:

- Dial the Announcement feature access code (*71), which was created above.
- Dial the extension of the announcement to be created
- Dial 1
- Speak the announcement
- Dial #

Repeat this procedure for each of the announcements in the following table.

Extension	Announcement
11101	"Welcome to DevConnect"
11102	"All agents are busy"
11103	"Call back later"
11104	"Music on hold"

Table 15: Call*media* Announcements

3.1.11. Configure Vectors and Vector Directory Numbers

Use the **add vdn <extn>** command to allocate the extension which is to be called by incoming callers, where <extn> is the local extension that is to be used.

Parameter	Usage
Name	Use any name that is suitable to identify this item.
Vector Number	This must be the same as the vector number shown in **Figure 34**.

Table 16: Incoming Call VDN Parameters

```
add vdn 11037                                              Page   1 of   3
                          VECTOR DIRECTORY NUMBER

                            Extension: 11037
                                Name*: CM Entry
                          Vector Number: 37

                    Meet-me Conferencing? n
                      Allow VDN Override? n
                                     COR: 1
                                     TN*: 1
                                Measured: none


          VDN of Origin Annc. Extension*:
                              1st Skill*:
                              2nd Skill*:
                              3rd Skill*:
```

Figure 33: CM Incoming Call VDN

Use the **change vector** command to define the steps to be performed for calls which are queued to this vector.

```
change vector 37                                             Page   1 of   6
                                  CALL VECTOR

    Number: 37               Name: CM Entry
                                          Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? n  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? y
 Variables? y   3.0 Enhanced? y
01 announcement 11101
02 adjunct      routing link 4
03 wait-time    0   secs hearing ringback
04 wait-time    2   secs hearing silence
05 route-to     number 10126           with cov n if unconditionally
06 stop
```

Figure 34: CM Incoming Call Vector

Use the **add vdn <extn>** command to allocate the extension which is to be used for queued calls, where <extn> is the local extension that is to be used.

Parameter	Usage
Name	Use any name that is suitable to identify this item.
Vector Number	This must be the same as the vector number shown in **Figure 36.**

Table 17: Incoming Call VDN Parameters

```
add vdn 11038                                                Page   1 of   3
                          VECTOR DIRECTORY NUMBER

                           Extension: 11038
                               Name*: CM Queue
                      Vector Number: 38

                Meet-me Conferencing? n
                  Allow VDN Override? n
                                COR: 1
                                TN*: 1
                           Measured: none


        VDN of Origin Annc. Extension*:
                            1st Skill*:
                            2nd Skill*:
                            3rd Skill*:
```

Figure 35: CM Queued Call VDN

Use the **change vector** command to define the steps to be performed for calls which are queued to this vector.

```
change vector 38                                             Page   1 of   6
                                 CALL VECTOR

    Number: 38               Name: CM Queue
                                          Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? n  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? y
 Variables? y   3.0 Enhanced? y
01 goto step    2             if unconditionally
02 adjunct      routing link 4
03 wait-time    2   secs hearing silence
04 announcement 11102
05 wait-time    2   secs hearing silence
06 announcement 11104
07 wait-time    2   secs hearing silence
08 goto step    4             if unconditionally
```

Figure 36: CM Queued Call Vector

3.2. Configure Avaya AES

The AES server is configured via a web browser by accessing the following URL:

https://<AES server address>:8443/MVAP/

Once the login screen appears, enter the OAM Admin login ID/password for perform administrative activities on the AES server, and click the "CTI OCM Administration" menu item.

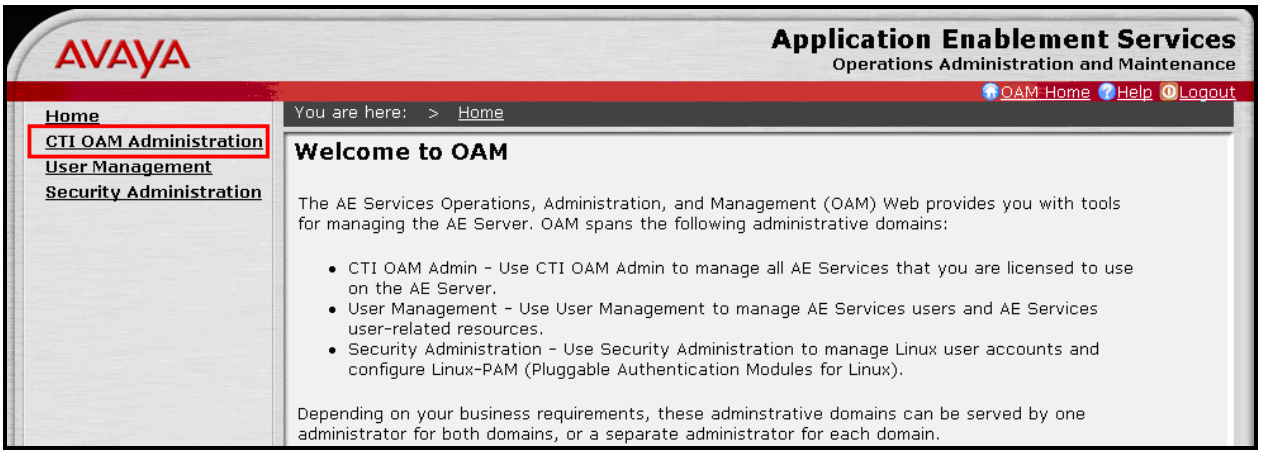

Figure 37: AES OAM Welcome Screen

After logging in with the OAM Admin user ID/password, select "CTI OAM Admin" which displays the following screen. Verify that the AES server installation has a TSAPI service license. If this is not the case, please contact an Avaya representative regarding licensing.

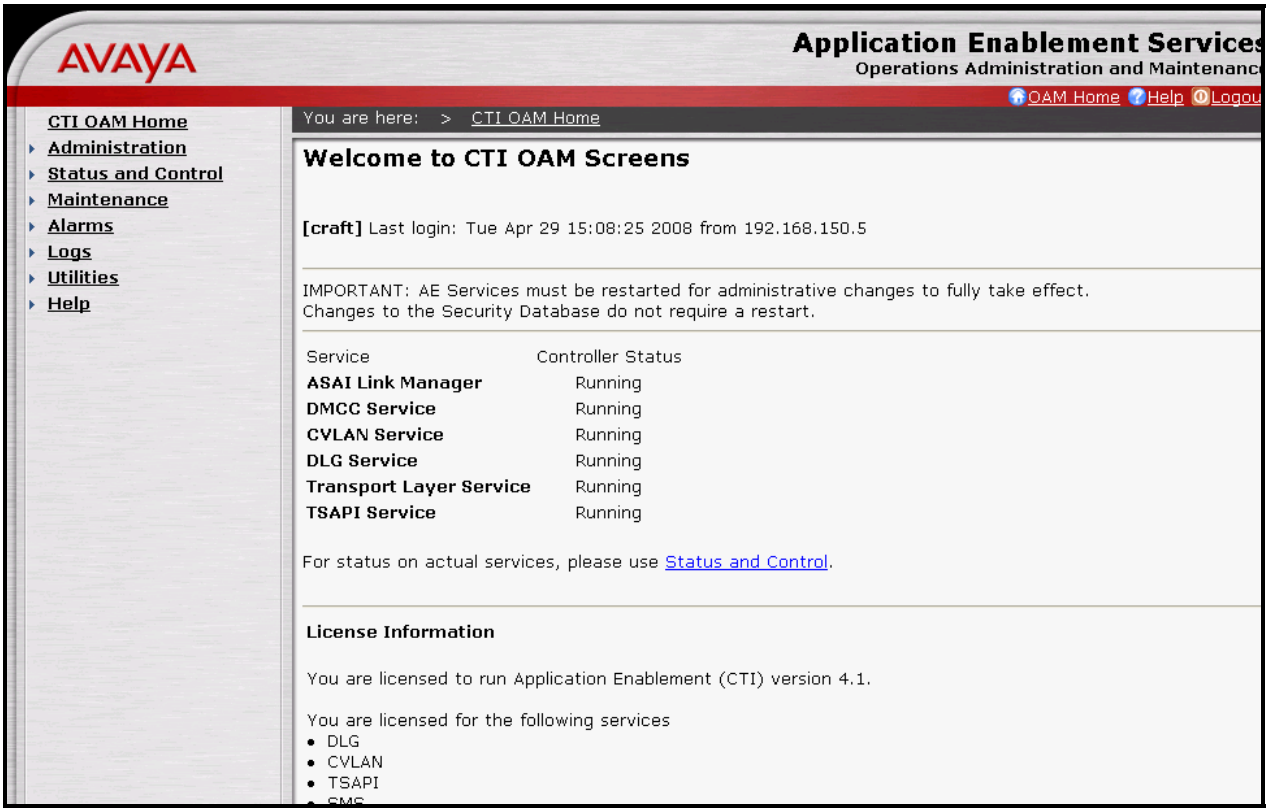

Figure 38: AES CTI OAM Welcome Screen

Navigate to **Administration->Switch Connections**. Enter the name of the Switch Connection to be added, and click on the "Add Connection" button.

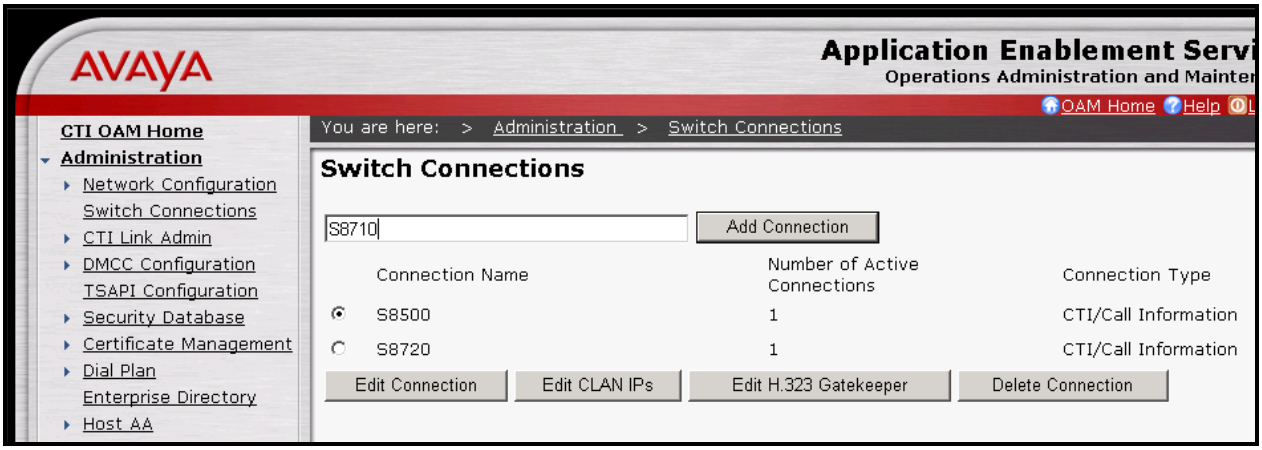

Figure 39: AES Switch Connections Screen

This causes the screen shown below to be presented. At this point, enter the screen fields as described in the following table, and click the "Apply" button.

Parameter	Usage
Switch Password	The Switch Password must be the same as was entered into the Avaya Communication Manager AE Services Administration form via the "change ip-services" command, described in **Figure 12.** Passwords must consist of 12 to 16 alphanumeric characters
SSL	SSL (Secure Socket Layer) is enabled by default. Keep the default setting unless you are adding a Switch Connection for a DEFINITY Server CSI.

Table 16: Configuration of Switch Password

Figure 40: AES Set Switch Password Screen

From the **Administration->Switch Connections** screen, click the "Edit CLAN IPs" button to display the screen show below. Enter the IP address of the CLAN with which AES is to use for communication with the switch, and click the "Add Name or IP" button.

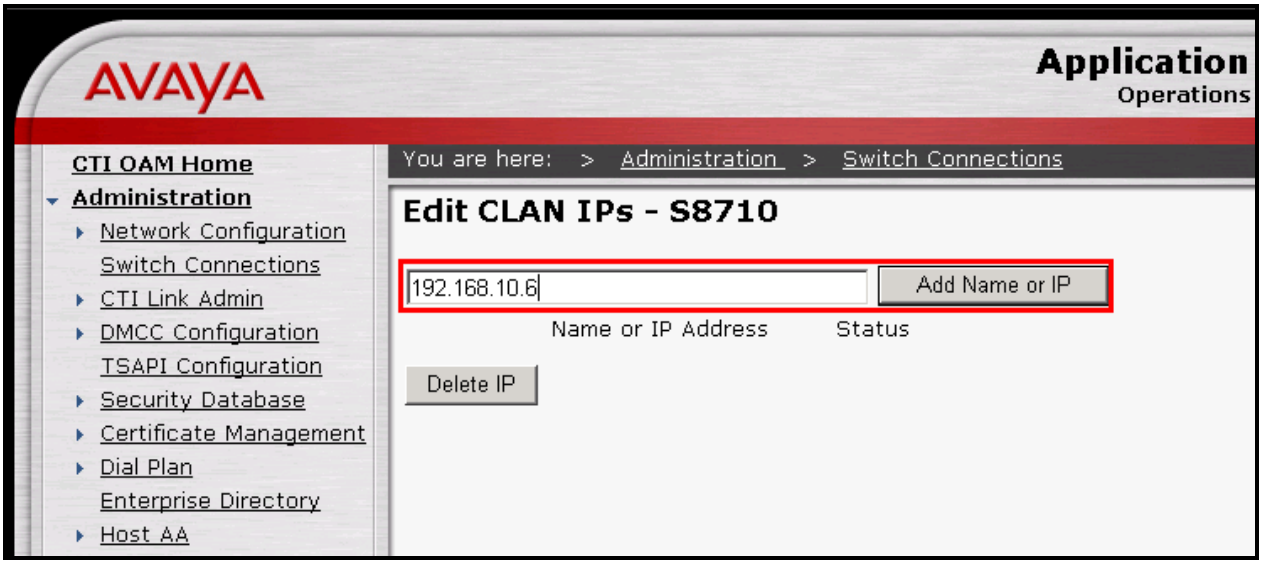

Figure 41: AES Configure PBX IP Interface Screen

On the left margin of the screen, navigate to **Administration->CTI Link Admin->TSAPI Links.** The following screen is displayed. Click the "Add Link" button.

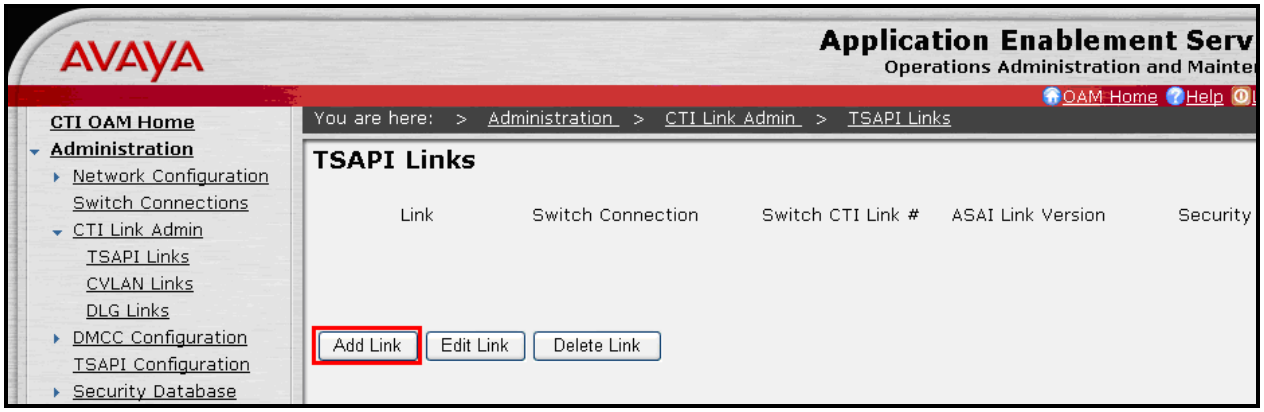

Figure 42: AES TSAPI Links Screen

Fill in the parameters for the link to be added. The “Link” parameter must be a value between 1 and 16 which is not assigned to another link. The “Switch Connection” parameter should be the name of the Avaya Media Server which is to be controlled by this link. The value for the TSAPI “Switch CTI Link Number” must be a value between 1 and 64, and must be the same as was used in the Avaya Communication Manager “add cti-link” configuration command in **Figure 13.** Click the “Apply Changes” button.

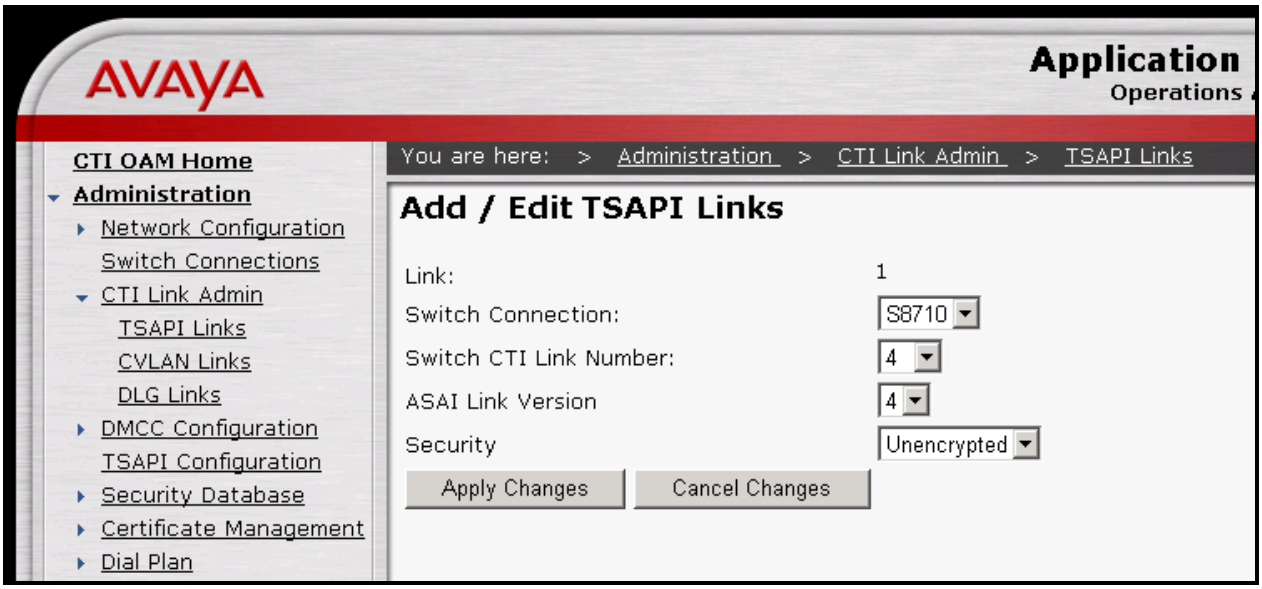

Figure 43: AES Configure TSAPI Link Screen

Log out and log in again with the user administration ID/password, which will cause the "OAM Welcome" screen to be displayed just as after the previous login.

Navigate to "**User Management->Add User**".

The "CT User" field for this user must be set to "Yes". In this case, the AES user is the Customer Interaction Express application, which uses AES to monitor stations and initiate switching operations. The values chosen for the "User Id" and "User Password" fields must be the same as those described in **Figure 85.** Upon completion, scroll down and select the "Apply" button.

Figure 44: AES Add User Screen

Enable AES Unrestricted Access for Call*media*:

Navigate to "**Administration ->Security Database -> CTI Users**"

Edit the user "callmedia". Click Unrestricted Access "Enable", and then "Apply Changes".

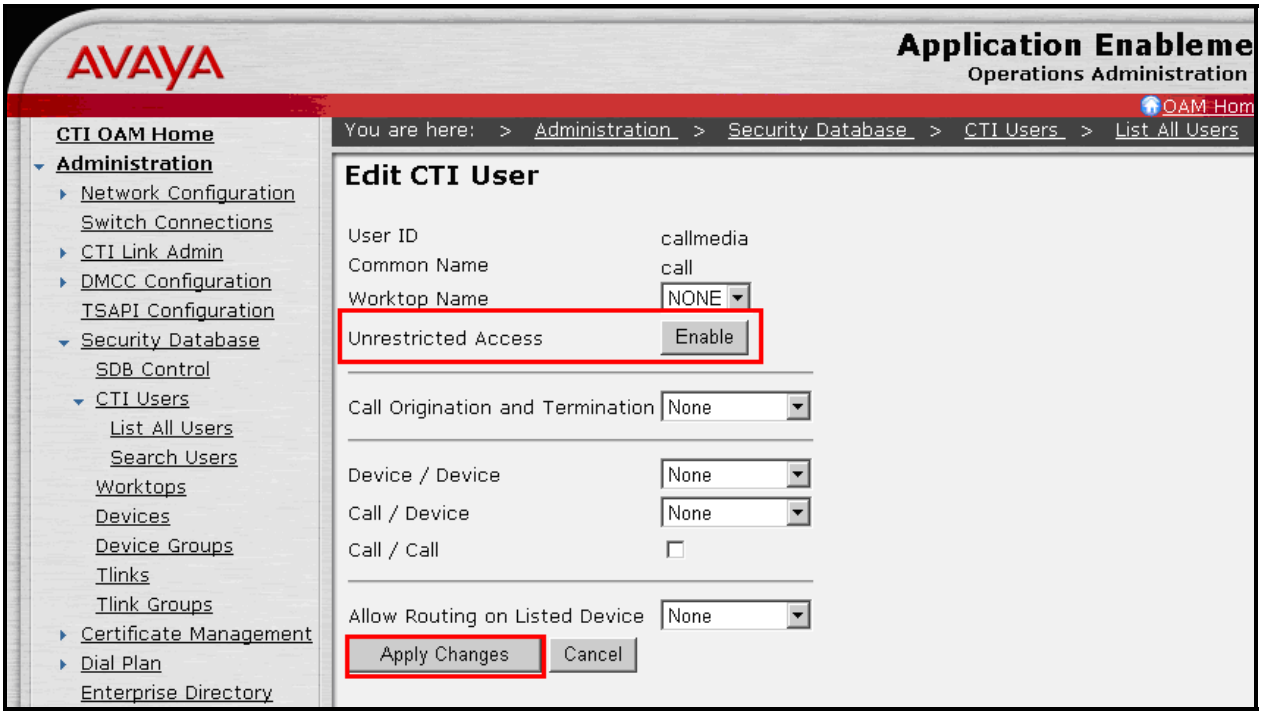

Figure 45: AES Security Settings for CTI User Screen

3.3. Configure Call*media* Server

This section of the document describes the configuration of the Call*media* server application, and the Window 2003 platform on which it runs.

3.3.1. Assign Server Name

On the Call*media* server desktop, right-click the "My Computer" icon, select "Properties", select the "Computer Name" tab to set the Computer Name to an appropriate value, as shown below, and reboot. This name is used in various other points within this document.

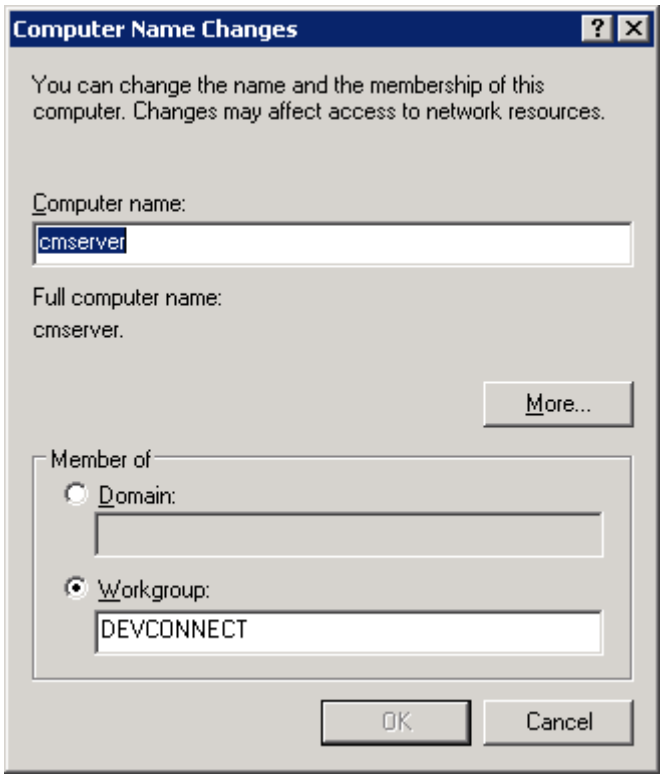

Figure 46: Call*media* Server Assign Server Name Screen

3.3.2. Install AES TSAPI Client on Call*media* Server

Run the Avaya TSAPI Client installation on the Call*media* server. This is available on the Avaya Support website at "http://support.avaya.com", and can be downloaded by clicking "Downloads" -> "Application Enablement Services" -> "Application Enablement Services TSAPI Client MS Windows - Release 4.2.1". Assign AES server to TSAPI client. Although the Call*media* servers run on this system it acts as a client to the AES Server.

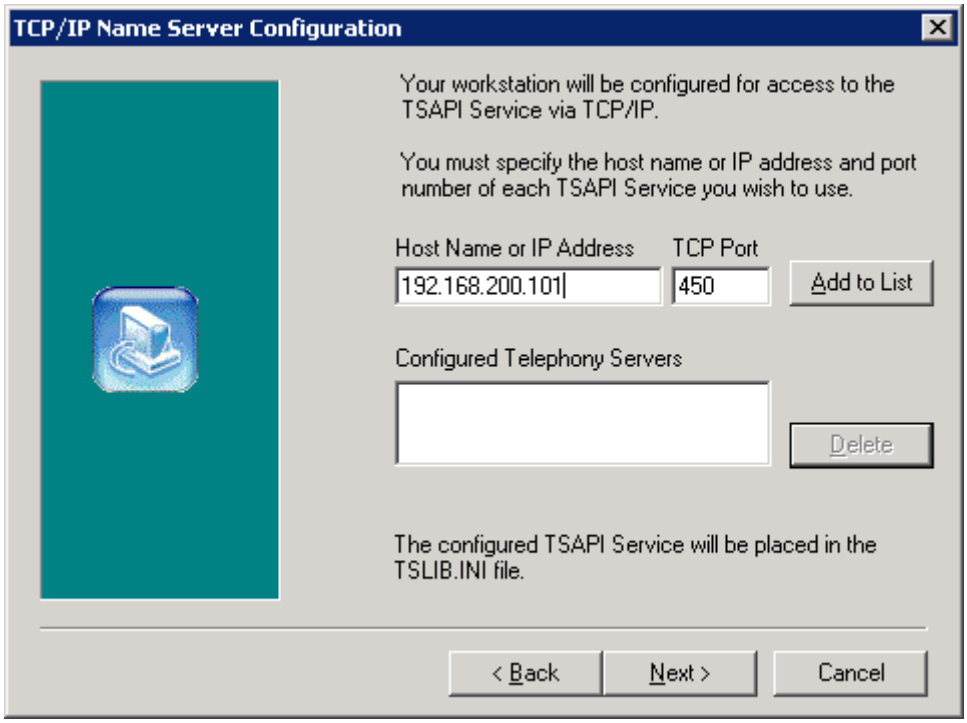

Figure 47: Call*media* Server Assign AES Server to TSAPI Client Screen

After the AES Server has been assigned as the TSAPI client, click “Next”.

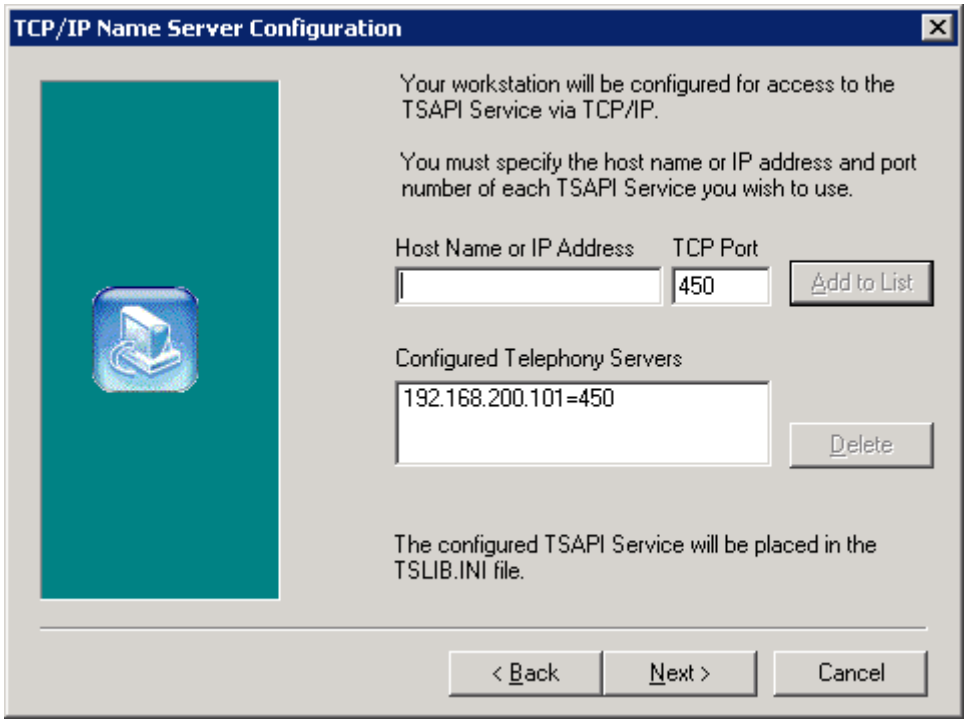

Figure 48: Call*media* Server AES Server Assigned to TSAPI Client Screen

Click “Finish” to complete the installation.

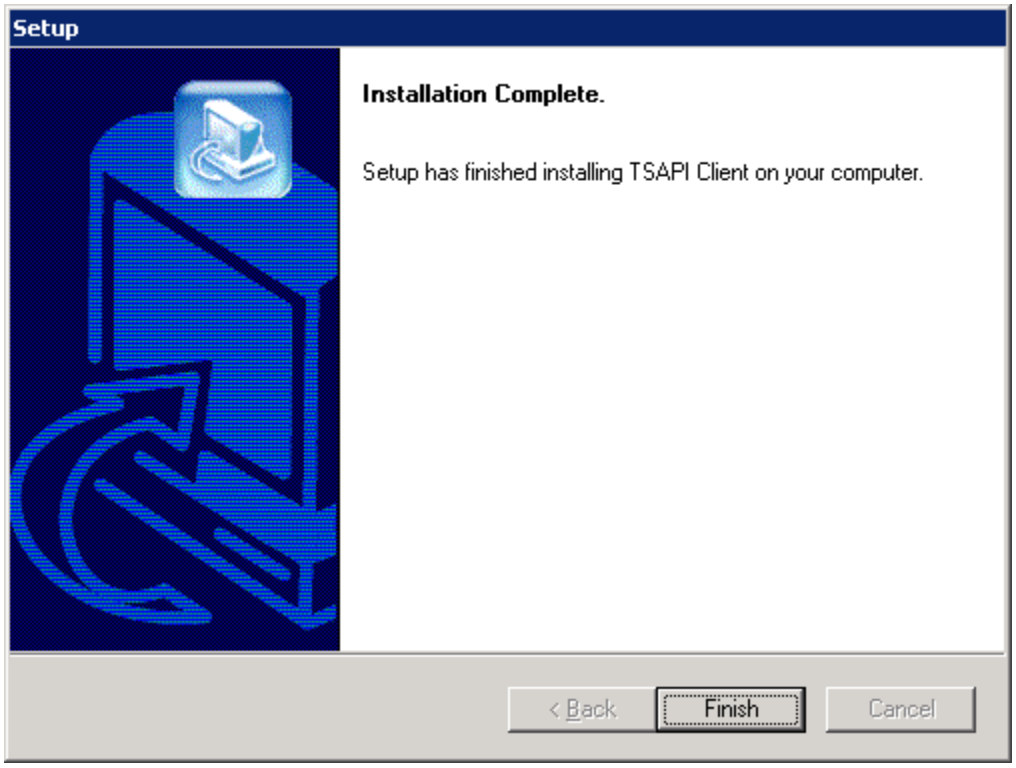

Figure 49: Call*media* Server Finish TSAPI Client Installation Screen

3.3.3. Configure Microsoft SQL Server 2005 Express Edition

The Call*media* server components require SQL services. Various packages can be chosen to fulfill this requirement, depending on the requirements of the operating environment. For the purposes of the conformance tests described within these Application Notes, the Microsoft SQL Server 2005 Express Edition was chosen. This is a free package which can be downloaded from Microsoft. In addition, the Microsoft SQL Server Management Studio Express was used to configure SQL Server 2005 Express, which is also a free package which can be downloaded from Microsoft. Each of these packages was installed with default settings.

3.3.4. Configure Databases

The databases used by Call*media* must be created, configured, and filled with entries before the Call*media* server components can be used. This procedure is outside of the scope of this document. Please refer to the Call*media* documentation references [5] through [11] included on the distribution media for further instructions.

3.3.5. Install Call*media* Server Software

Run the "MenuBox.exe" application from the "\MenuBox" directory of the Call*media* software distribution medium. Click "INSTALL SERVER SOFTWARE".

Figure 50: Call*media* Software Installer Screen

Click “Next”.

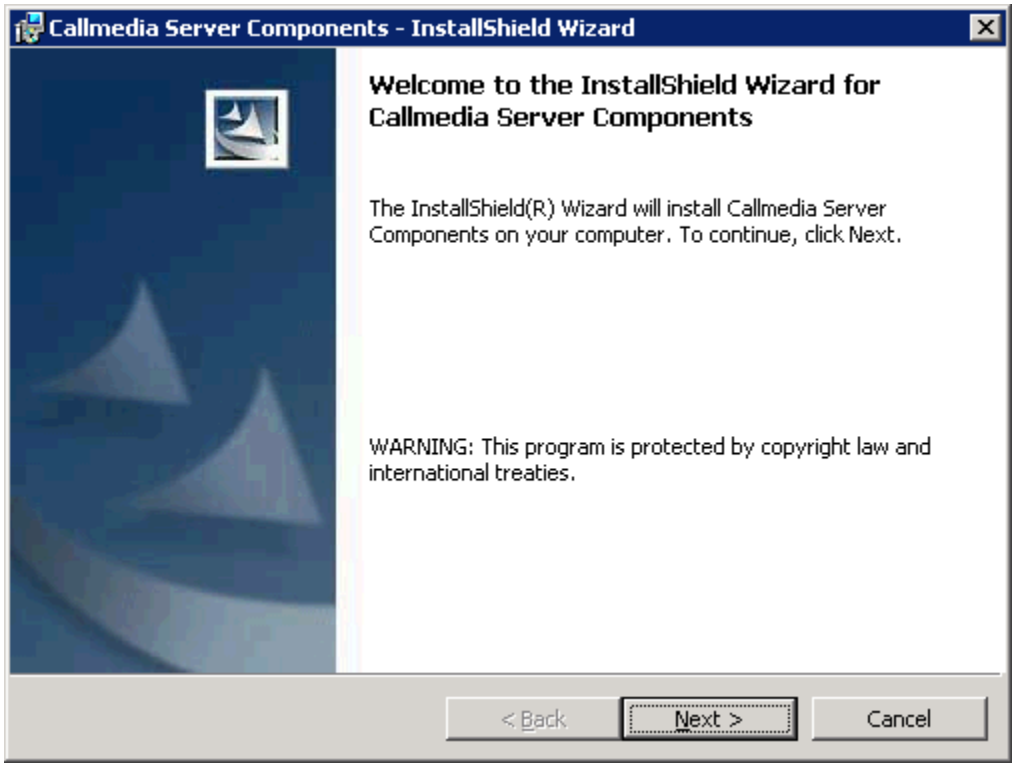

Figure 51: Call*media* Server Installer Welcome Screen

Accept the license terms and click “Next” if the license terms are acceptable.

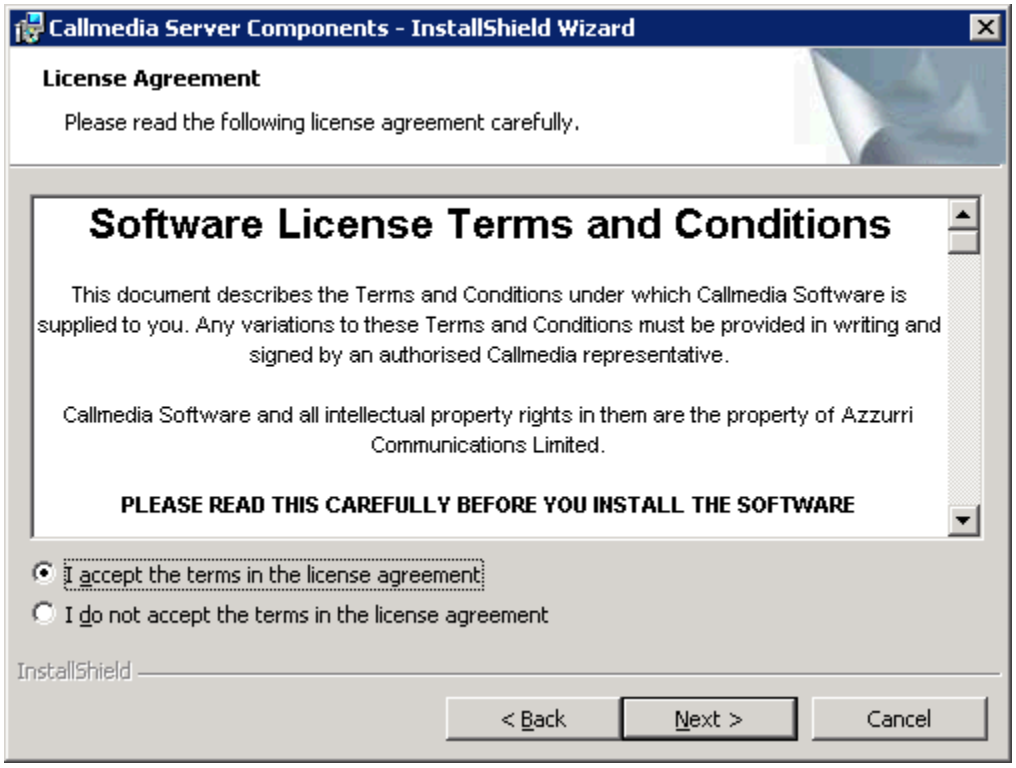

Figure 52: Call*media* Server Installer License Screen

Click “Next”.

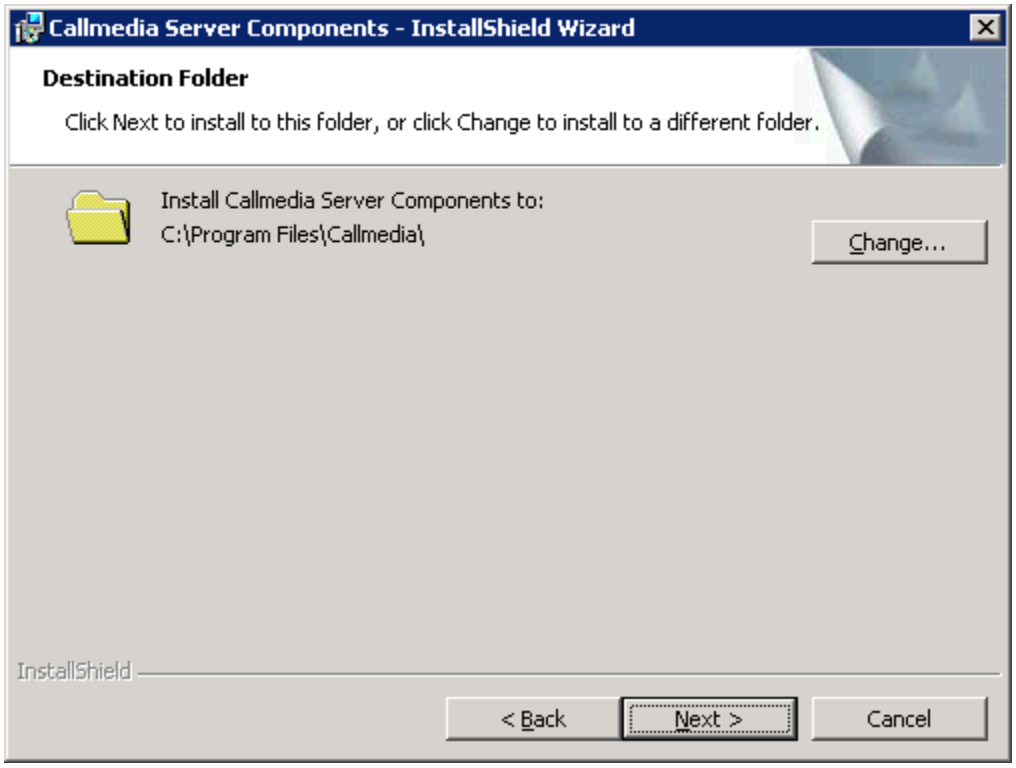

Figure 53: Call*media* Server Installer Destination Screen

Select the “Full Server Install” radio button and click “Next”.

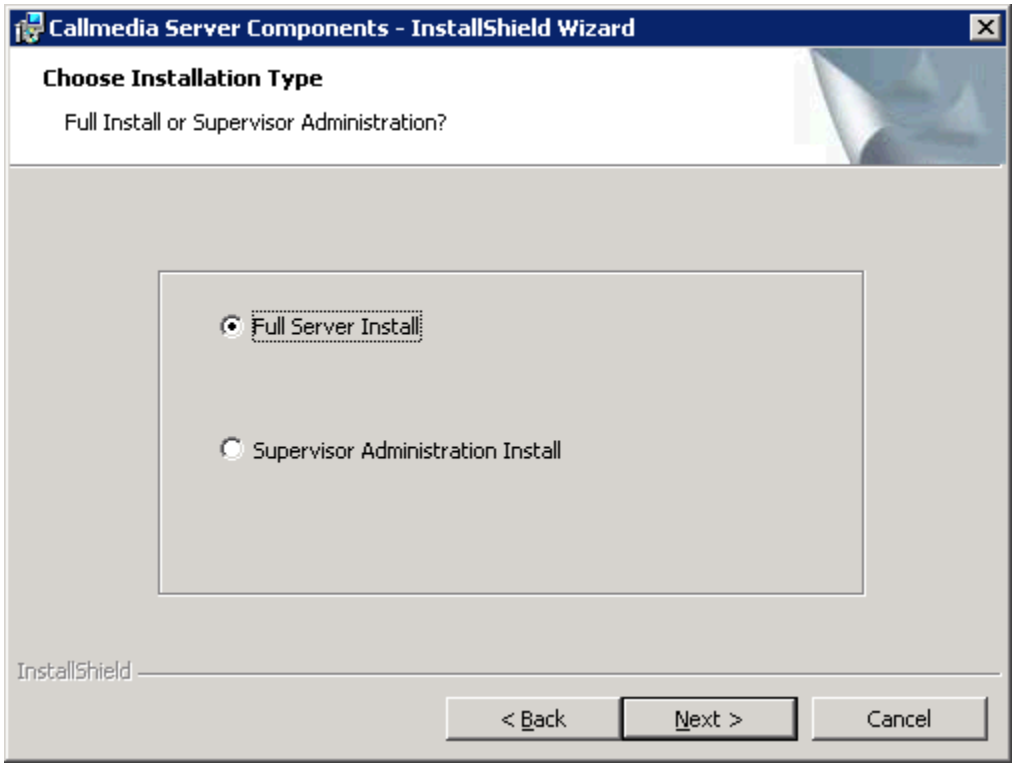

Figure 54: Call*media* Server User Selection Screen

Select “Callmedia Enterprise with Advance”, and click “Next”.

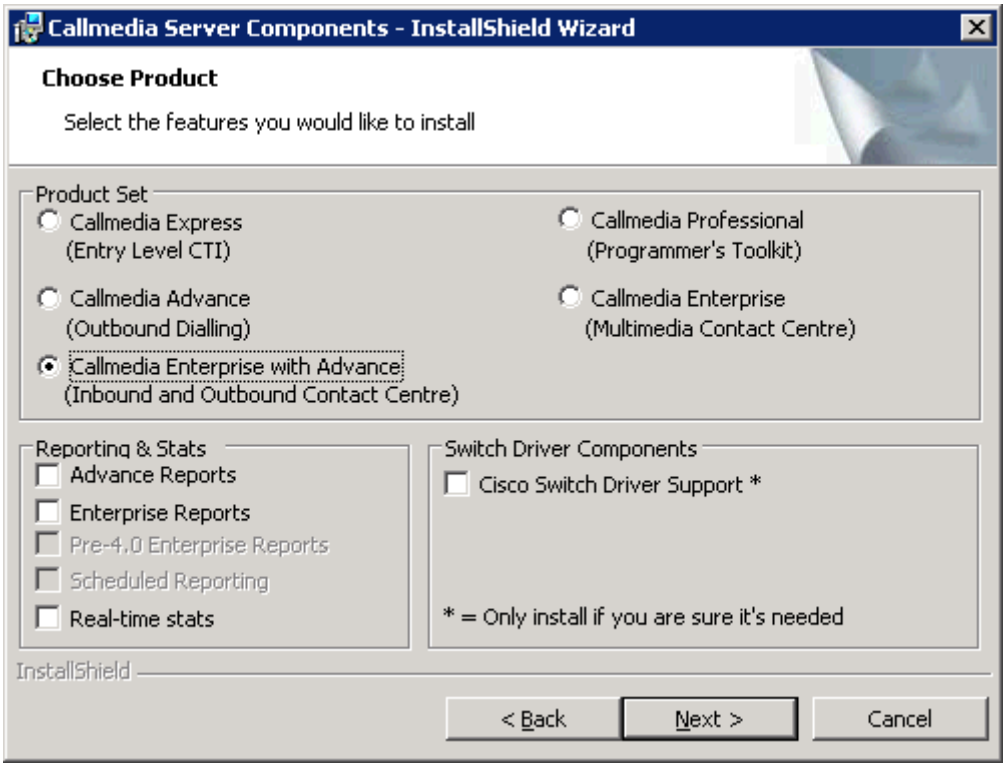

Figure 55: Call*media* Server Component Selection Screen

Set the “Server IP Address” to the address of the current system, enter an appropriate “Username” and “Password”, accept the defaults for the remaining parameters, and click “Next”.

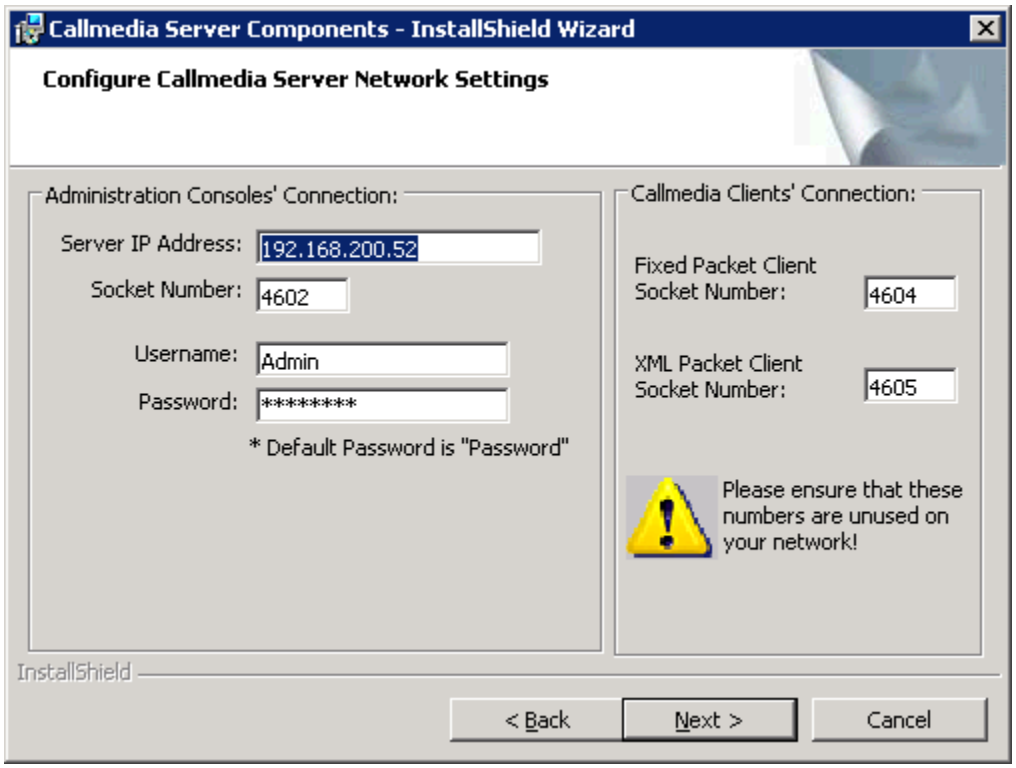

Figure 56: Call*media* Server Network Settings Screen

Enter the appropriate username and password for CMEnterprise.

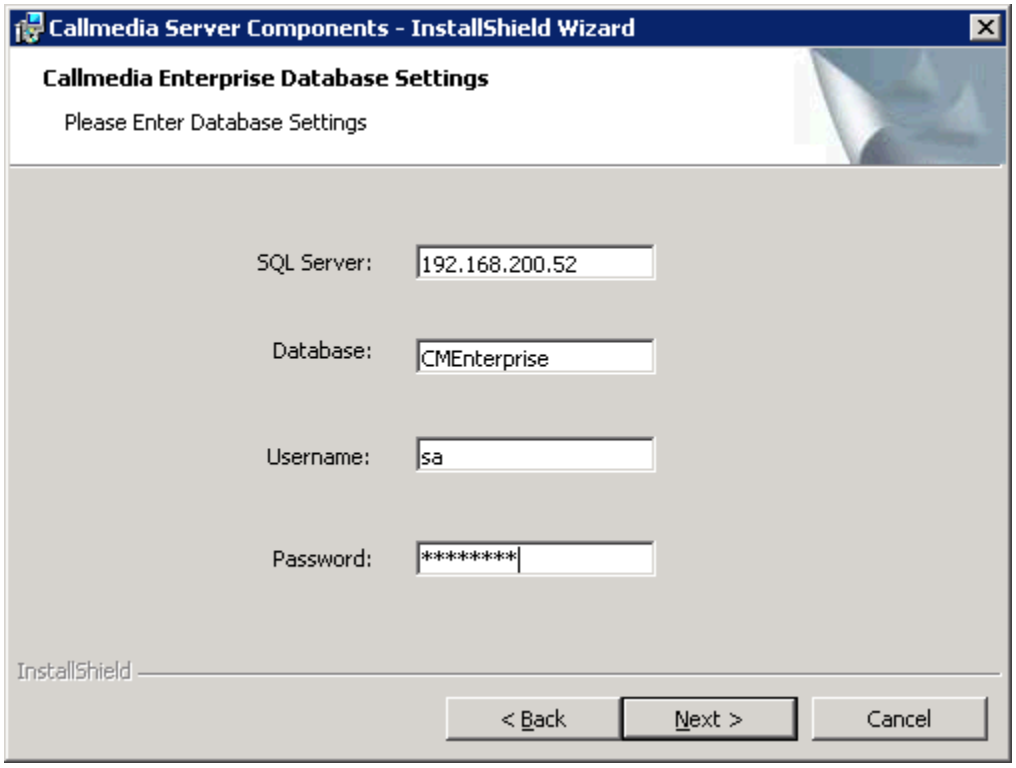

Figure 57: Call*media* Server CMEnterprise Database Settings Screen

Enter the username and password for CMAdvance

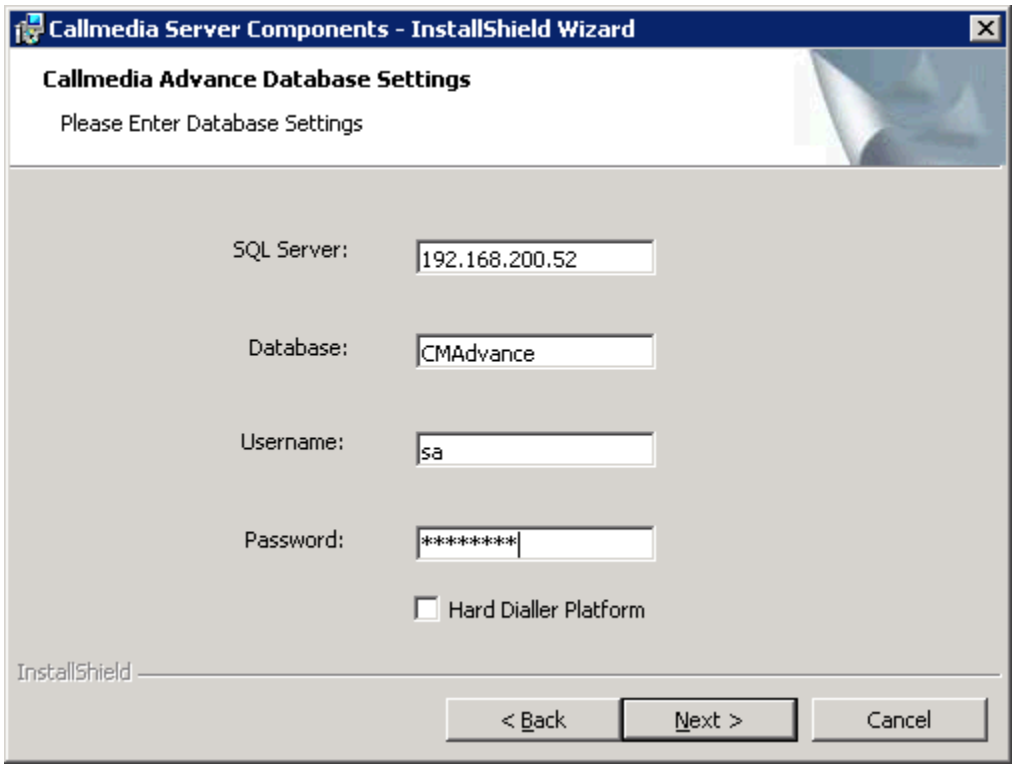

Figure 58: Call*media* Server CMAdvance Database Settings Screen

Accept the default parameters by clicking “Next”.

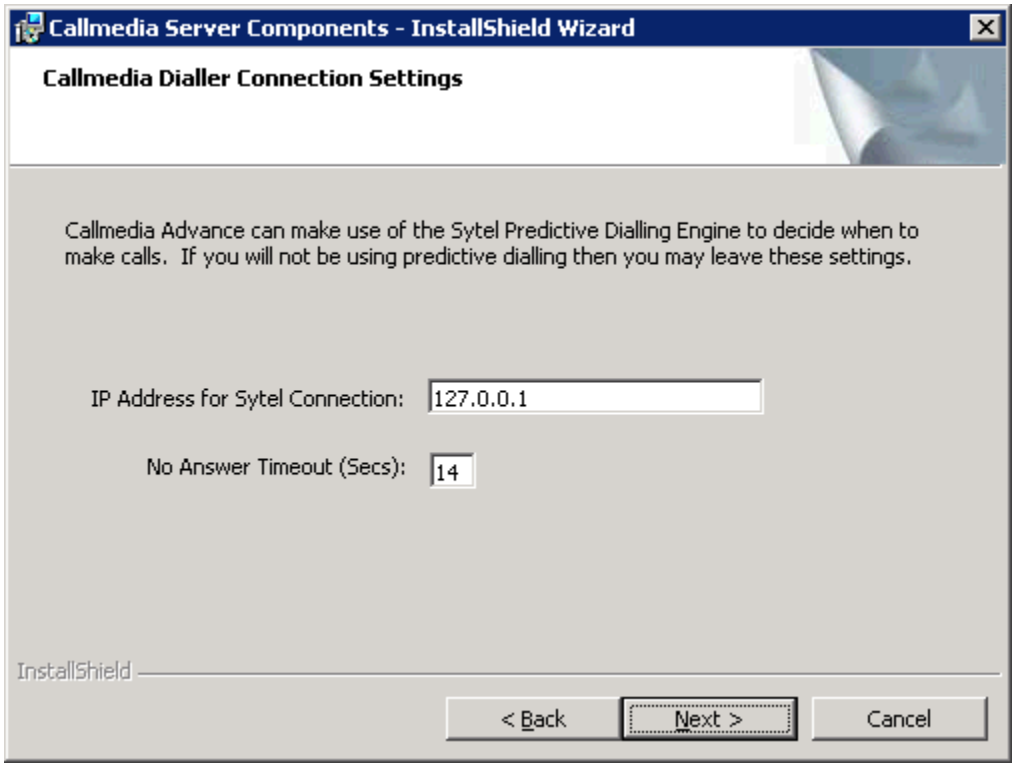

Figure 59: Call*media* Server Dialer Connection Screen

Click “Install”.

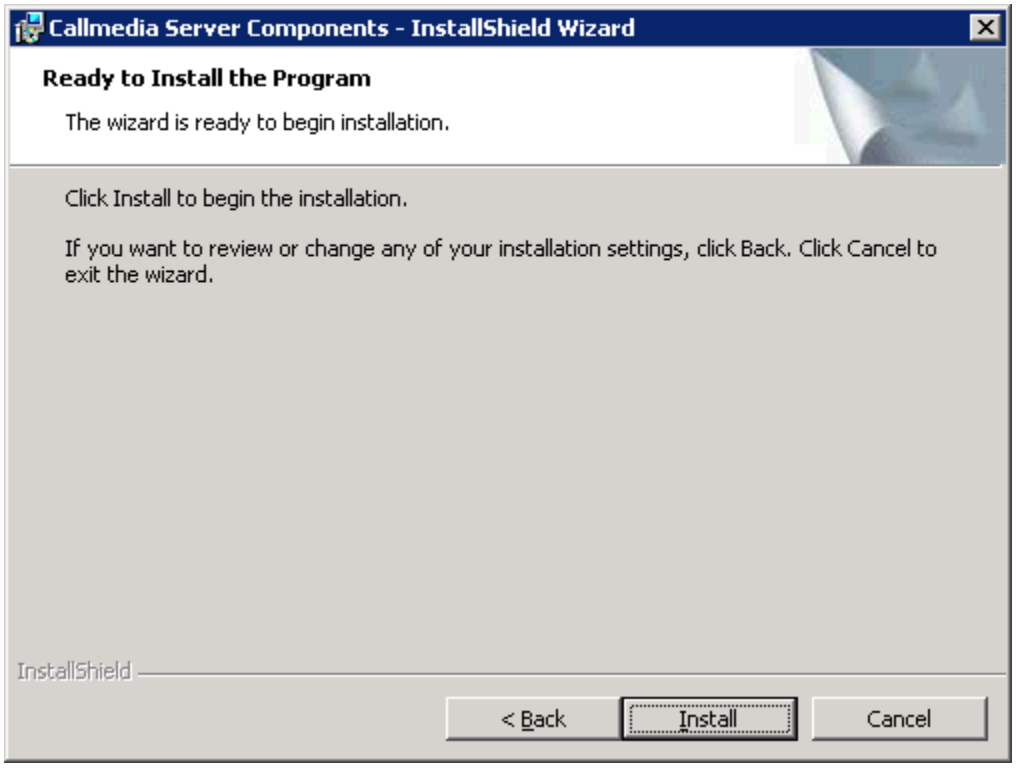

Figure 60: Call*media* Server Installation Initiation Screen

Set the “Start Type” of the Call*media* services shown below from the Windows “Services” applet which is reachable from “Start” -> “Control Panel” -> “Administrative Tools” -> “Services”. The “Callmedia Dialer” should have a “Startup Type” of “Manual”, and the remaining “Callmedia …” services a “Startup Type” of “Automatic”. Reboot the Call*media* server and use the Windows “Services” applet to verify that all of the Callmedia services have a status of “Started”.

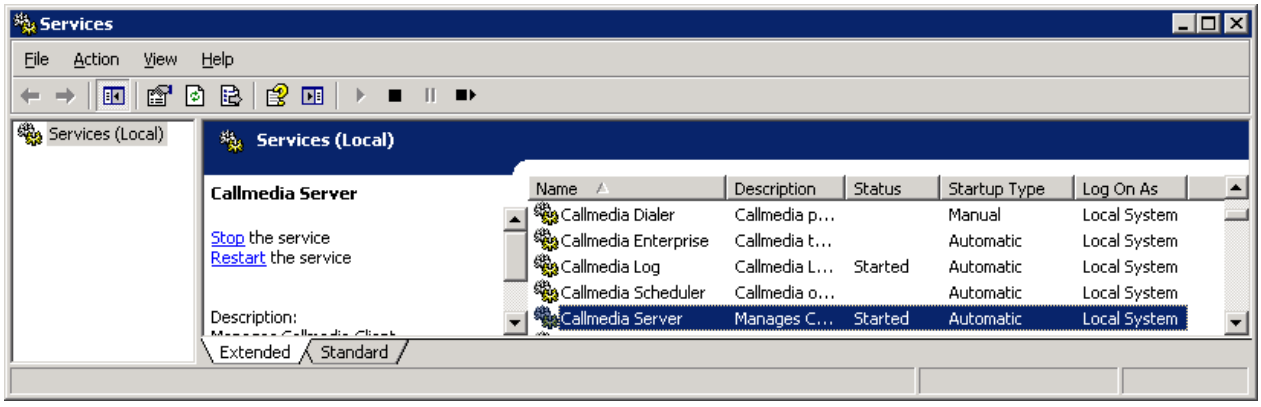

Figure 61: Call*media* Server Initiation Screen

3.3.6. Install Call*media* License

Note that Call*media* license is installed using the user interface offered by the Call*media* Client program. The Call*media* Client can also be installed on the server system to enable administrative actions to be performed on the server even though it is not used by a contact center agent. The instructions for installing the Call*media* Client are contained in **section 3.4**. After the Call*media* Client has been installed, login to the Call*media* Console with an appropriate user name and password.

Figure 62: Call*media* License Install via Call*media* Console

Right-click on the “Licenses” icon and click “Modify”.

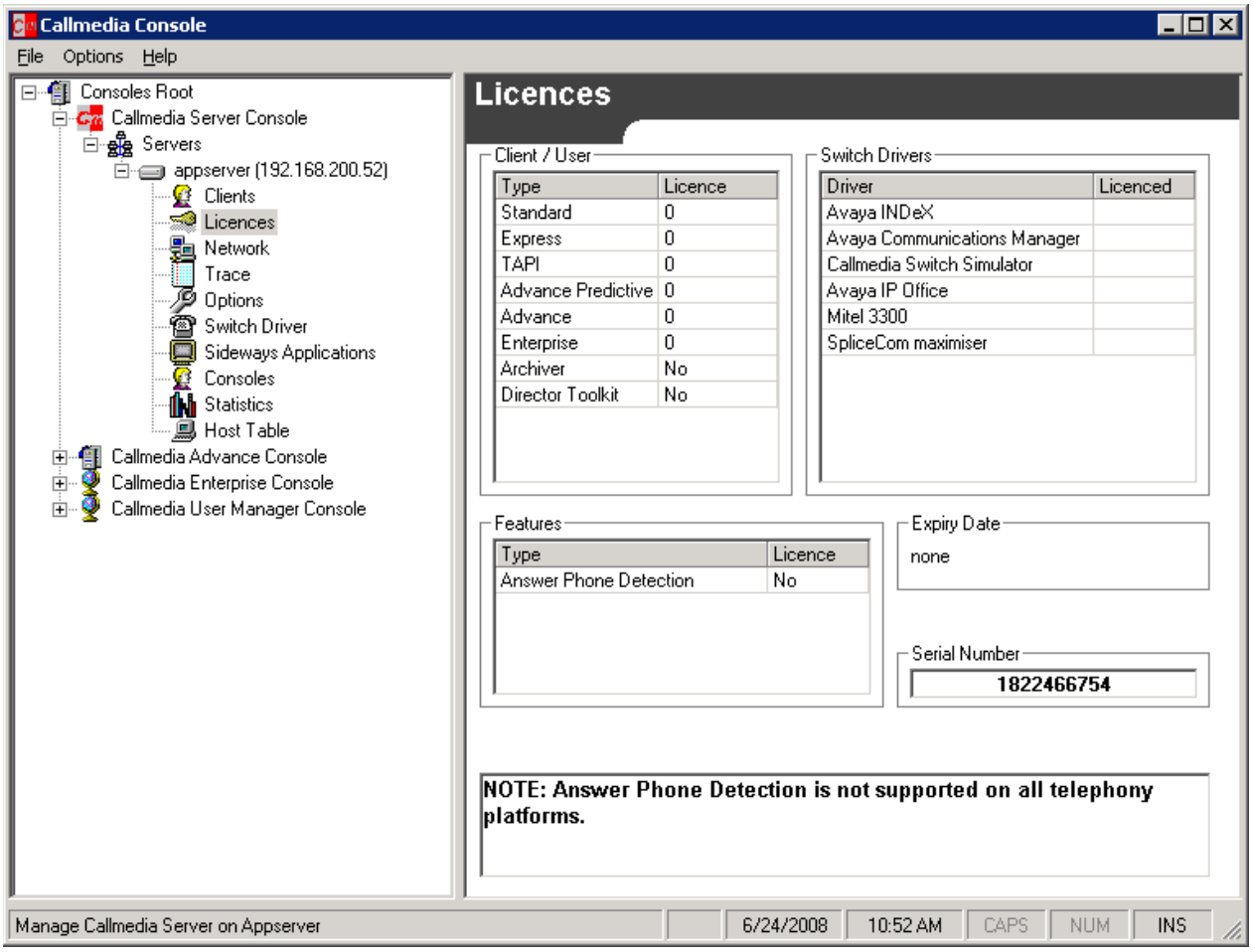

Figure 63: Call*media* License Installation Screen

Click “Yes”.

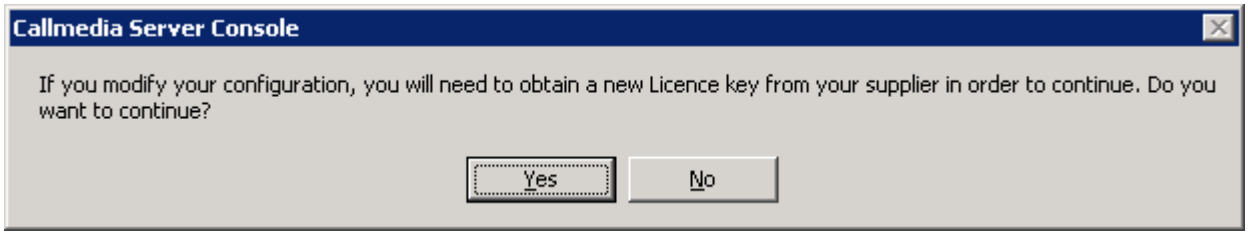

Figure 64: Call*media* License Modification Enquiry Screen

Set the “Client” and “User” counts to those values covered by the license, check the “Avaya Communications Manager” box, enter the “License Key”, and click “Modify”.

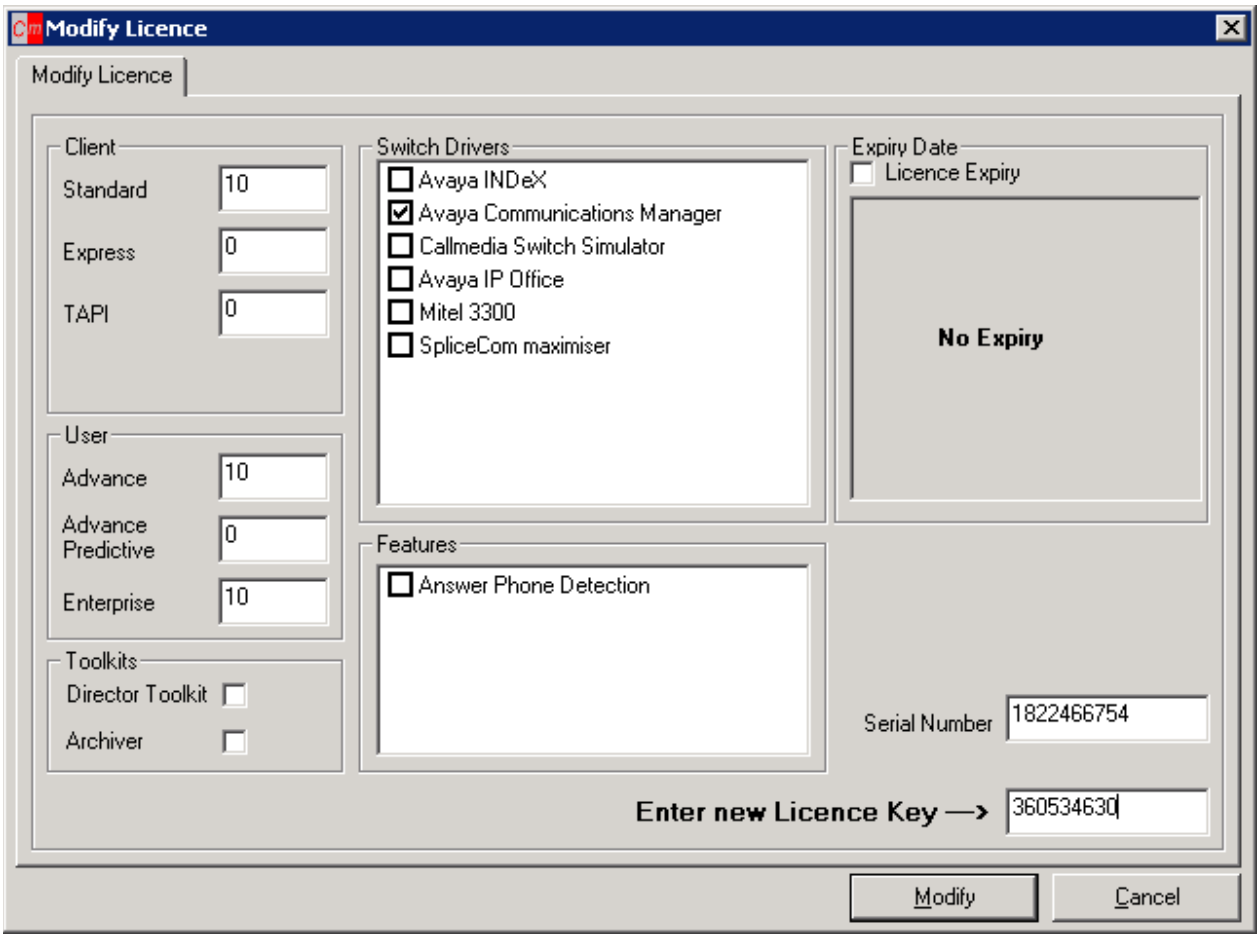

Figure 65: Call*media* License Modification Enquiry Screen

Click “OK”.

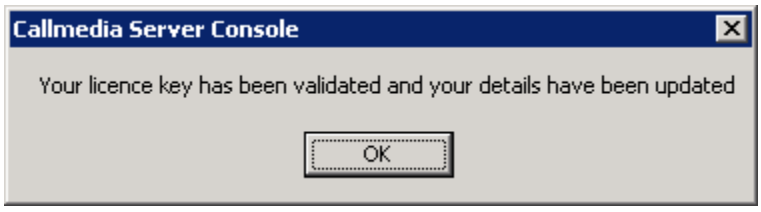

Figure 66: Call*media* License Validation Notification Screen

3.3.7. Configure Call*media* Server Components

Use the Call*media* Client to configure the Call*media* Server components. The Call*media* Client can also be installed on the server system to enable administrative actions to be performed on the server even though it is not used by a contact center agent. The instructions for installing the Call*media* Client are contained in **section 3.4**.

Prior to configuring the individual Call*media* server components, execute the "Call*media* Config Tool" program which is installed in the "CMTools" directory during the installation process. From the "Services" branch select the "Enterprise" entry. Enter the address of the Call*media* server in the "Service IP Address" field.

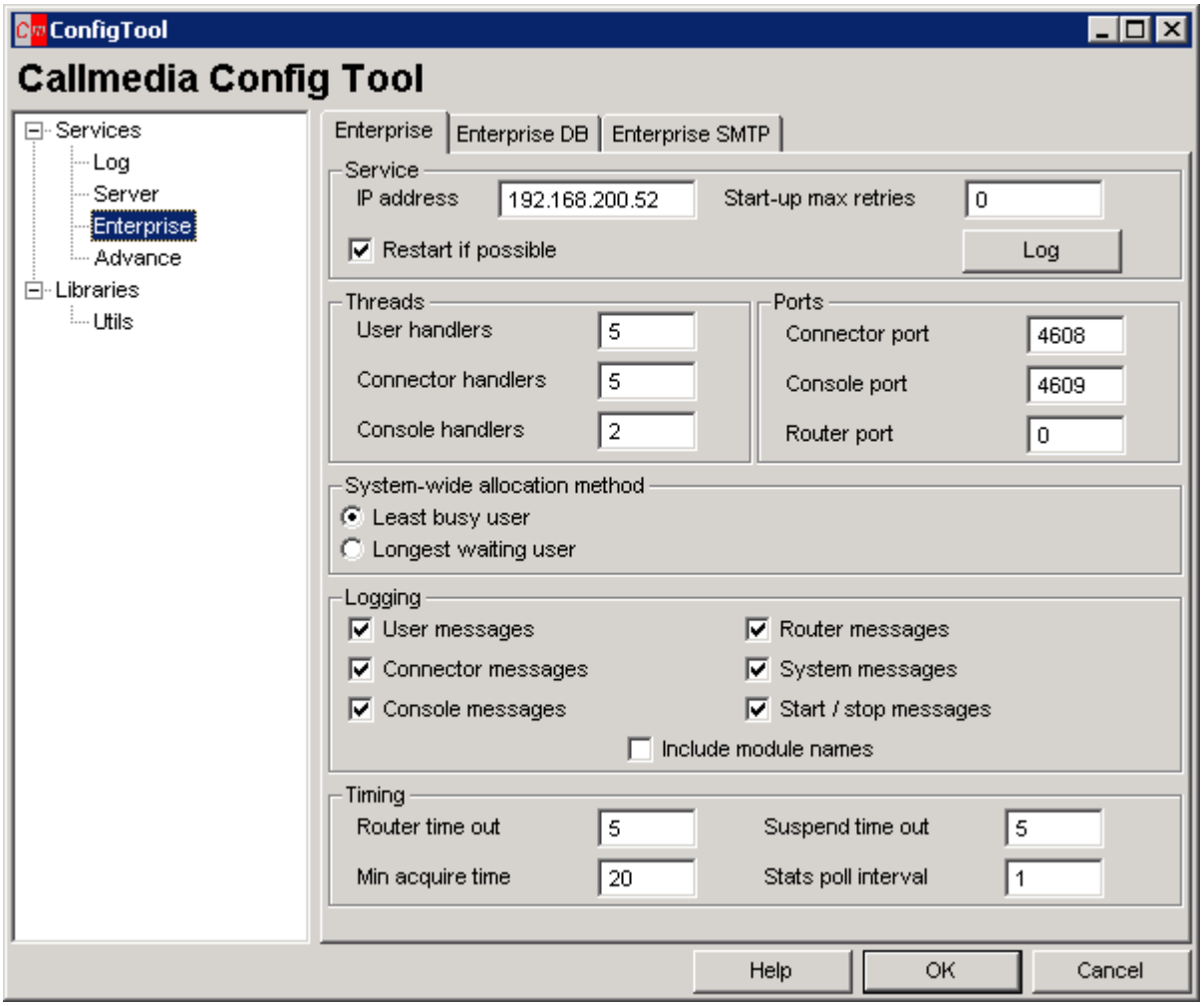

Figure 67: Call*media* Config Tool Enterprise Entry, Enterprise Tab Screen

Select the “Enterprise DB” tab, enter the parameters shown in the following table, and click “OK”.

Parameter	Usage
Server	Enter the name that was assigned to the server in **Figure 46** followed by “\SQLEXPRESS” (this will vary if another database server is chosen).
Database	Enter “CMEnterprise”.
User name / Password	Leave these fields blank to use the Windows login instead of the database login.

Table 18: System-Parameters Features Parameters

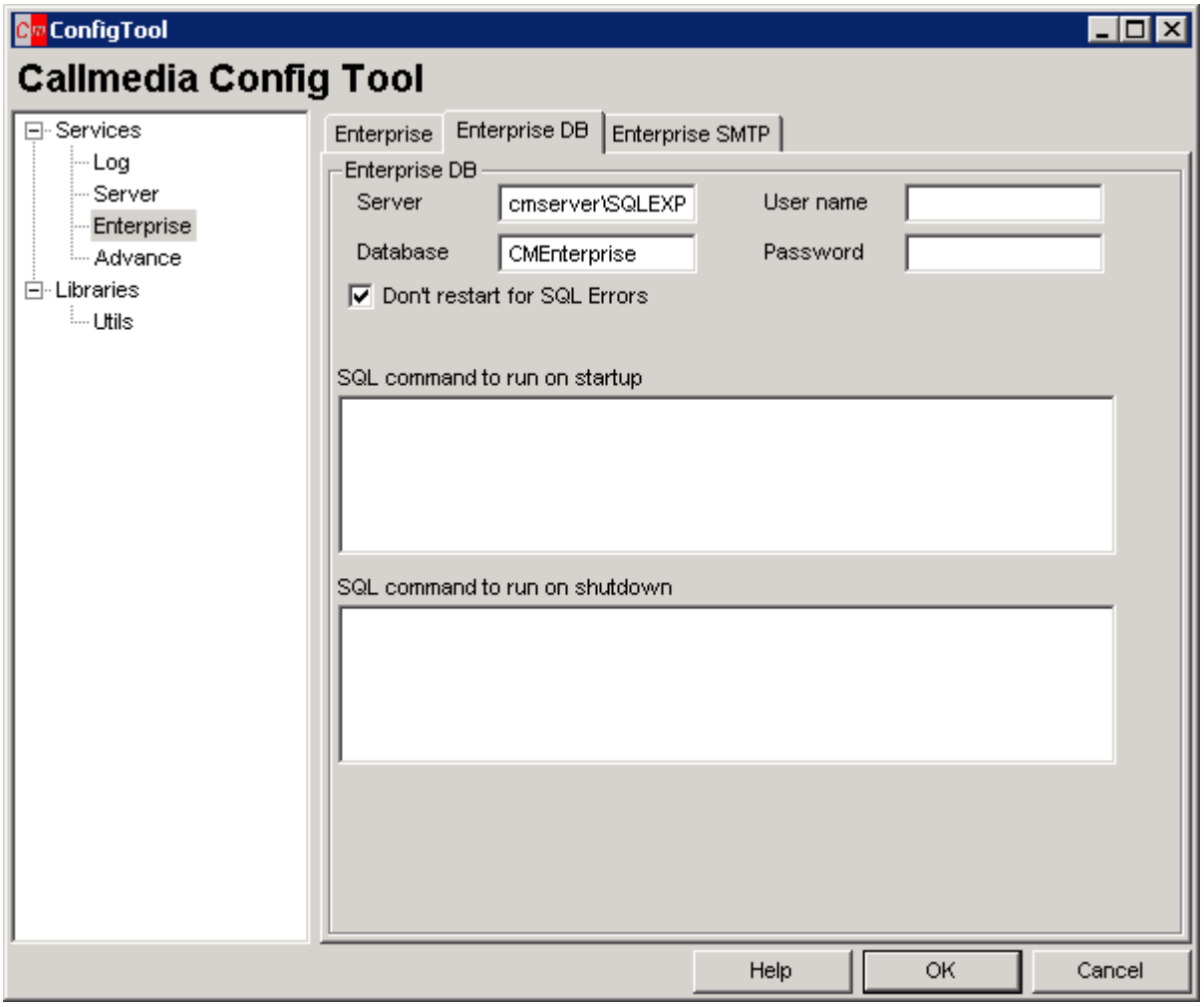

Figure 68: Call*media* Config Tool Enterprise Entry, Enterprise DB Tab Screen

Start the Enterprise server:

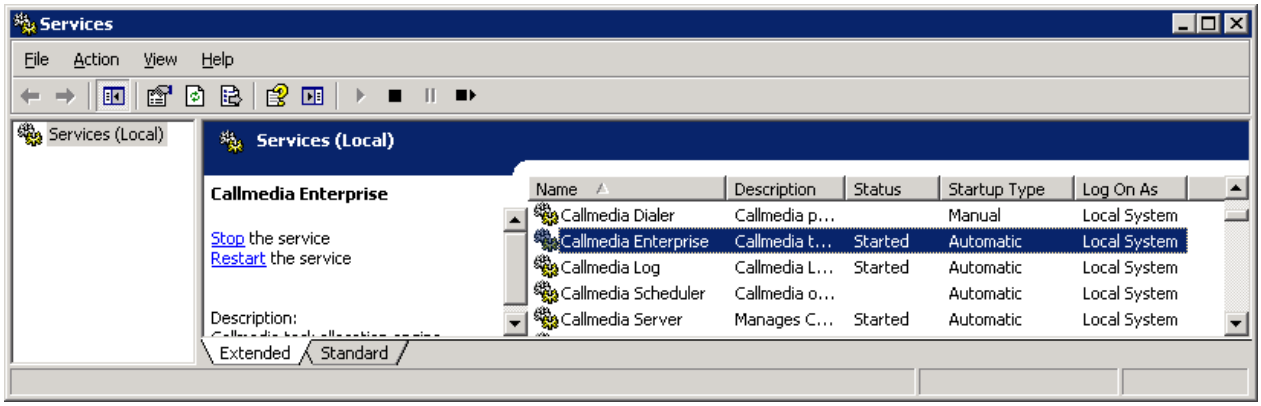

Figure 69: Call*media* Enterprise Server Start Screen

Start the Call*media* Console application from the Windows "Start" icon. Enter an appropriate "User Name" and "Password" and click "OK".

Figure 70: Call*media* Console Start Screen

3.3.7.1 Configure Call*media* Enterprise

Start the "Call*media* Console" program from the Windows "Start" icon. This program is located at "C:\Program Files\Callmedia\CMConsole\CMConsole.exe". Select the IP address of the Call*media* server from the "Call*media* Enterprise Console". Right-click the "Managed Queues" entry to add the queue "Skill 1" as shown in the subsequent steps. Repeat this for "Skill 2".

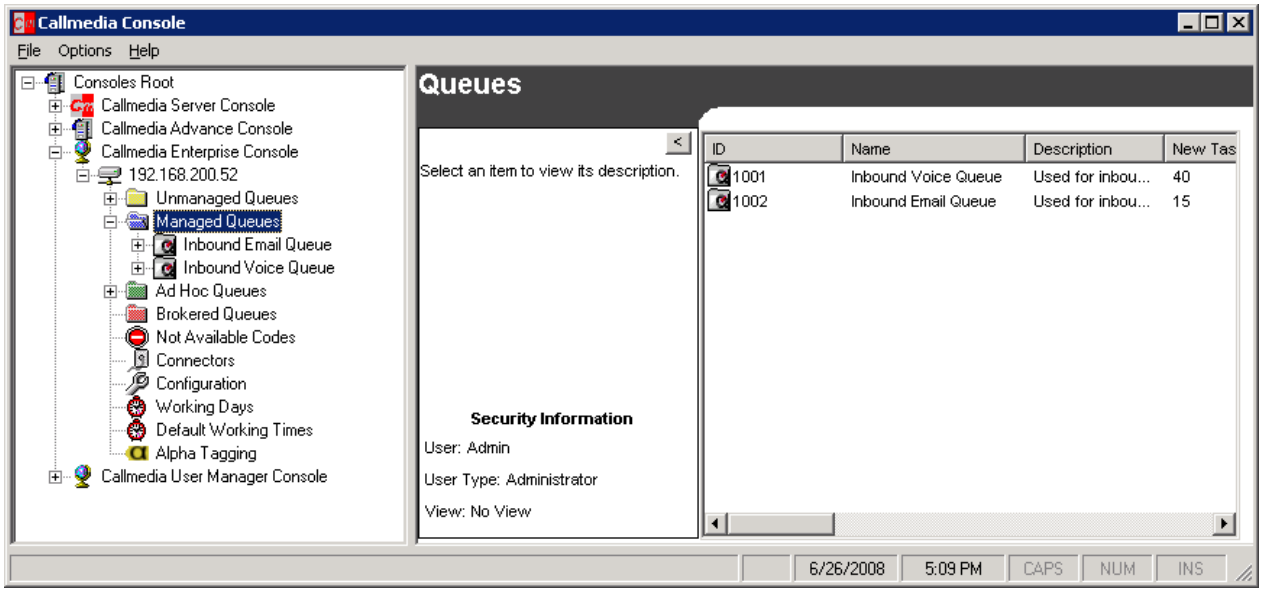

Figure 71: Call*media* Enterprise Managed Queues Screen

Click “New”, and enter the name of a new agent skill “Skill 1”, and click “OK”. This skill can be assigned to a Team of agents, (as shown in **Figure 76**), to be used as a selection criteria for incoming calls.

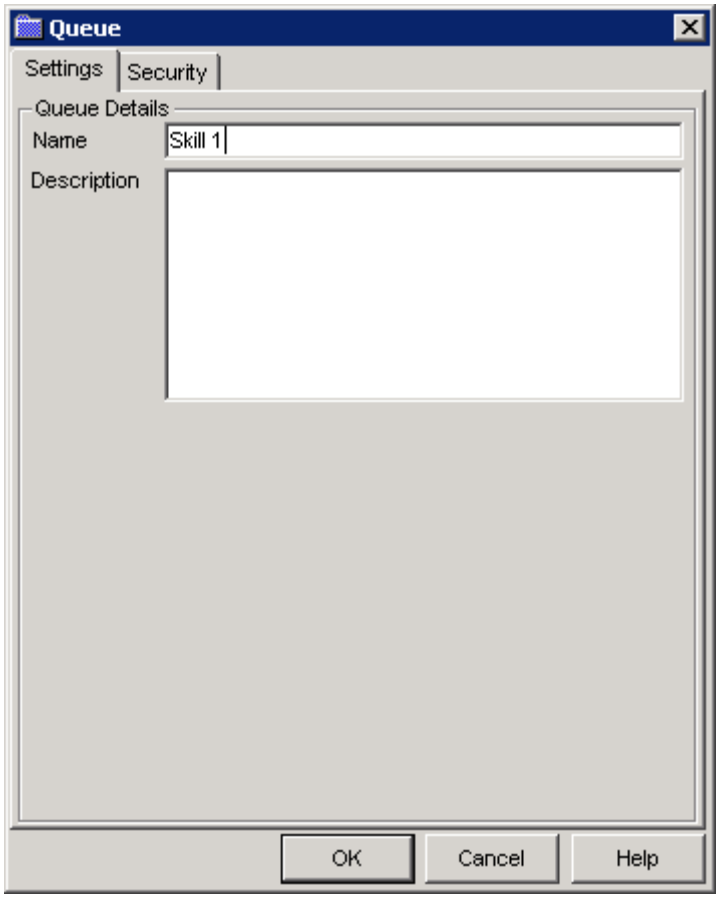

Figure 72: Call*media* Enterprise Managed Queues New Skill Screen

Right-click the “Voice Connector” entry from the “Connectors” menu item, and click “New”.

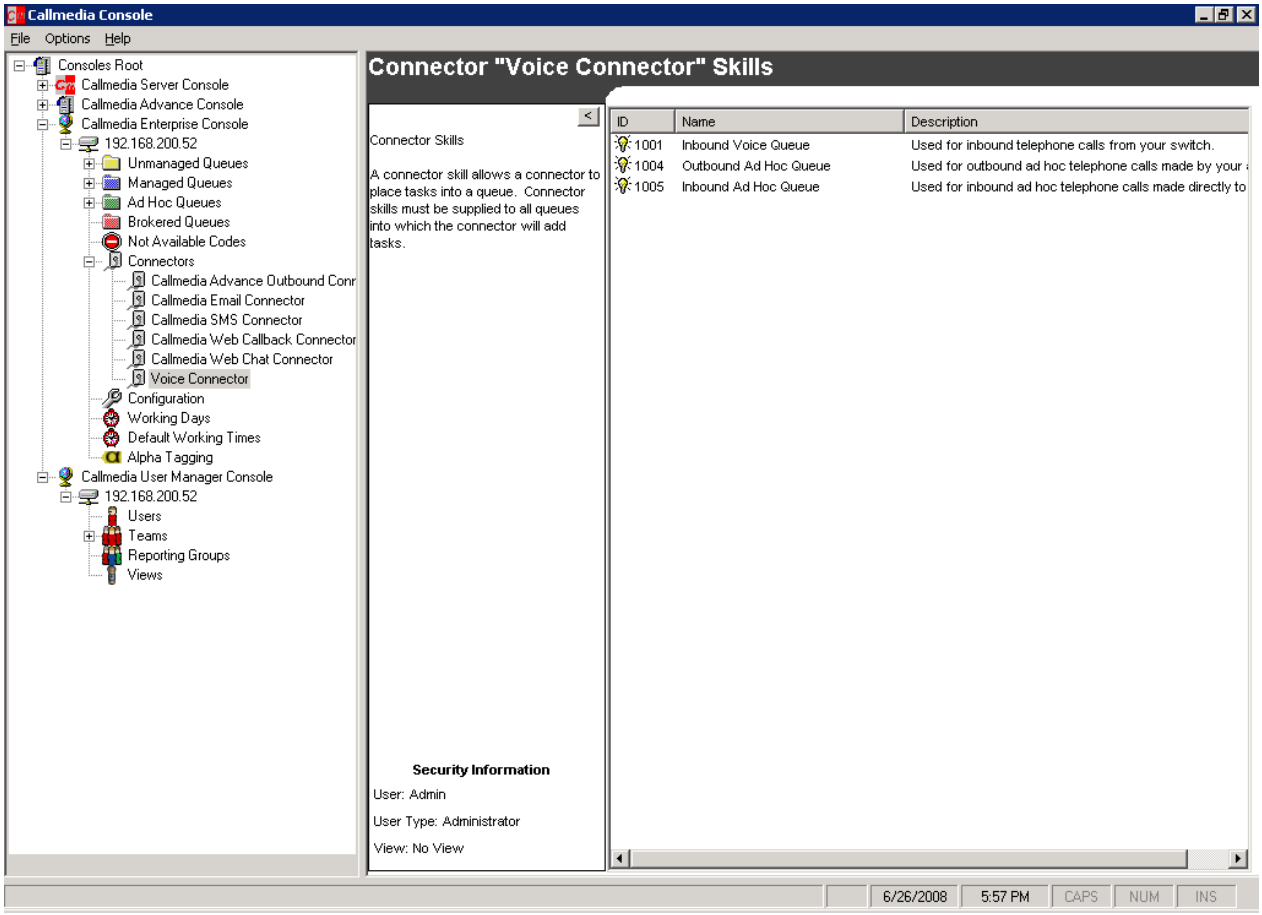

Figure 73: Call*media* Enterprise Voice Connector Screen

Check the boxes which correspond to the queues “Skill 1” and “Skill 2” which were created in **Figure 72**, and click “OK”.

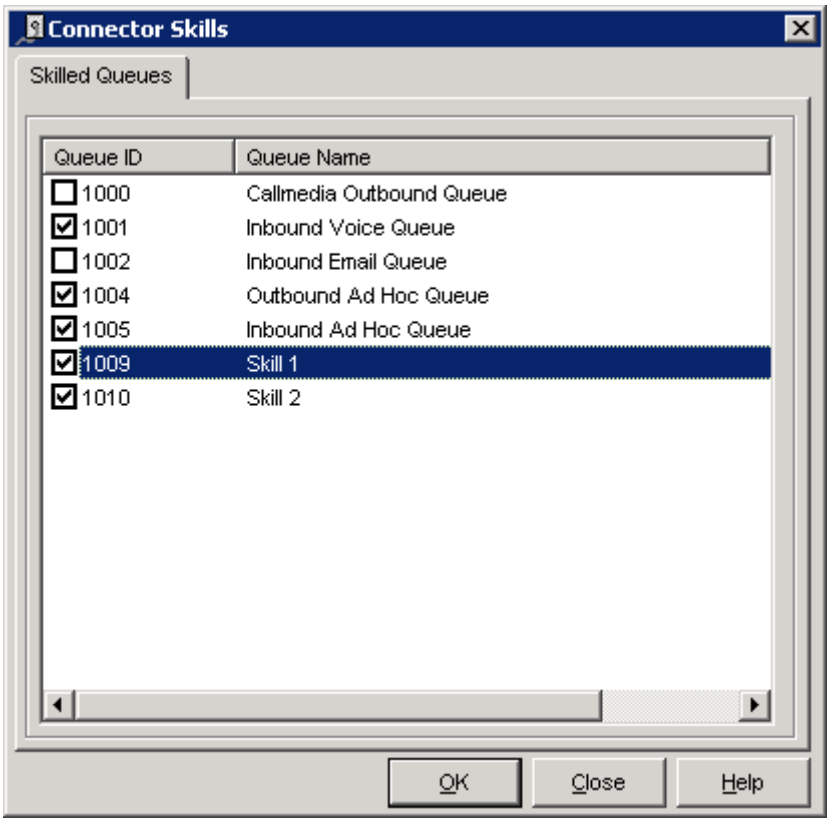

Figure 74: Call*media* Enterprise Connector Skills Screen

The newly created skills are now shown in the “Voice Connector” list.

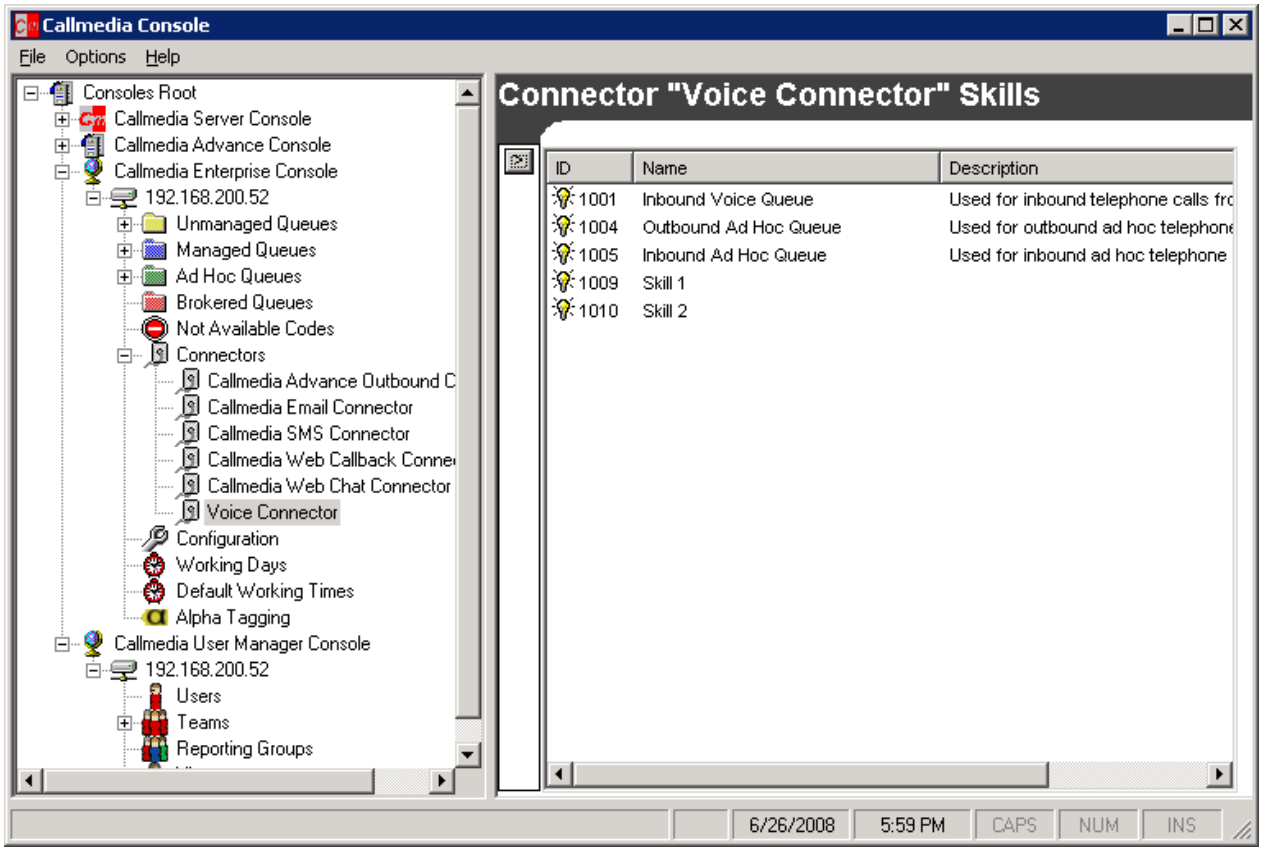

Figure 75: Call*media* Enterprise Voice Connector New Skills Screen

3.3.7.2 Configure Call*media* User Manager

Expand the "Callmedia User Manager Console" item in the left frame. Right-click the "Teams" icon and select "new".

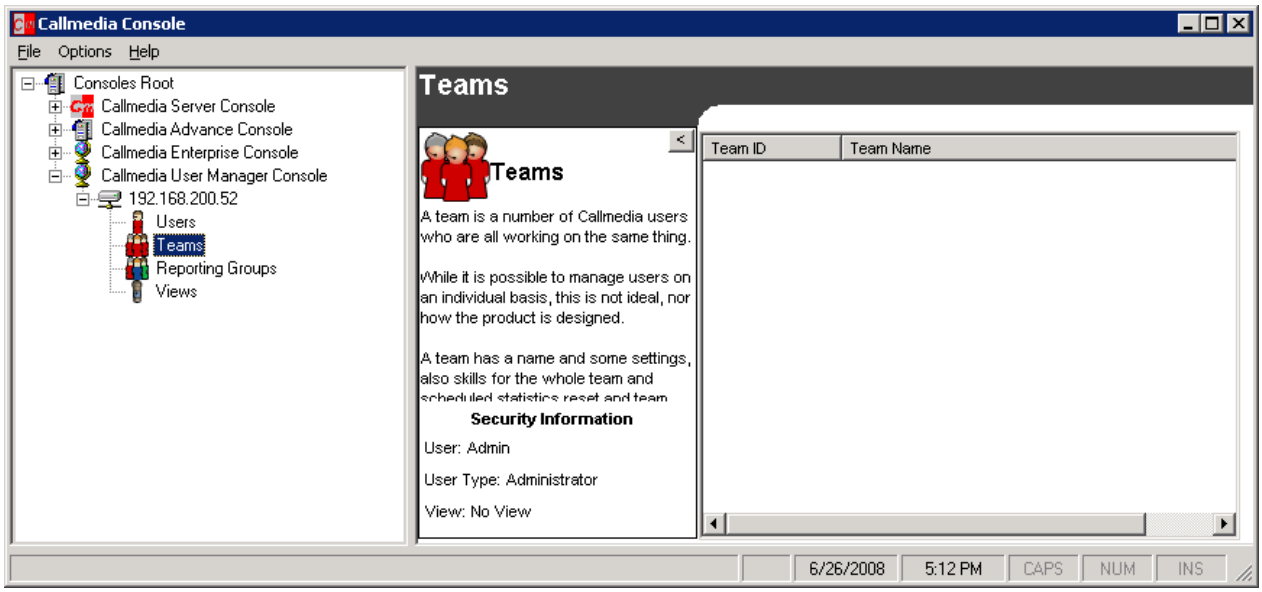

Figure 76: Call*media* Teams Screen

Allocate a new team by entering the parameters shown in the following table.

Parameter	Usage
Team Name	Enter a descriptive name to identify the team.
Team Type	Select “Advance Preview/Progressive” from the drop-down box.

Table 19: System-Parameters Features Parameters

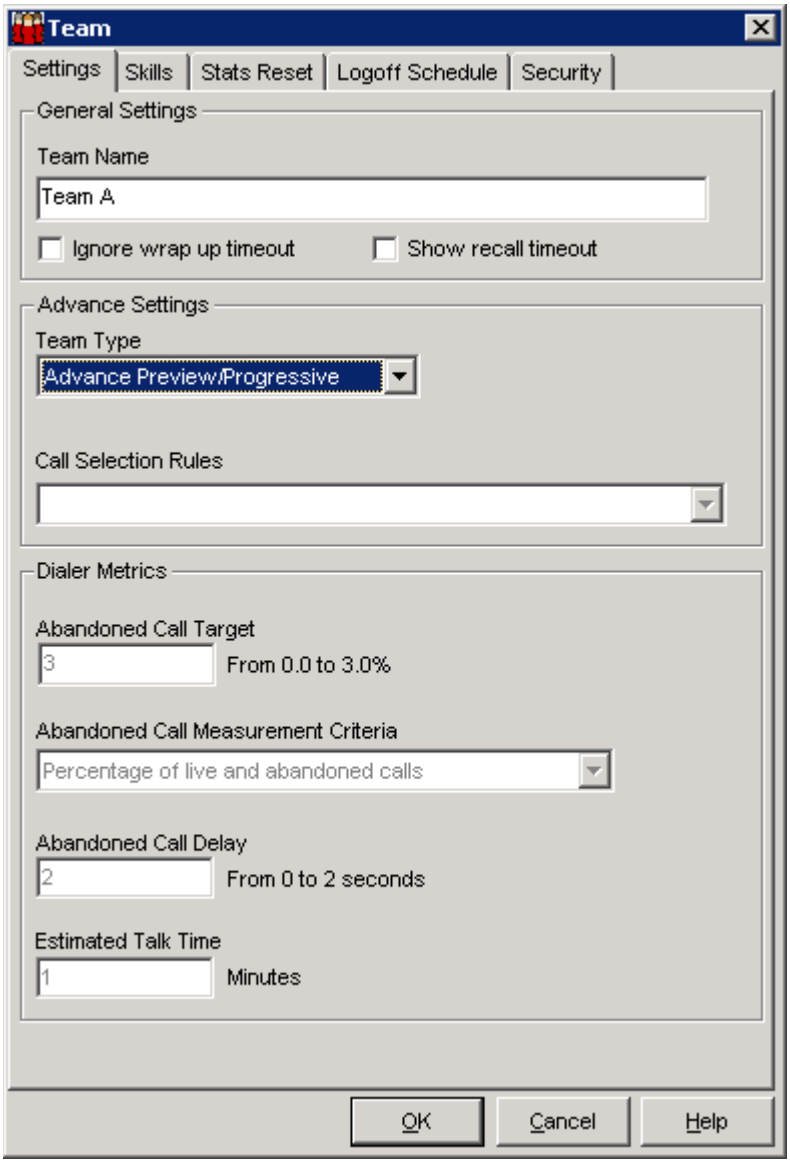

Figure 77: Call*media* Team Allocation Screen

In the “Skills” tab, check the boxes corresponding to the skills that the members of the team have, and click “OK”.

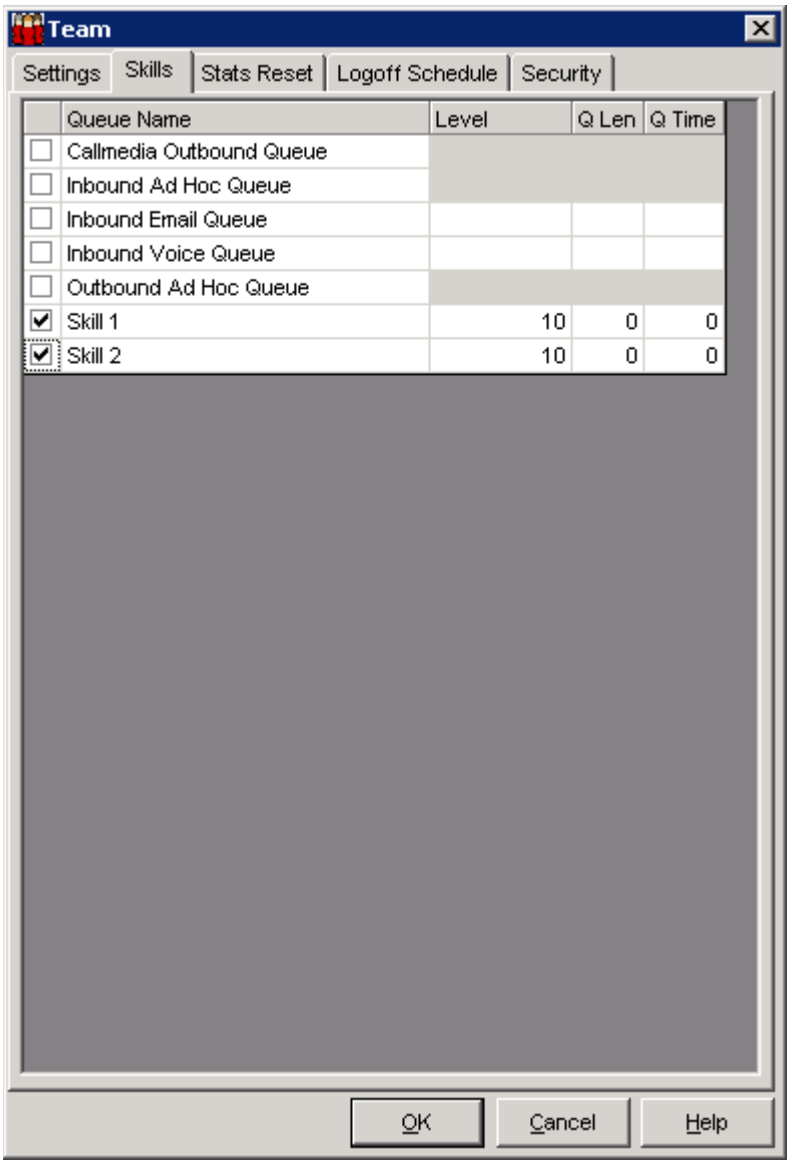

Figure 78: Call*media* Team Allocation Screen

Right-click the “Users” icon and click “New”.

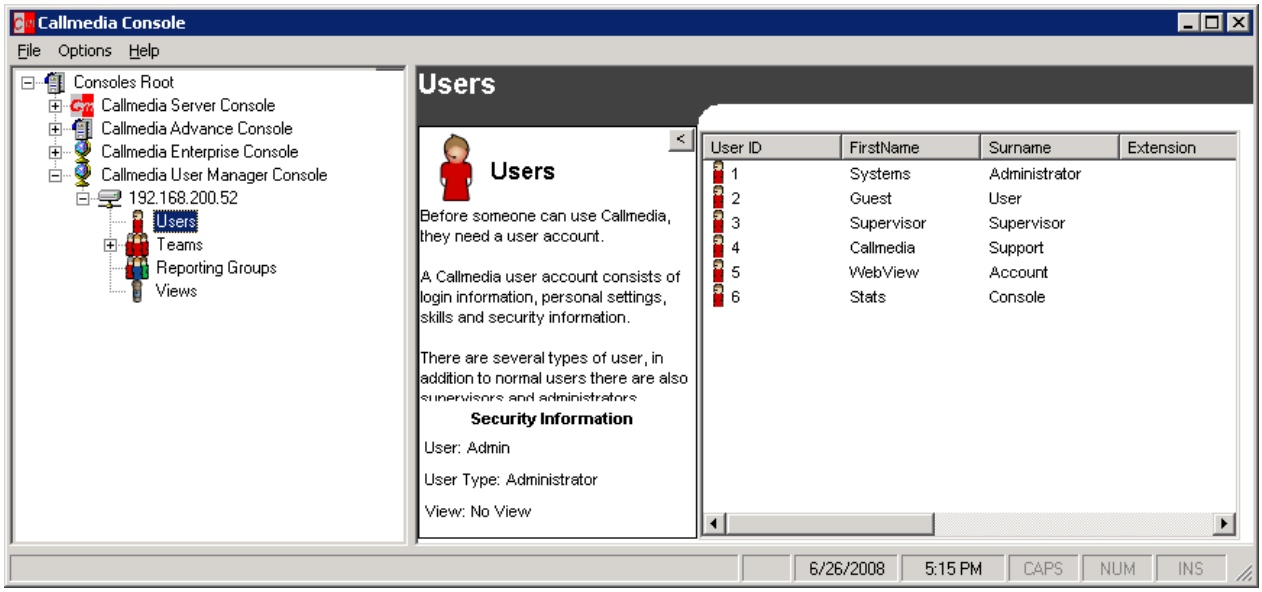

Figure 79: Call*media* Users Screen

Allocate a new user by entering the parameters shown in the following table. Click “OK”.

Parameter	Usage
Logon ID / Password	Select an appropriate ID / password for the user.
Firstname	Enter the agent’s first name.
Surname	Enter the agent’s last name.
Team	Select the team to which the agent is to be assigned from this drop-down list.

Table 20: System-Parameters Features Parameters

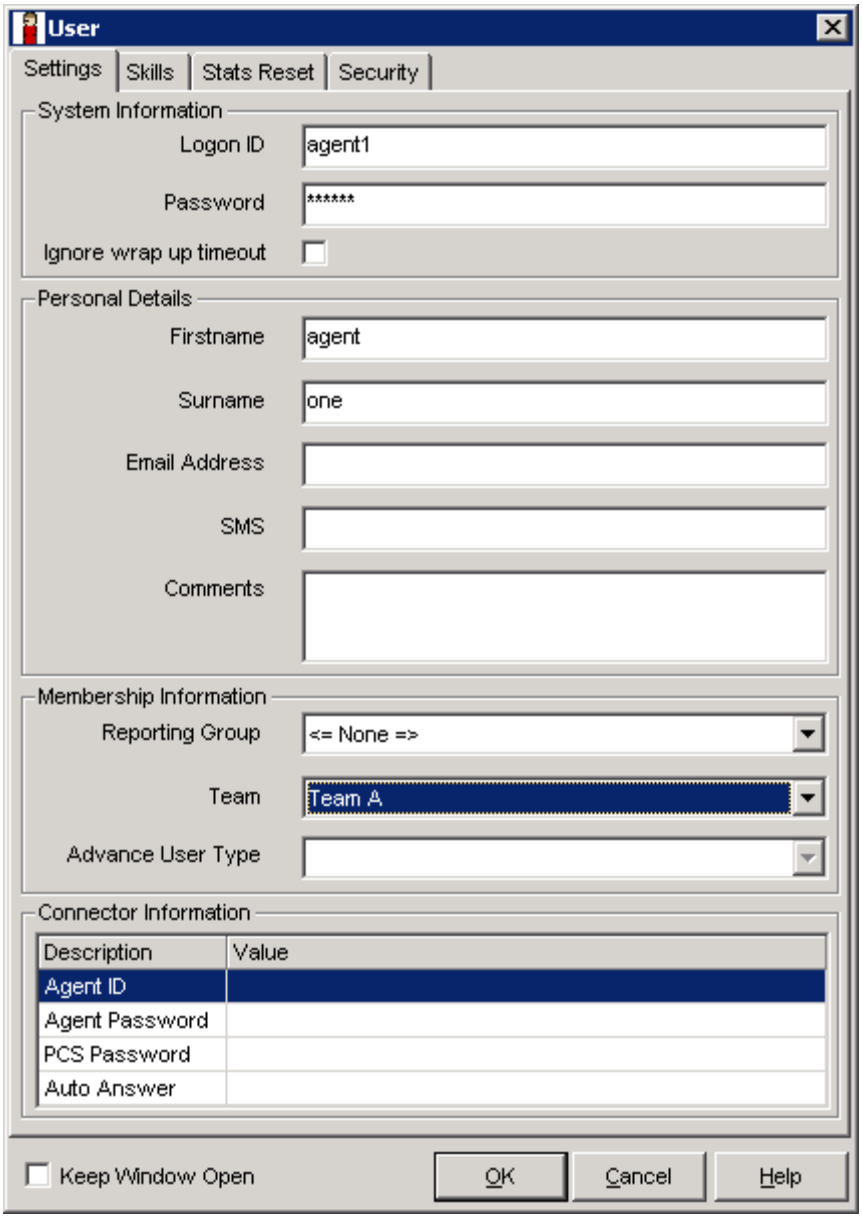

Figure 80: Call*media* User Allocation Screen

3.3.7.3 Configure Call*media* Switch Driver

Expand the "Call*media* Server Console" item in the left frame. Select the "Switch Driver" icon and click "Change".

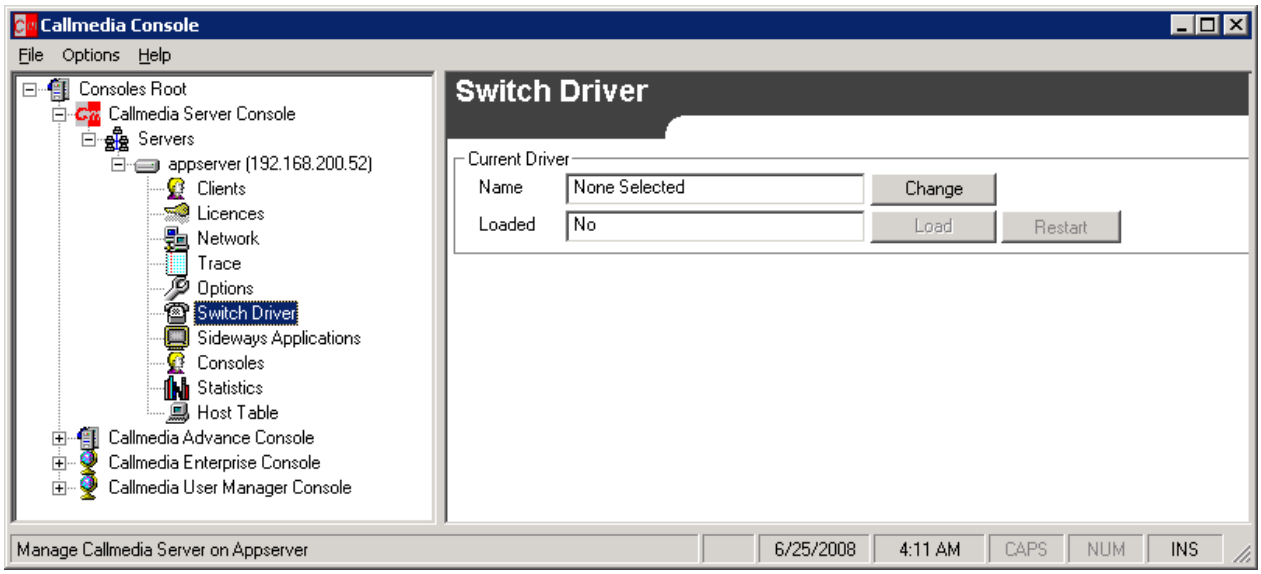

Figure 81: Call*media* Switch Driver Screen

Select "Avaya Communications Manager" from the drop-down menu and click "OK".

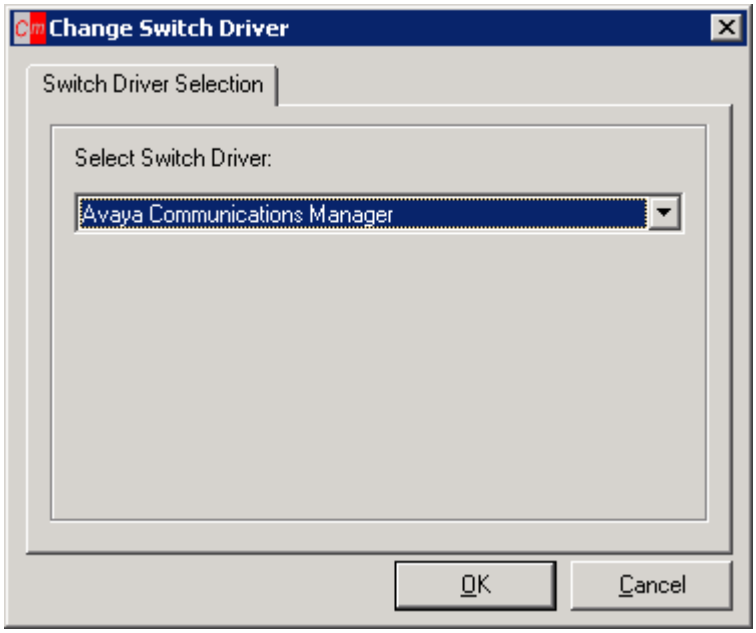

Figure 82: Call*media* Switch Driver Selection Screen

Click “load”.

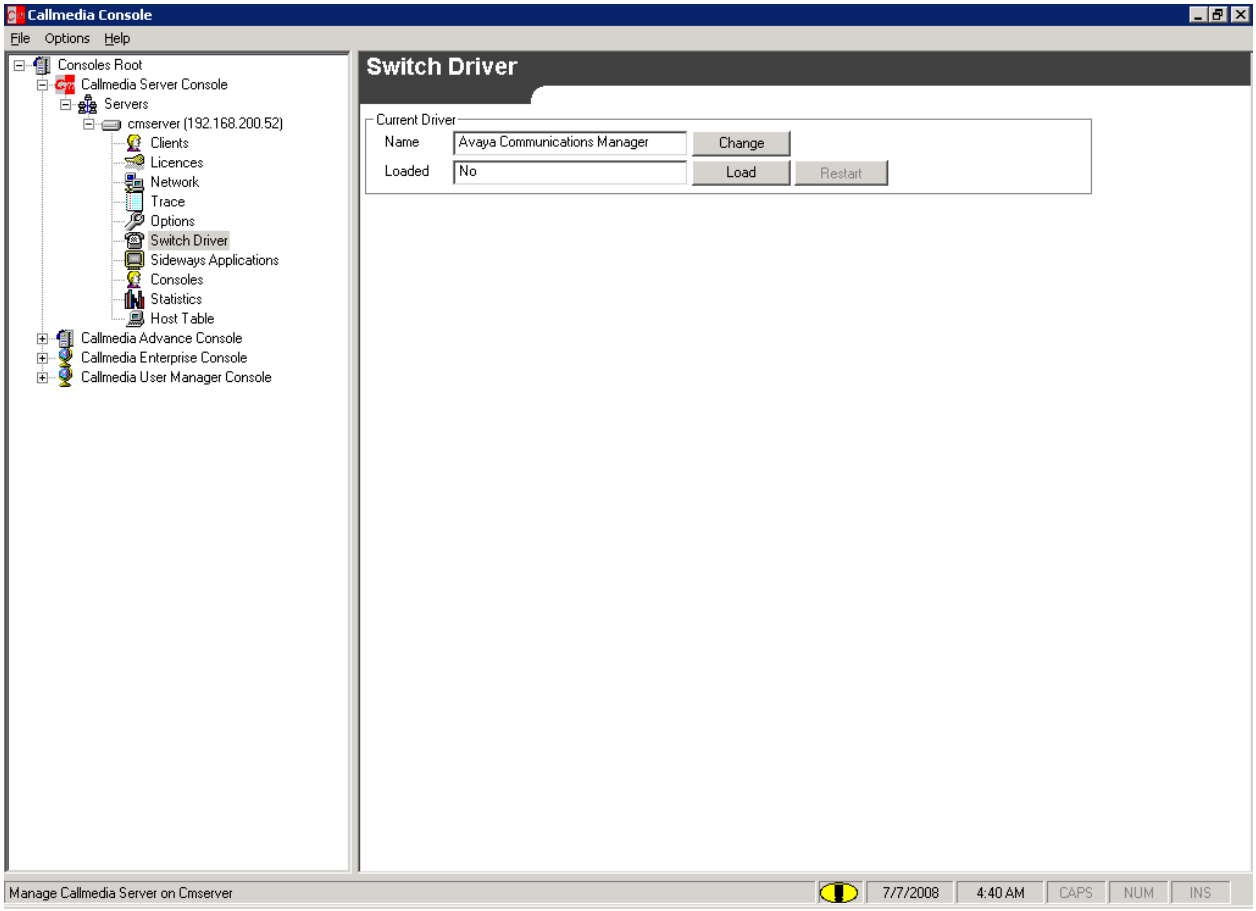

Figure 83: Call*media* Switch Driver Load Screen

Click “Settings”.

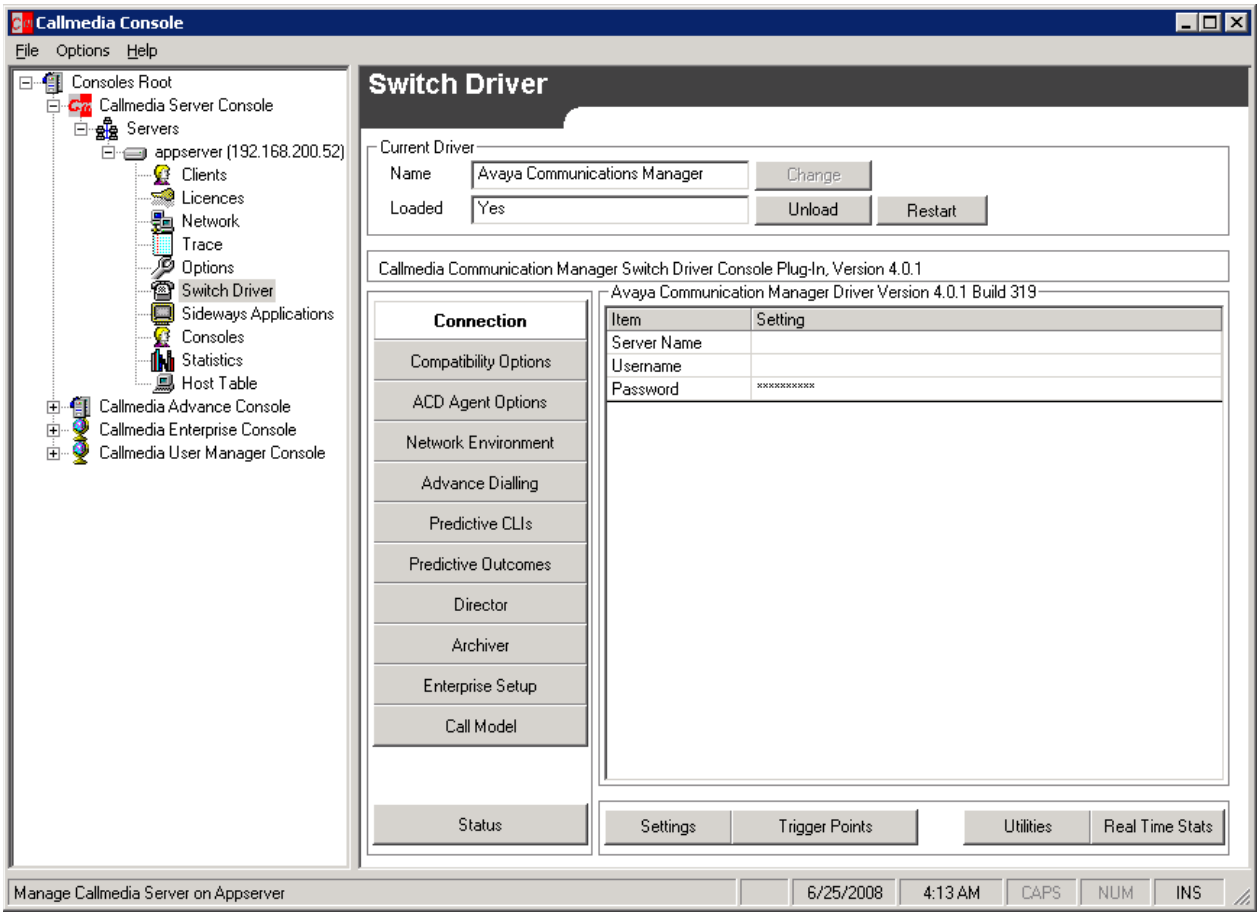

Figure 84: Call*media* Switch Driver Settings Selection Screen

Allocate a new user by entering the parameters shown in the following table and click “OK”.

Parameter	Usage
Server	From entry corresponding to the Avaya Communication Manager system to be used from the drop-down menu.
User Name / Password	Enter the AES user name and password which were allocated for Call*media* in **Figure 44**.

Table 21: Communication Manager Driver Settings

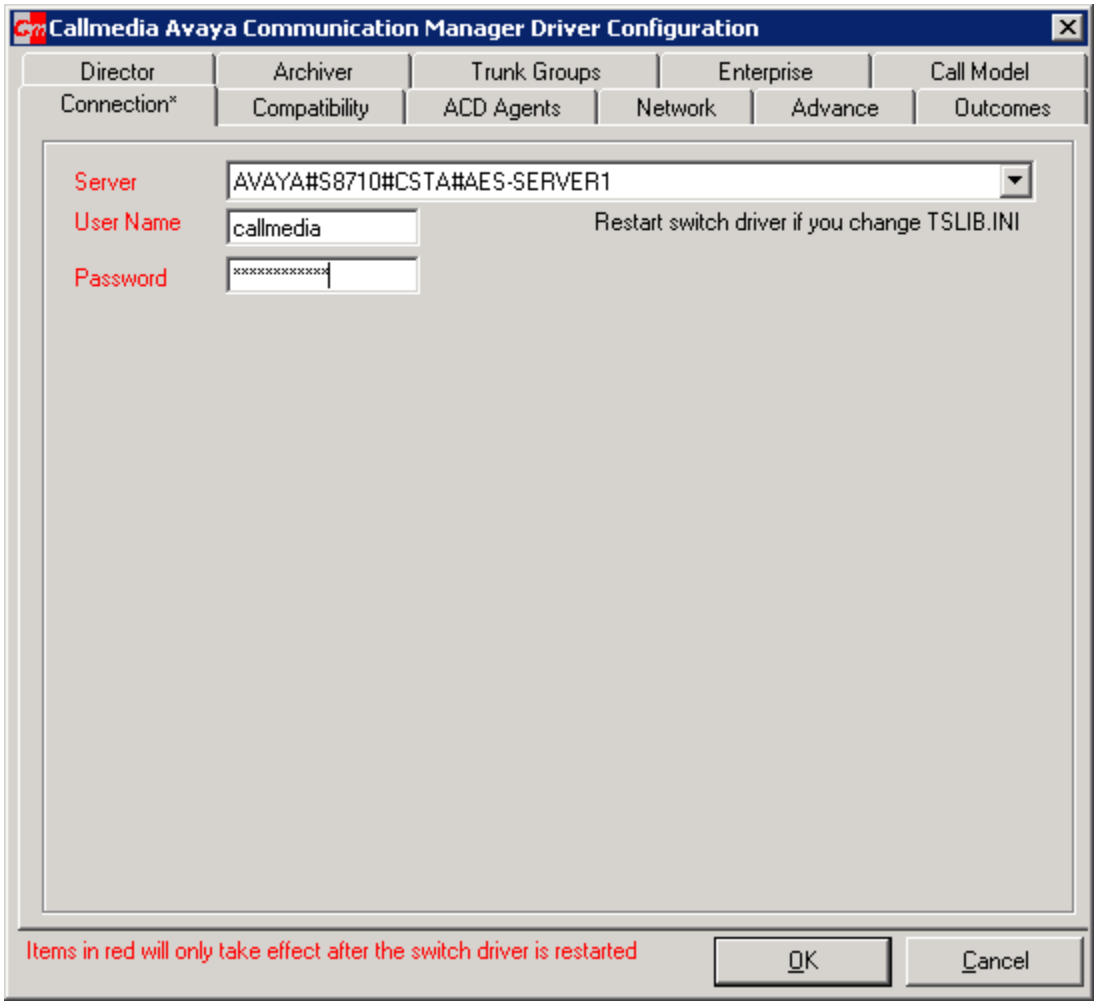

Figure 85: Call*media* Switch Driver Communication Manager Driver Settings Screen

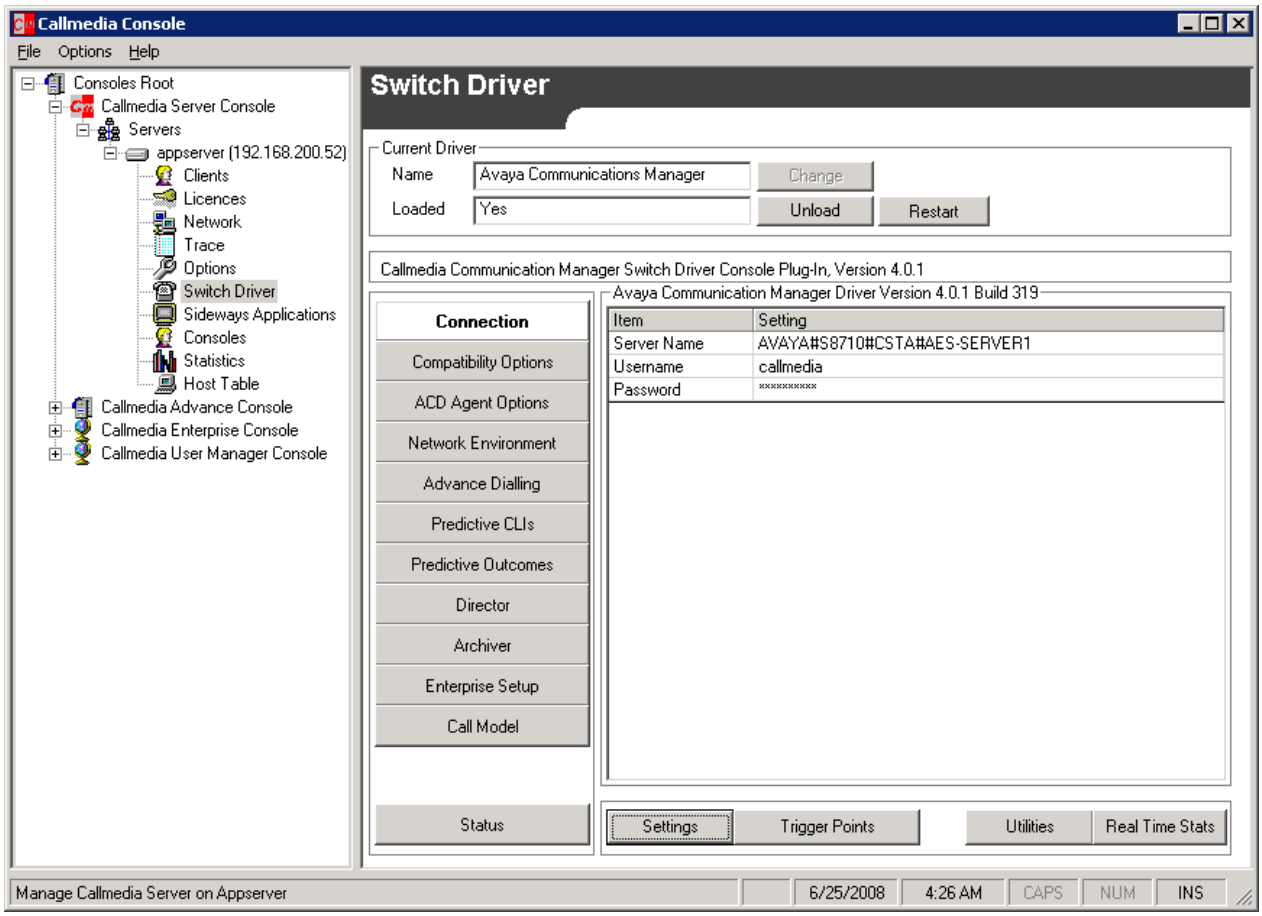

Figure 86: Call*media* Switch Driver Settings Screen

Click “Status” to view the current status of the connection to switch.

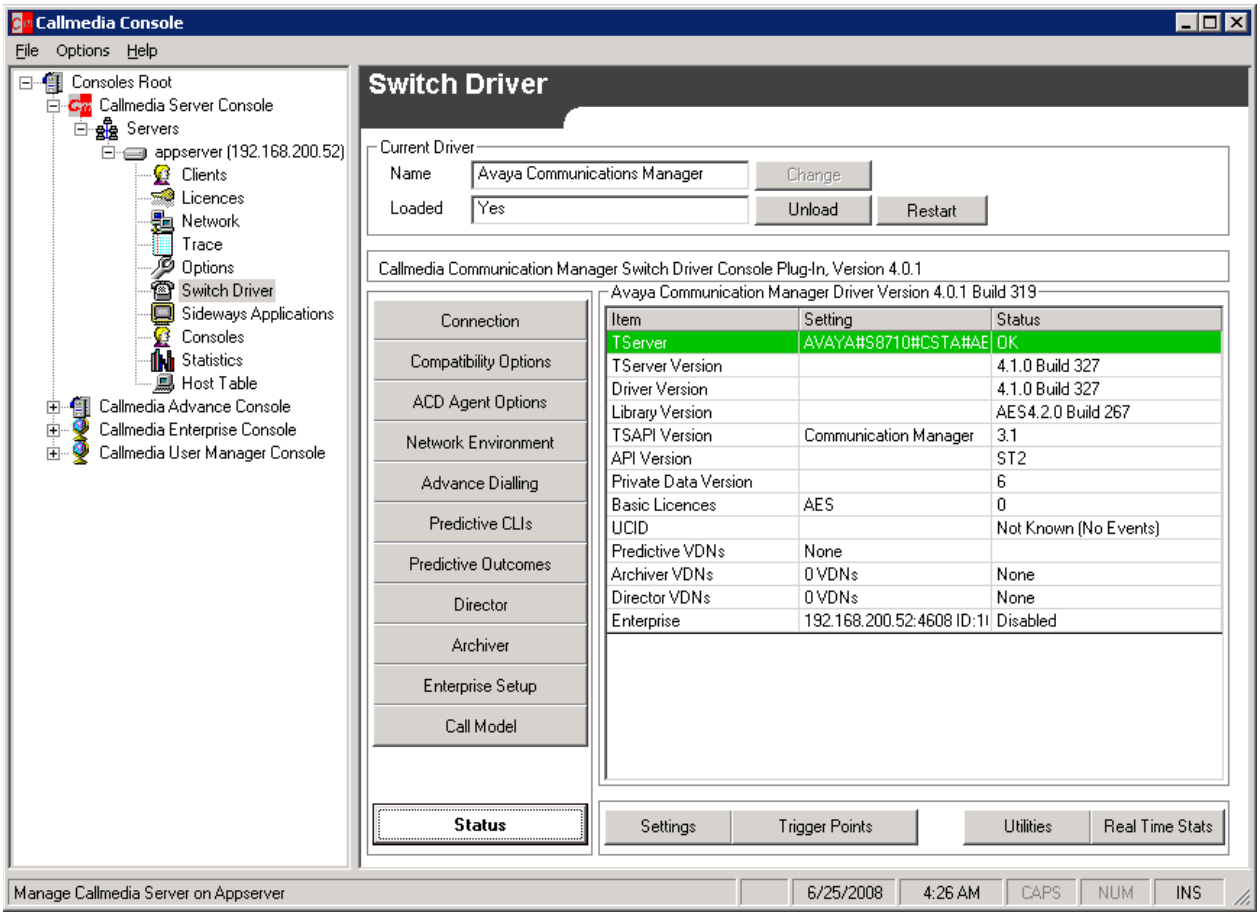

Figure 87: Call*media* Switch Driver Status Screen

Select “Enterprise Setup” and click “Settings”.

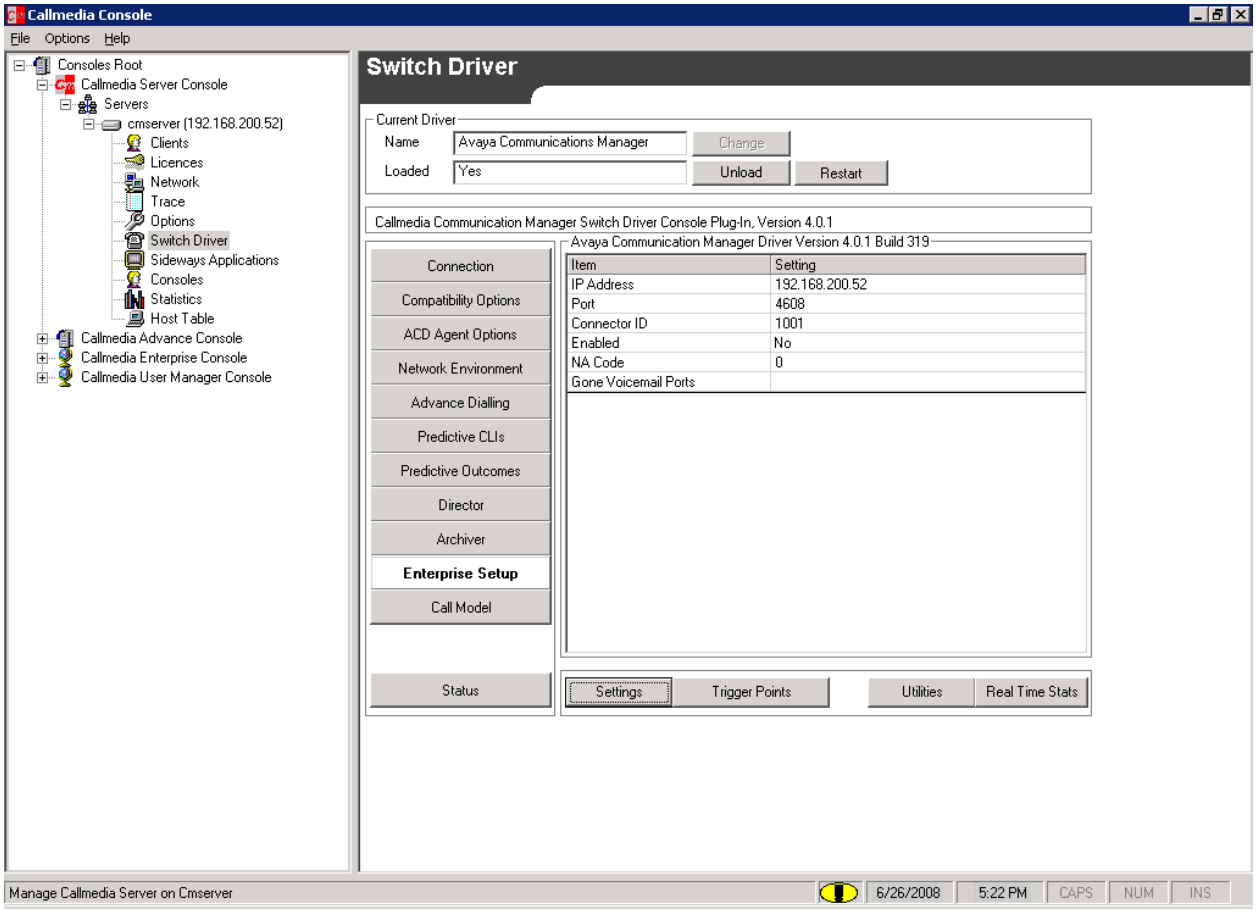

Figure 88: Call*media* Switch Driver Enterprise Settings Selection Screen

Configure the Avaya Communication Manager Driver settings by entering the parameters shown in the following table and click “OK”.

Parameter	Usage
Enterprise IP Address	Enter the IP address of the Call*media* server.
Port	Accept the default parameter.
Connector ID	Accept the default parameter.
Enabled	Check this box.

Table 22: Communication Manager Driver Settings

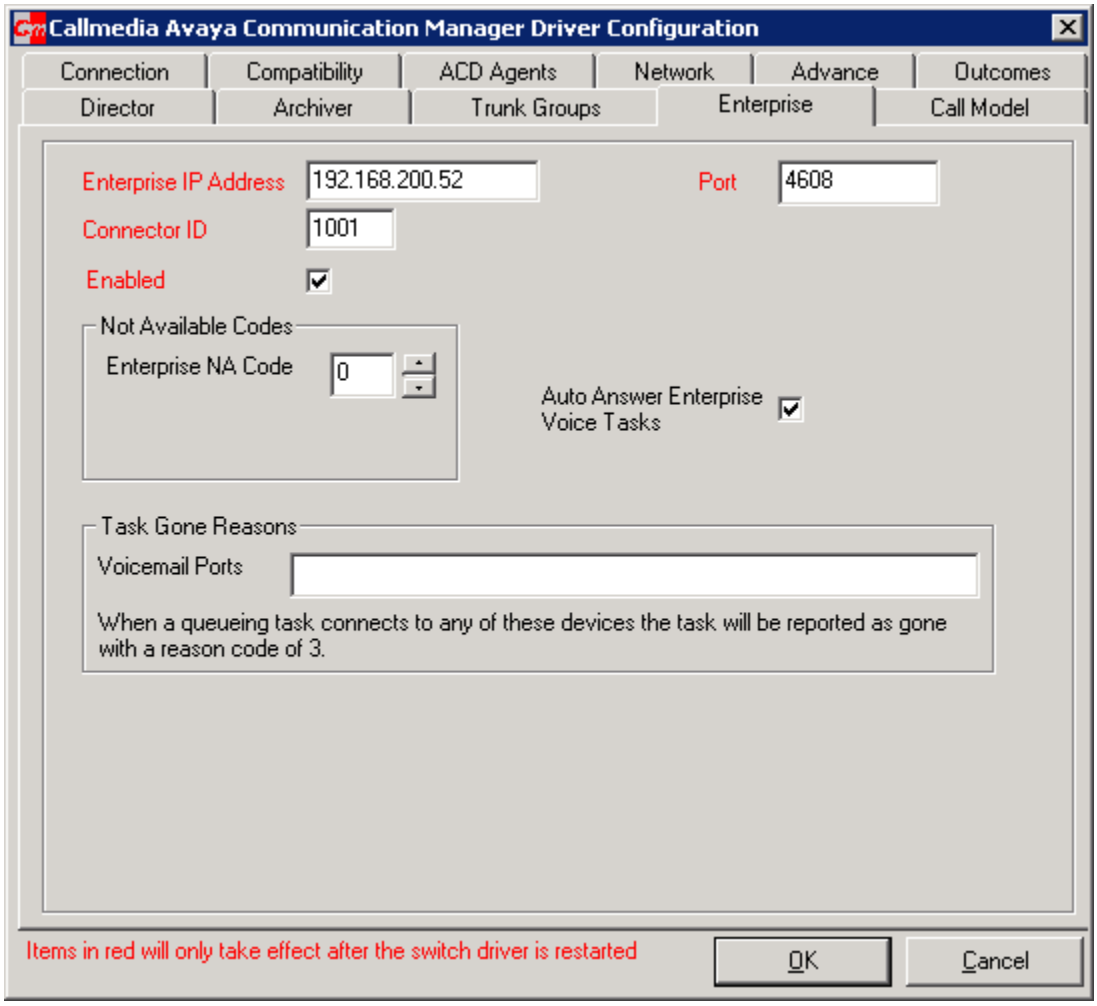

Figure 89: Call*media* Switch Driver Enterprise Settings Screen

Select the “Switch Driver” entry from the “Call*media* Server Console” entry for the server being configured. Click the “Trigger Points” button.

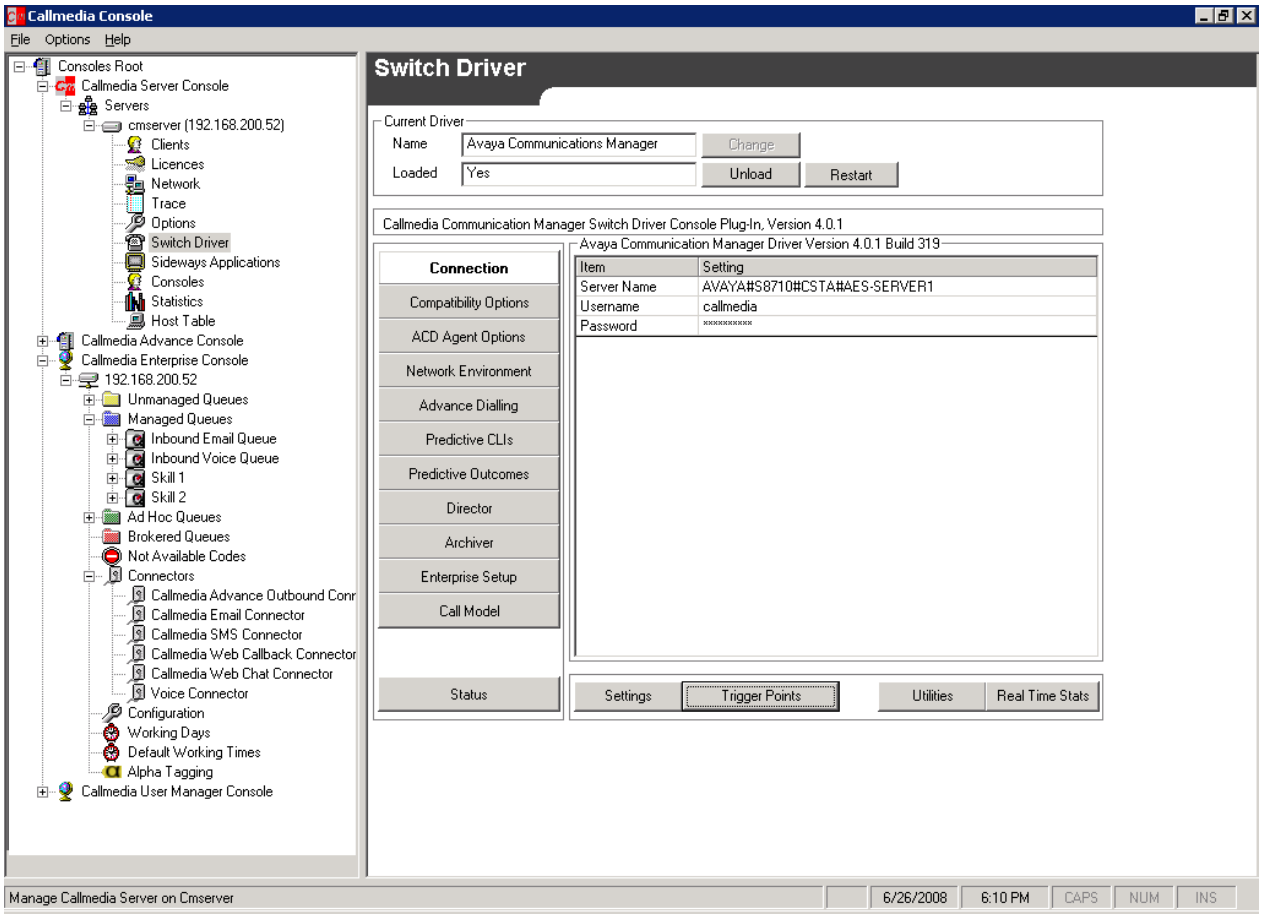

Figure 90: Call*media* Switch Driver Trigger Point Selection Screen

Click “Add”.

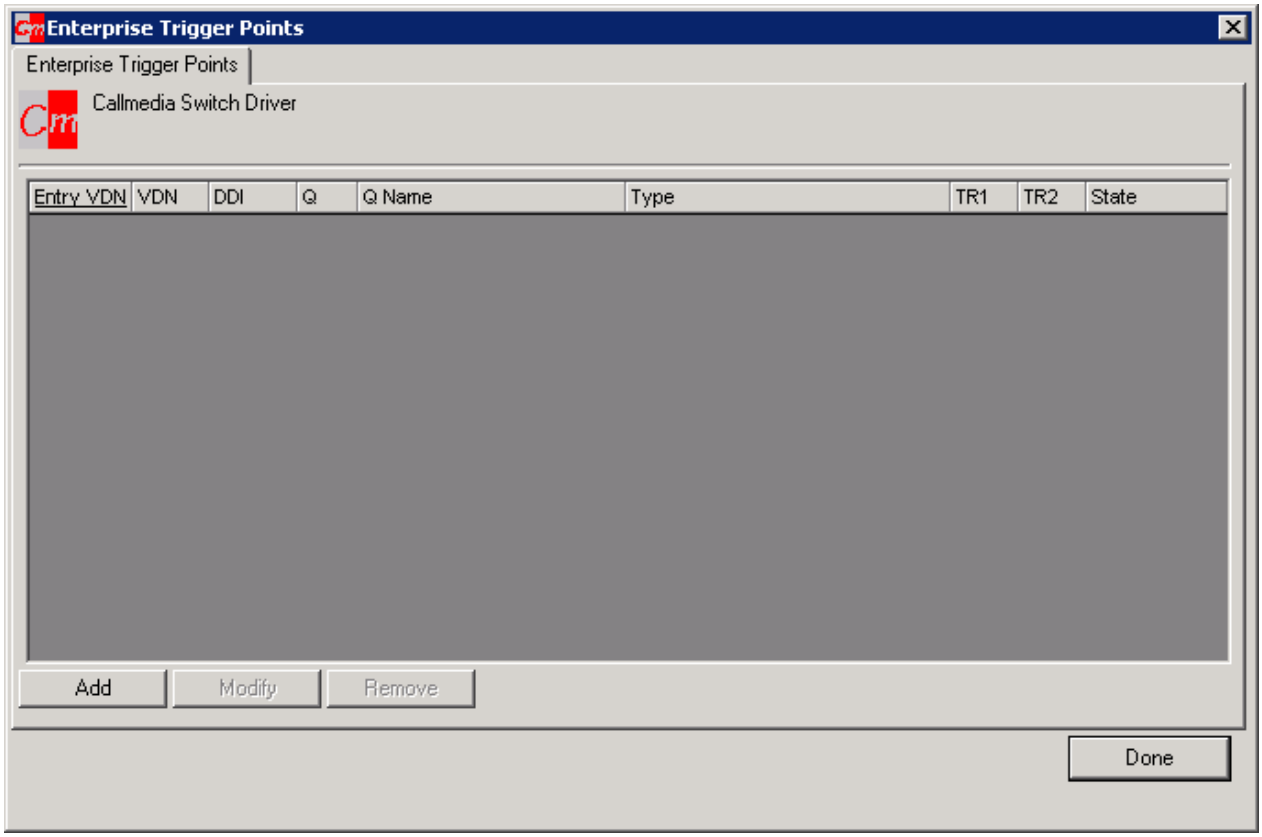

Figure 91: Call*media* Switch Driver Trigger Point List Screen

Select a skill which is to be used as a trigger point. In this case, “Skill 1” is selected. Click “Next”.

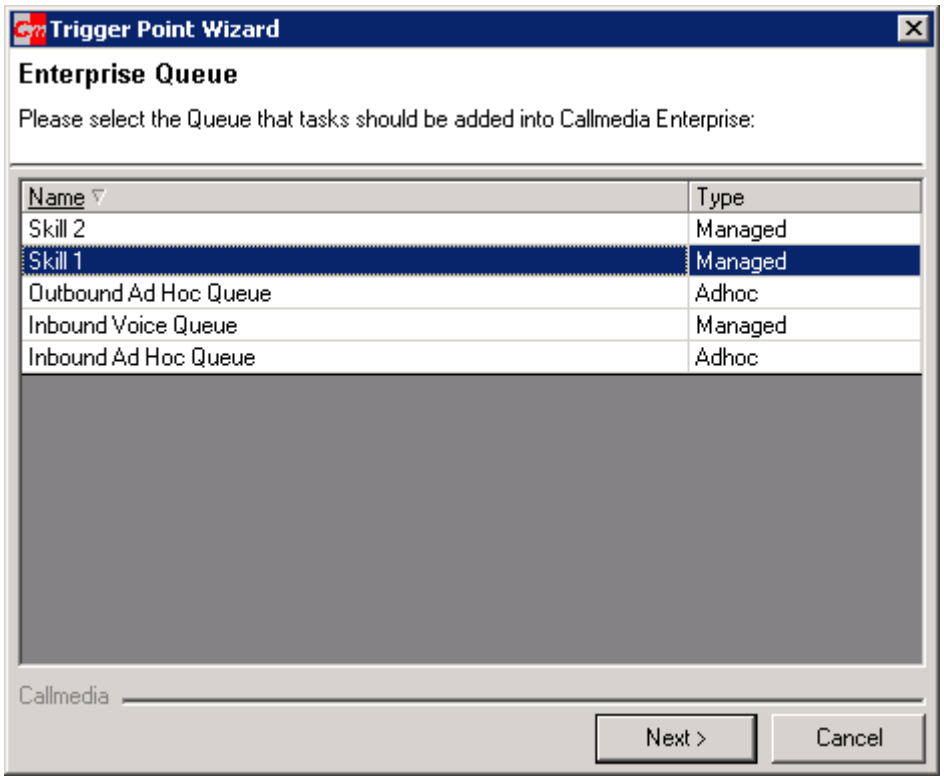

Figure 92: Call*media* Switch Driver Trigger Point List Screen

Set the VDN to be used to connect this queue to the switch, using the parameters shown in the following table.

Parameter	Usage
Managed Queue VDN Settings	Enter the VDN which is used for incoming calls for this skill, as defined in **Figure 33.**
Queuing VDN	Enter the VDN which is used for calls which are queued for this skill, as defined in **Figure 35**.

Table 23: Switch Driver Trigger Point VDN Parameters

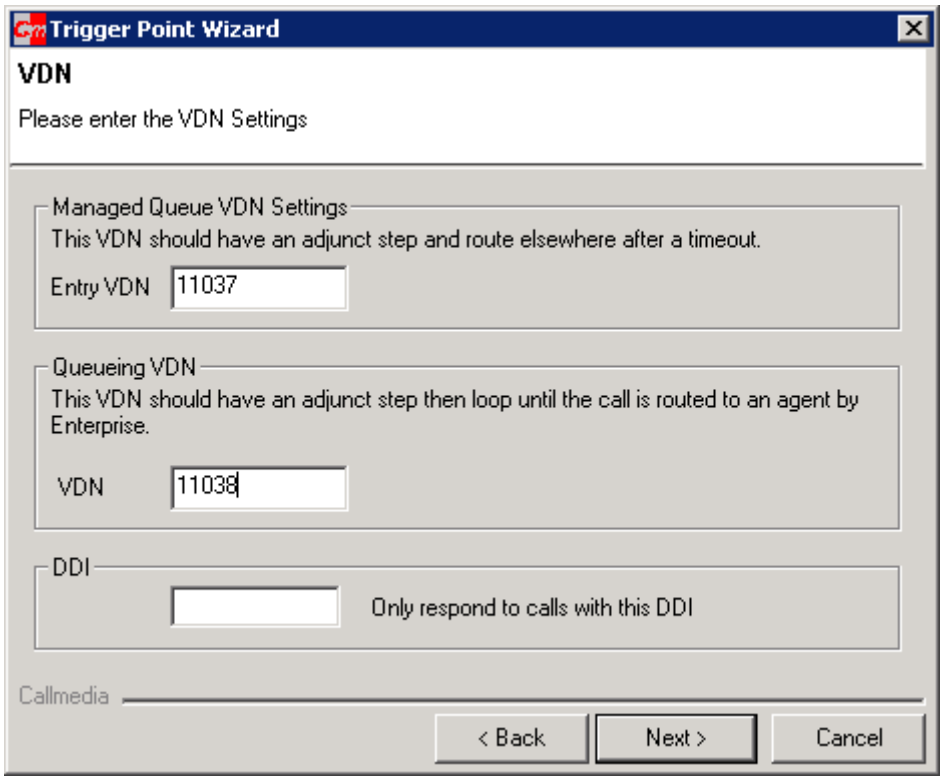

Figure 93: Call*media* Switch Driver Trigger Point VDN Screen

Select extensions which are to be used for various errors which can prevent normal call flow. For each of these error conditions, select the “Overflow” extension show in **Table 1**, and click “Next”.

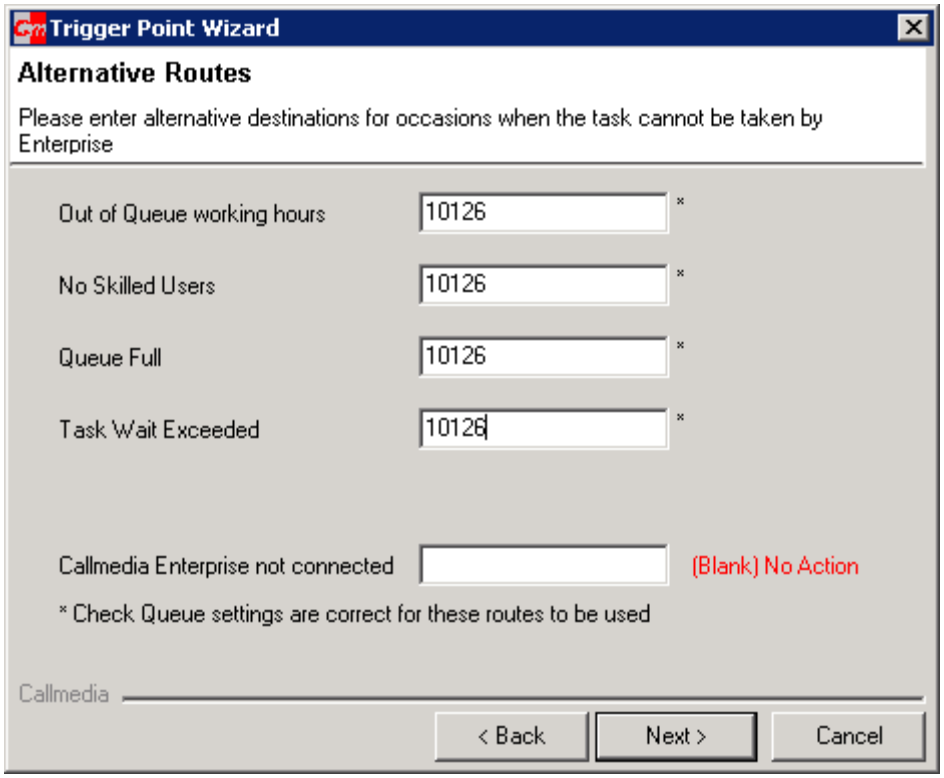

Figure 94: Call*media* Switch Driver Trigger Point Alternate Route Screen

Leave the fields in this form blank and click “Next”.

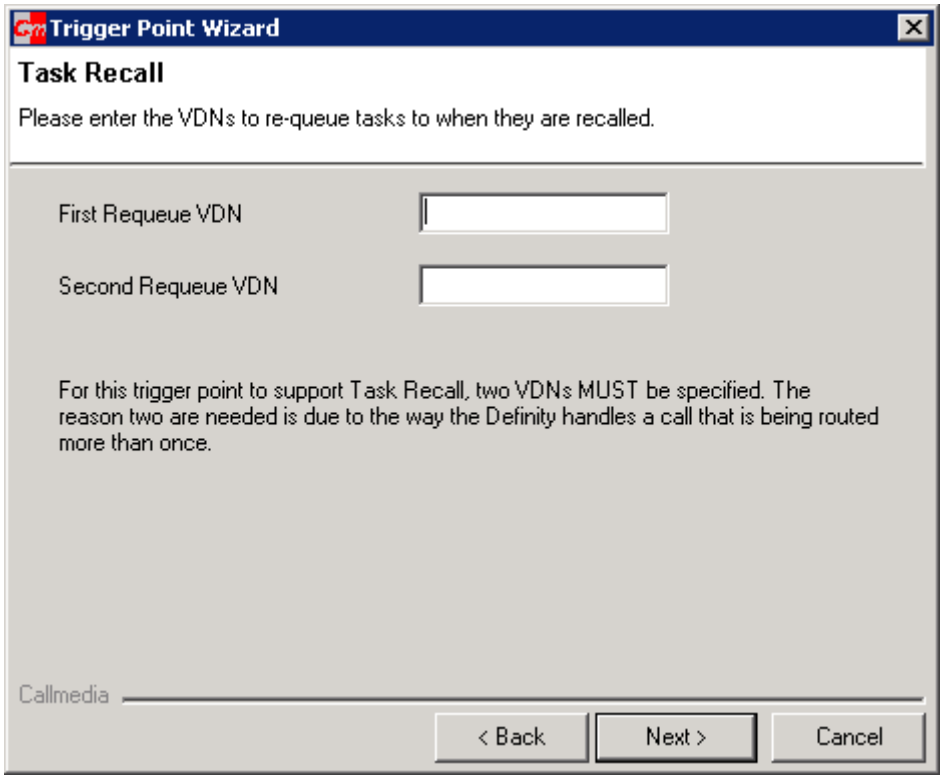

Figure 95: Call*media* Switch Driver Trigger Point Alternate Route Screen

Click “Finish” to complete the configuration of the Trigger Point.

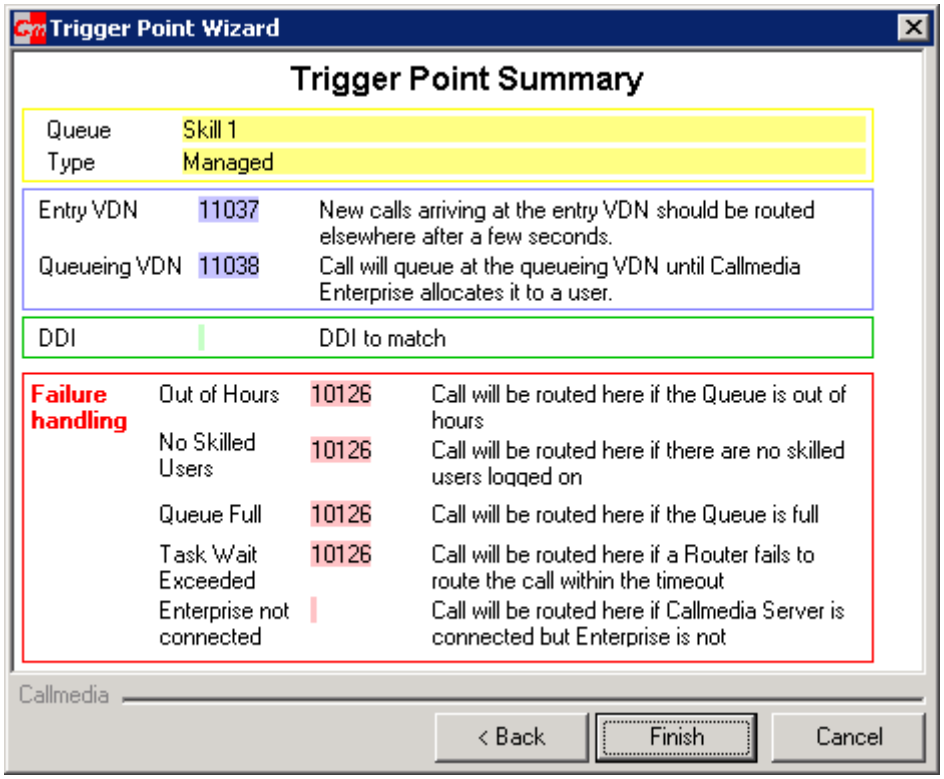

Figure 96: Call*media* Switch Driver Trigger Point Summary Screen

Click “Status” and verify that the Enterprise entry is now green. Click “Trigger Points”.

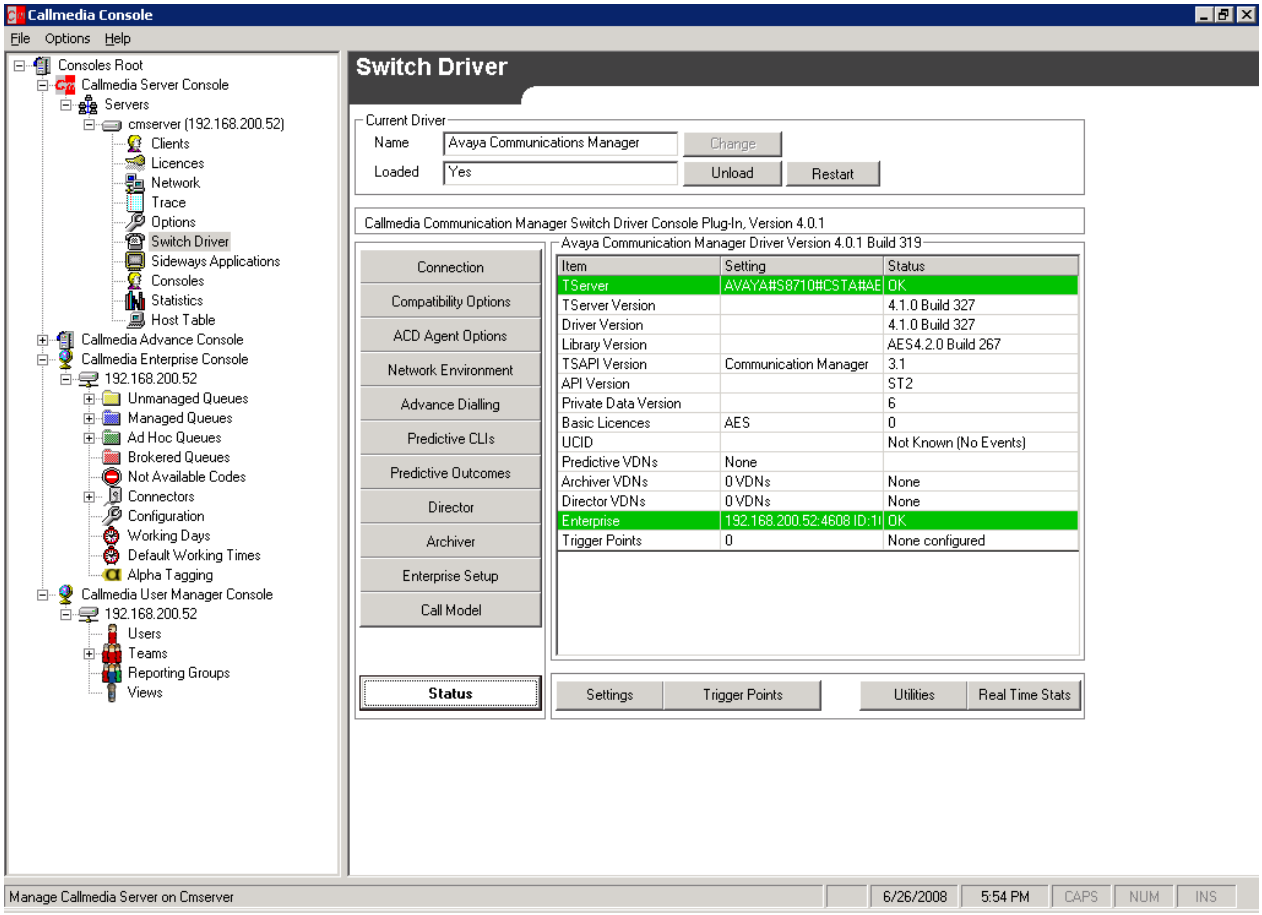

Figure 97: Call*media* Switch Driver Enterprise Activated Screen

Verify that the “Trigger Points” which were configured in **Figure 90** through **Figure 96** are now “ACTIVE”.

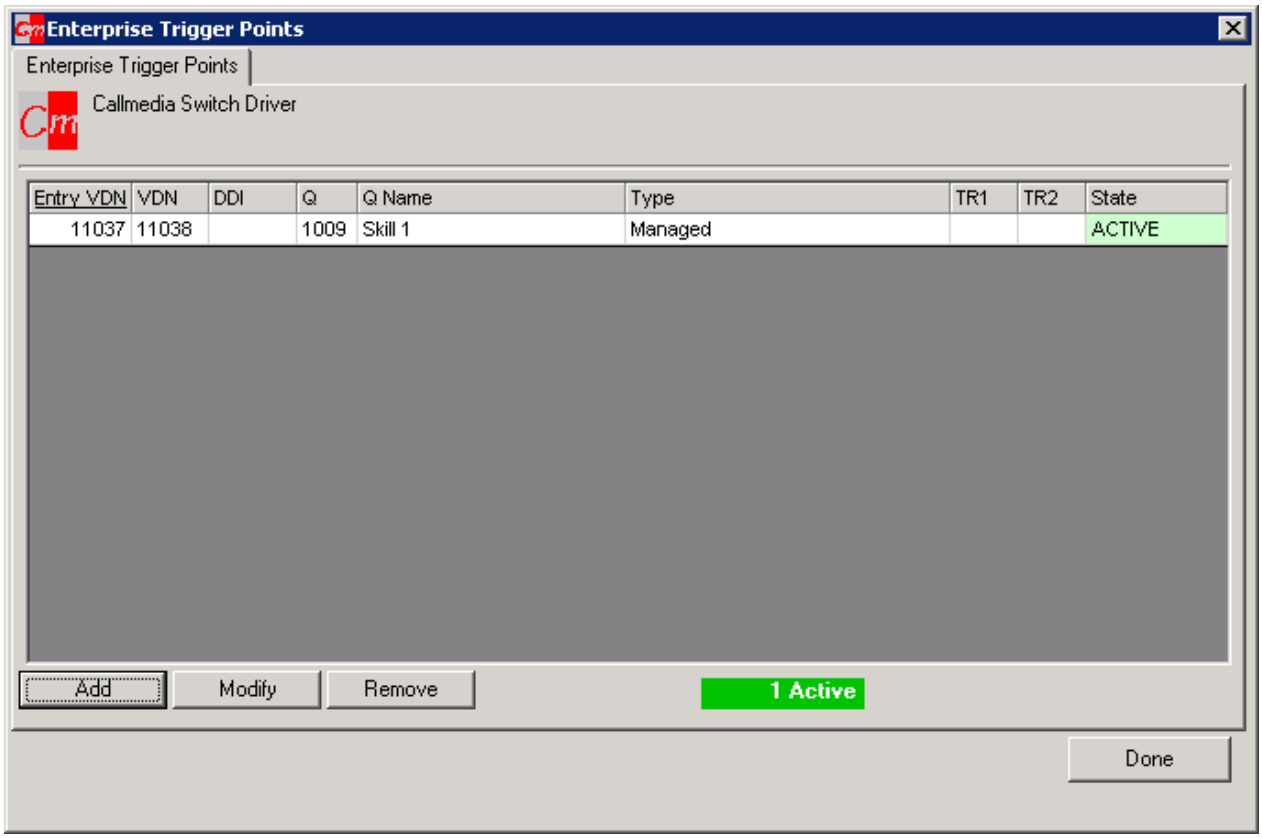

Figure 98: Call*media* Switch Driver Enterprise Trigger Points Activated Screen

3.3.7.4 Start Call*media* Log Viewer

Start the Call*media* Log Viewer from the Windows "Start" icon. This program is located at "C:\Program Files\Callmedia\CMLog\CMLogView.exe".

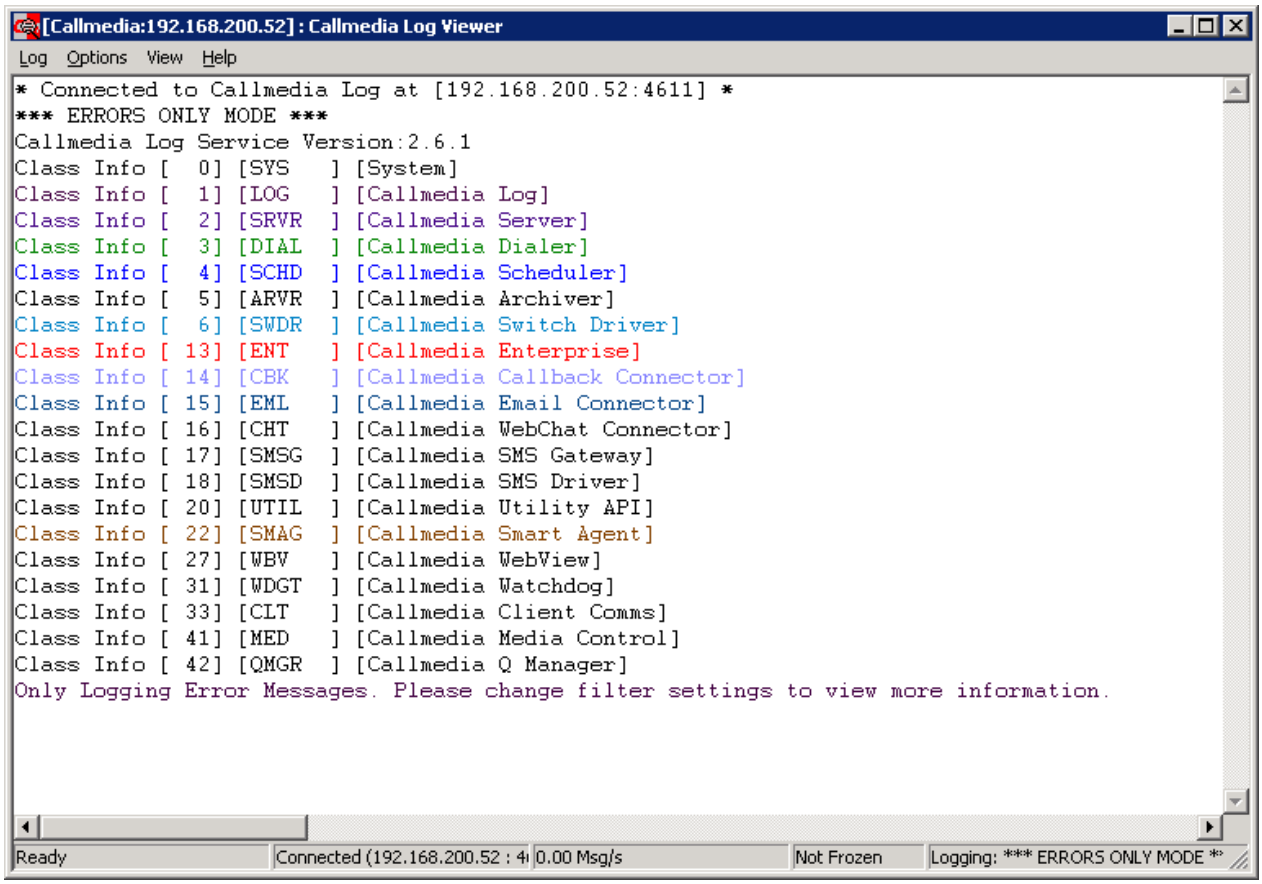

Figure 99: Call*media* Log Viewer Screen

3.3.7.5 Configure Call*media* Advance

Use Call*media* Advance for making the outgoing calls for a campaign. Select the Call*media* Advance Console from the Call*media* Console program.

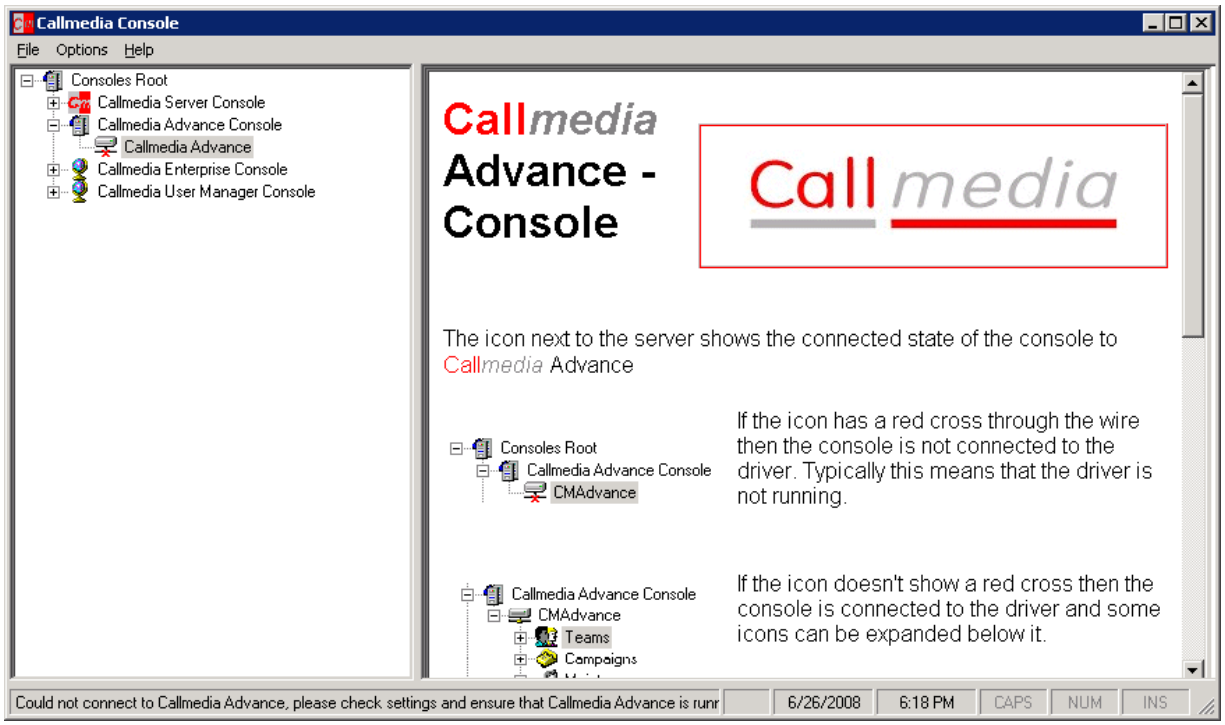

Figure 100: Call*media* Advance Console Prior to Start Screen

If Call*media* Advance is not running, start the "Call*media* Scheduler" from the Windows Services control.

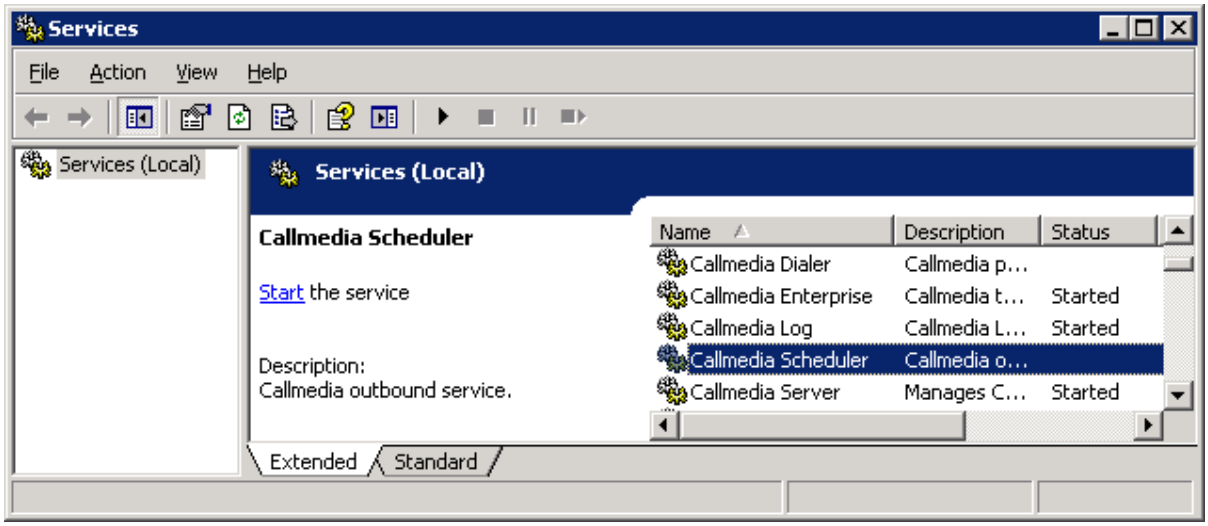

Figure 101: Call*media* Advance Service Initiation Screen

To create a “campaign” to make outbound calls, right-click on “Campaigns” from the “Call*media* Advance” menu item, and click “New”.

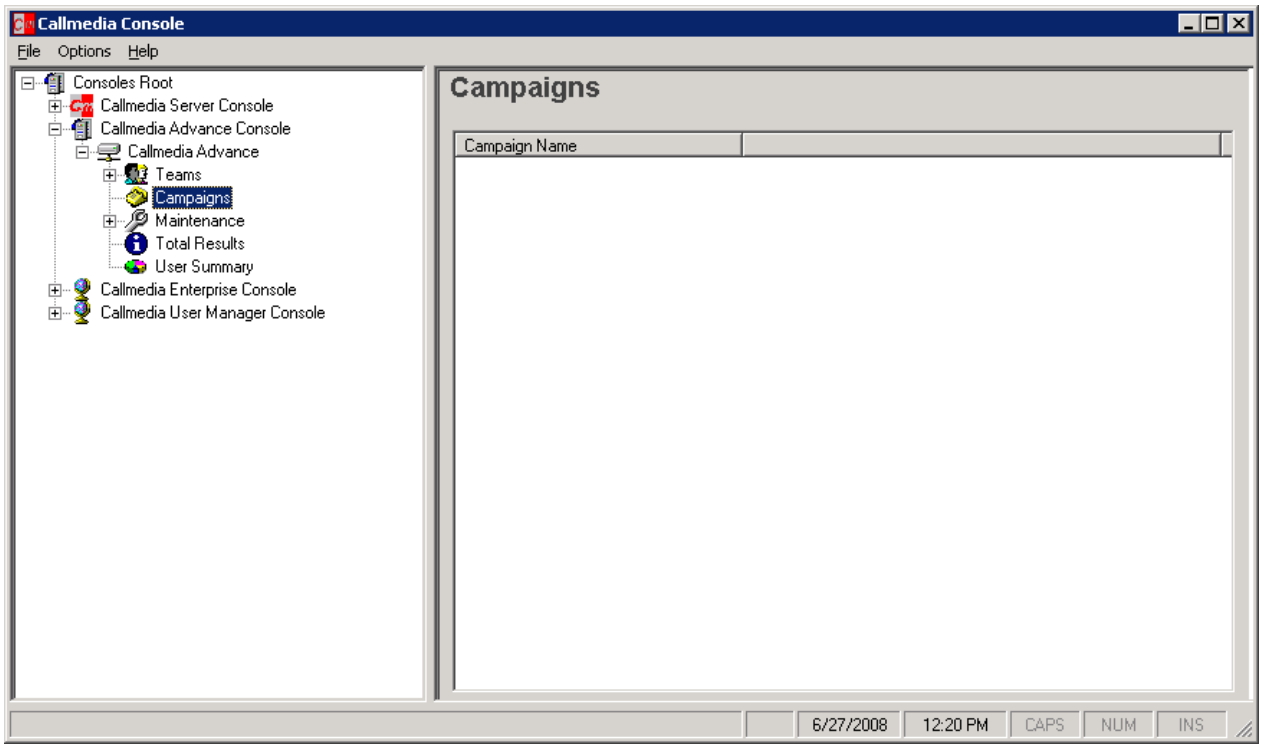

Figure 102: Call*media* Advance Campaigns Screen

Configure the Avaya Communication Manager Driver settings by entering the parameters shown in the following table and click "OK". Accept the default values for those parameters which are not included in the table.

Parameter	Usage
Campaign Name	Select an appropriate name for the campaign.
Start Date (and time)	Enter the starting date and time for the campaign.
End Date (and time)	Enter the ending date and time for the campaign.

Table 24: Call*media* Advance Campaign Details Parameters

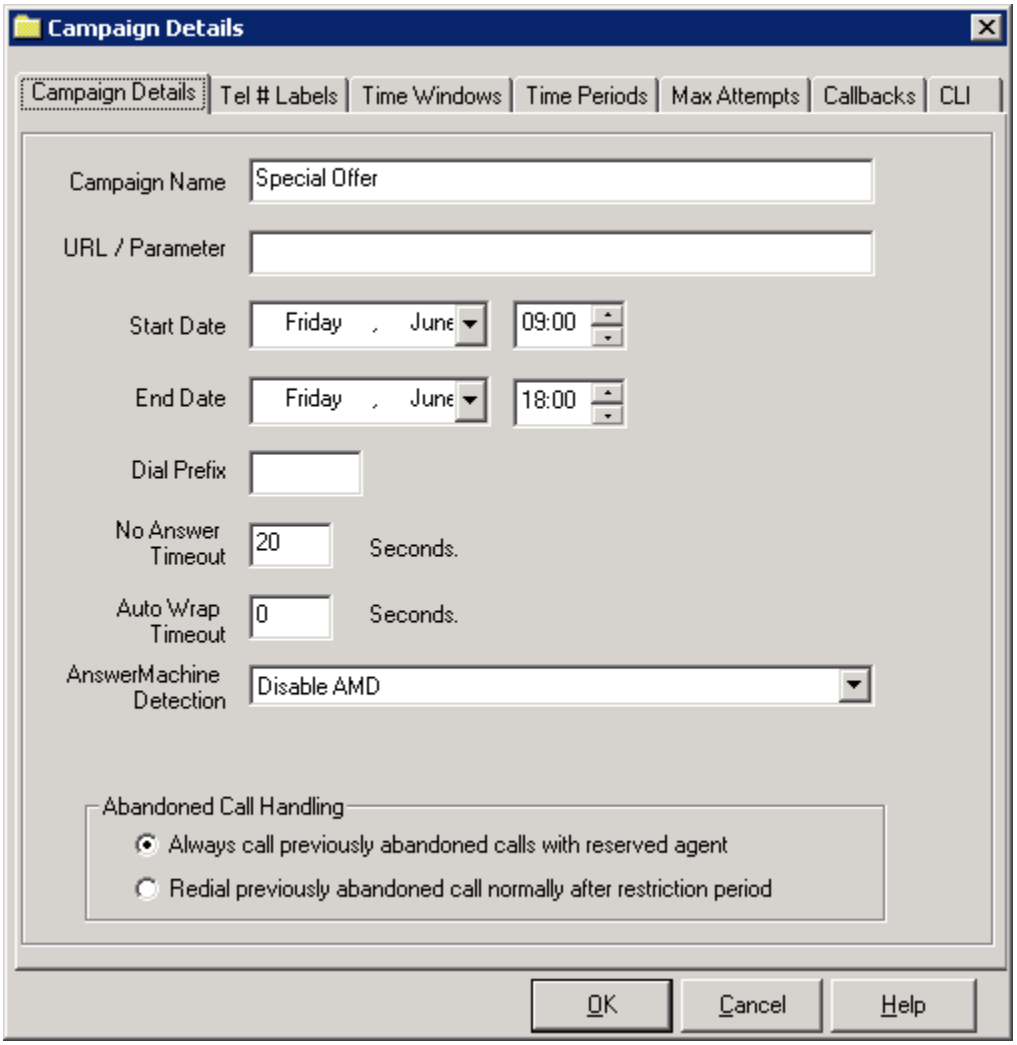

Figure 103: Call*media* Advance Campaign Details Screen

From the “Time Periods” tab, check those times for which campaign calls are to be made.

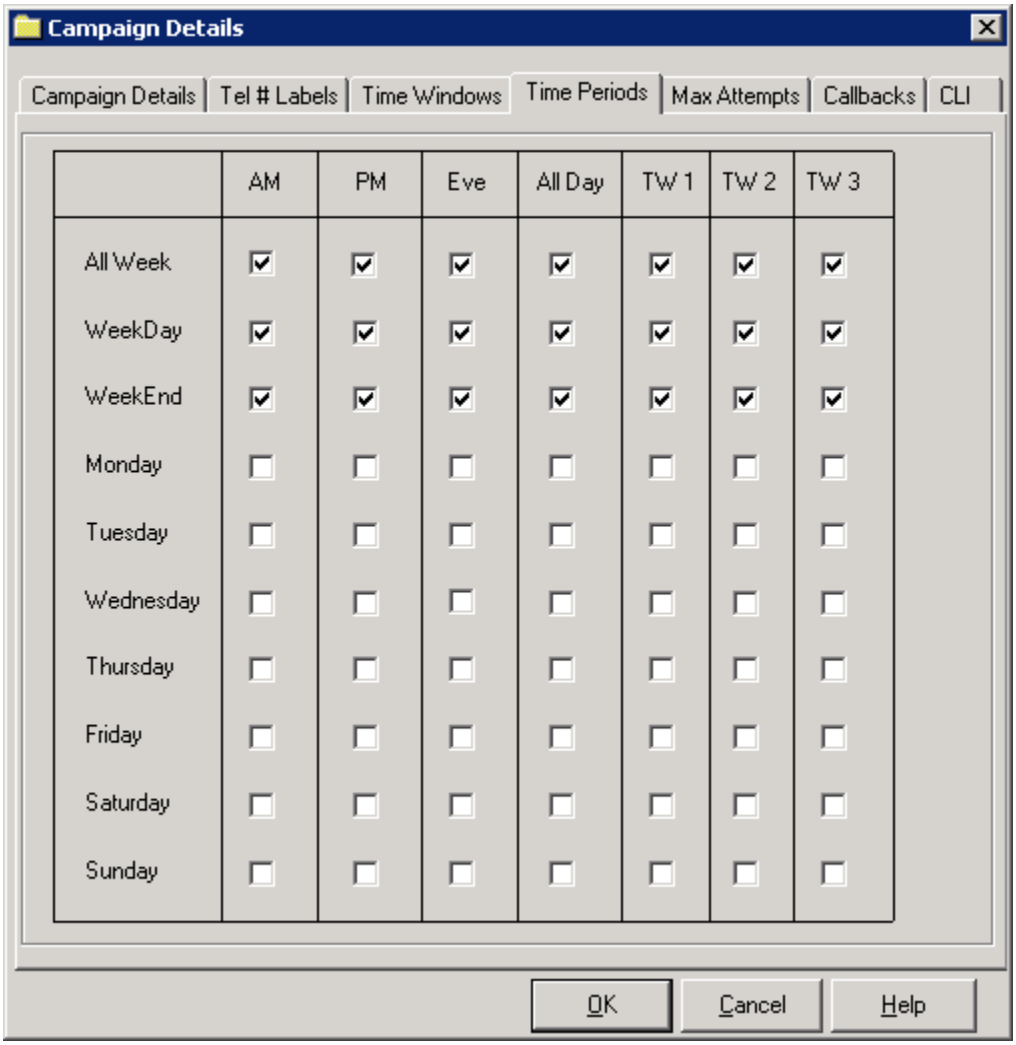

Figure 104: Call*media* Advance Campaign Time Periods Screen

From the "Call*media* Advance" menu item, right-click on "Recycling Plans" of the now visible campaign which was allocated in **Figure 102**, and click "New".

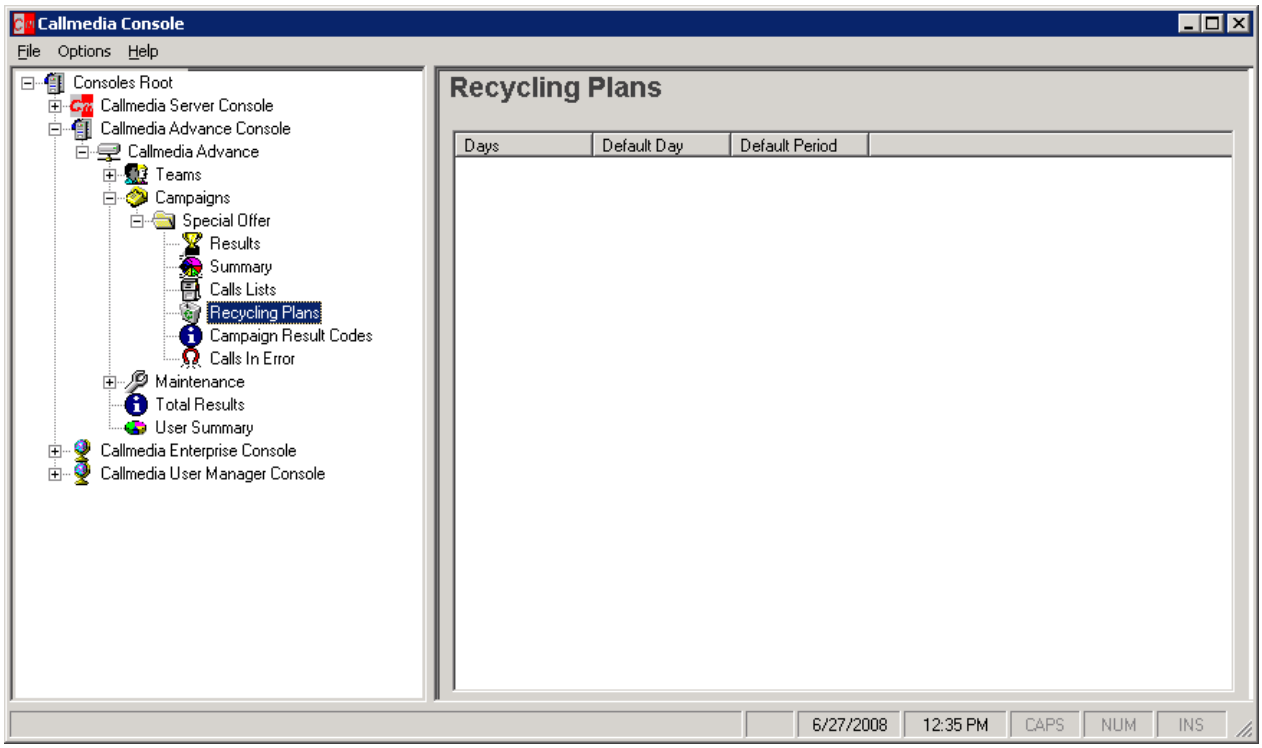

Figure 105: Call*media* Advance Campaign Recycling Plans Screen

Configure the Recycling Plan using the values shown in the following table.

Parameter	Usage
Activate Rule for Calls up to	Enter the number of days that calls are to be recycled. Select "5" days.
Default Rule Days	Enter the days for which calls are to be recycled. Select "All Week" from the drop-down menu.
Default Rule Period	Enter the time of day for which calls are to be recycled. Select "All Day" from the drop-down menu.

Table 25: Call*media* Advance Recycling Plan Configuration Parameters

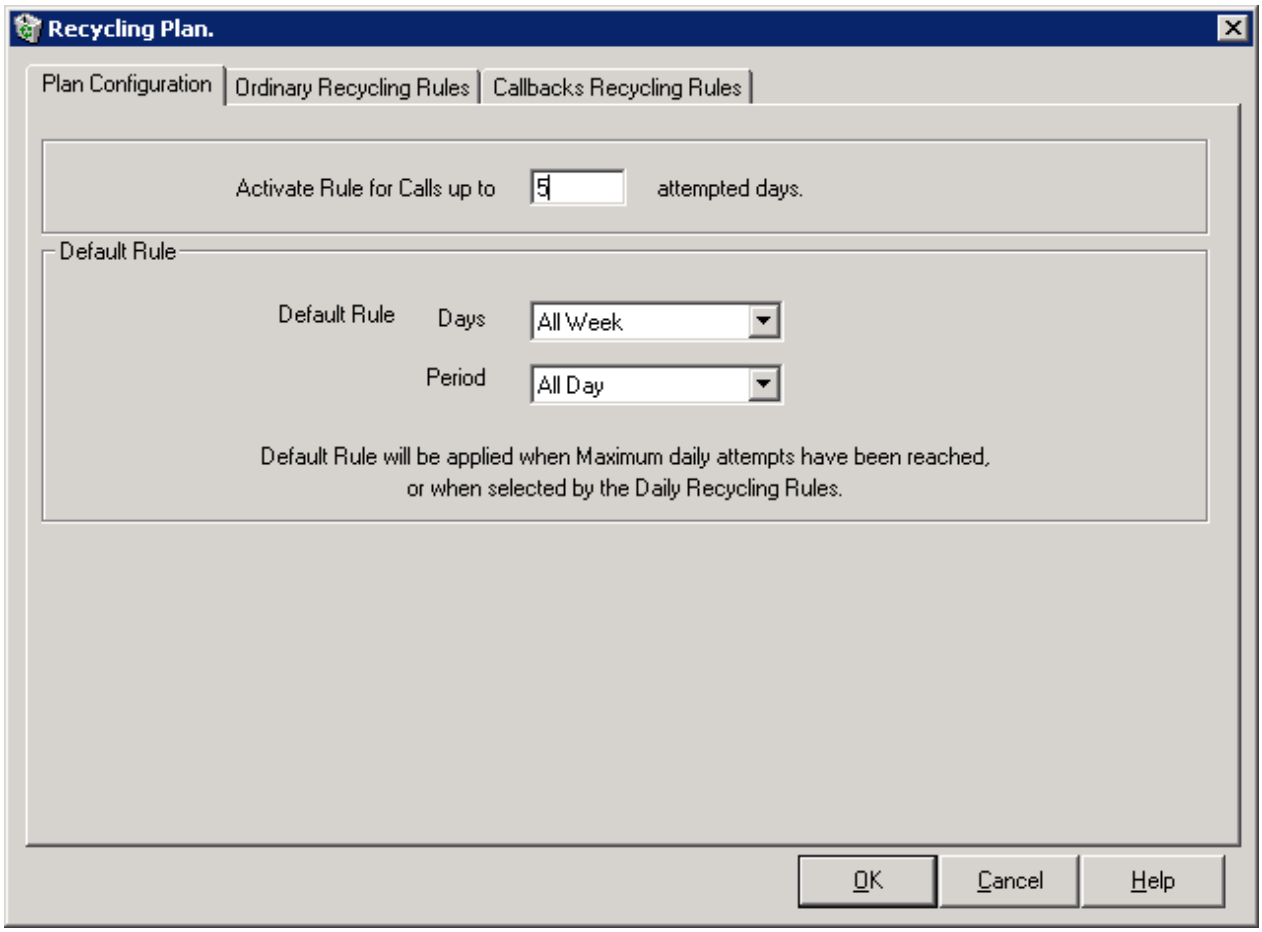

Figure 106: Call*media* Advance Campaign Recycling Plan Configuration Screen

Use a database tool to create a database which contains the list of numbers to be called by the campaign. The steps required to create this list are outside the scope of this document. Right-click "New" on the "Call Lists" icon.

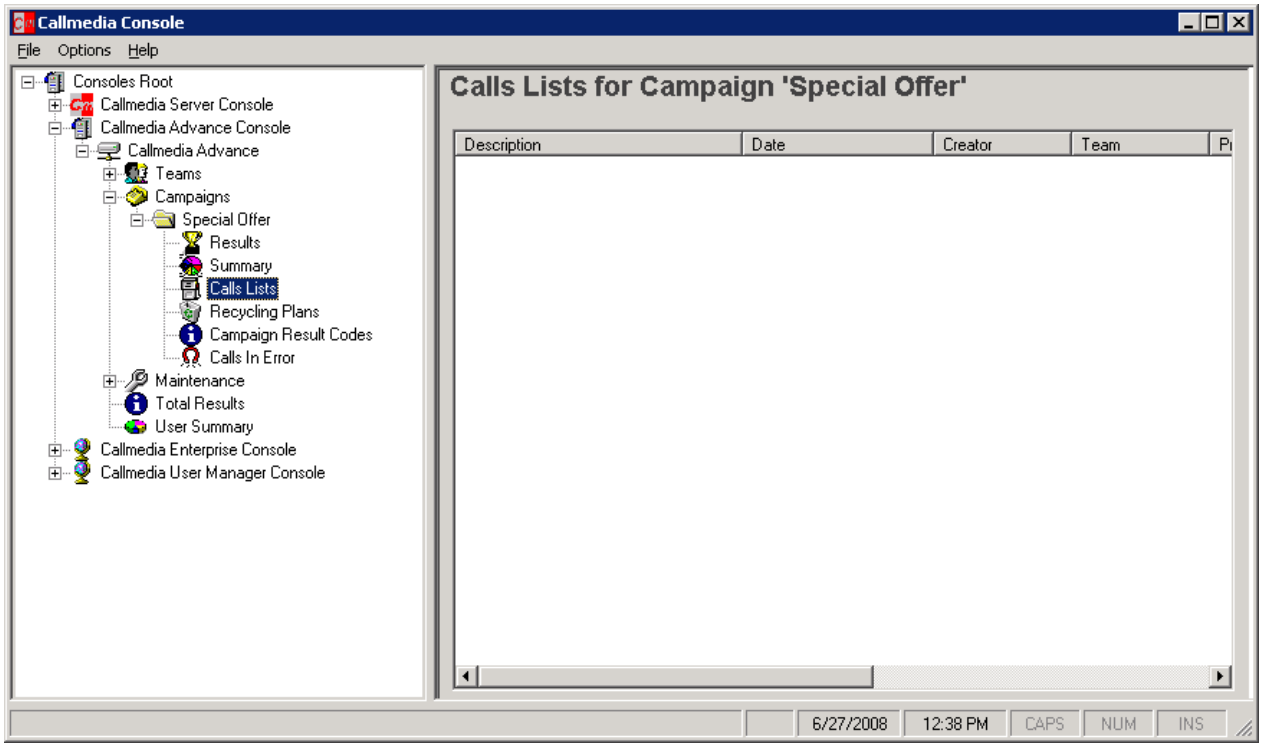

Figure 107: Call*media* Advance Campaign Call Lists Screen

Configure the Recycling Plan using the values shown in the following table and click “Next”.

Parameter	Usage
Imported By	Accept the default name which is supplied.
List Name	Enter an appropriate name for the call list.
Priority	Enter a priority for the call list with a value between 1 and 10, where 10 is the high priority.

Table 26: Call*media* Advance Recycling Plan Configuration Parameters

Figure 108: Call*media* Advance New Call List Screen

Select the team which is to conduct the campaign. Note that only one team was allocated in **Figure 76.**

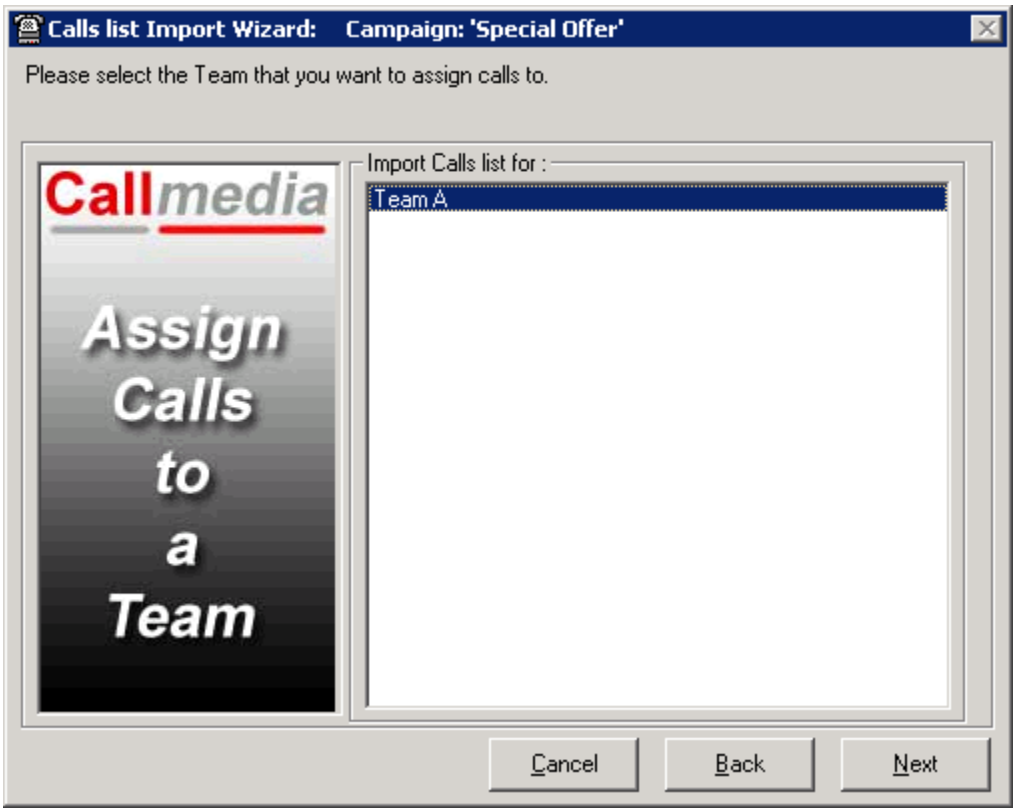

Figure 109: Call*media* Advance Call List Team Selection Screen

Select the call list to be used from the database which is used and click “Next”.

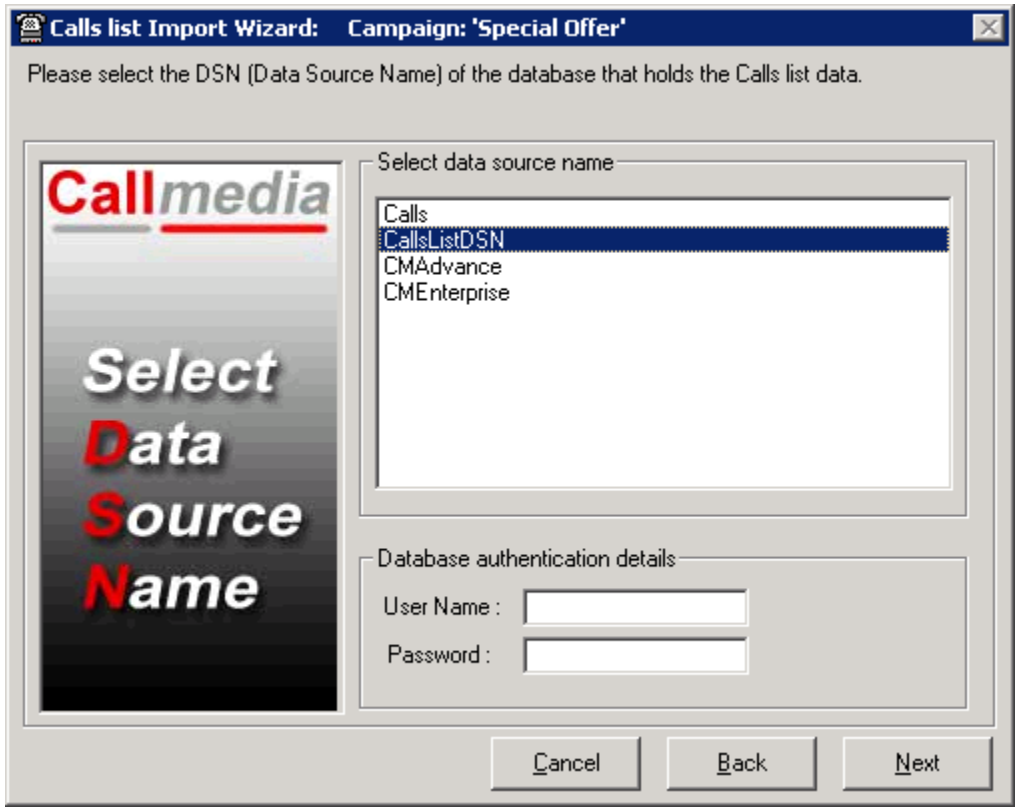

Figure 110: Call*media* Advance Call List Team Selection Screen

Select the database table which holds the numbers to be called and click “Next”.

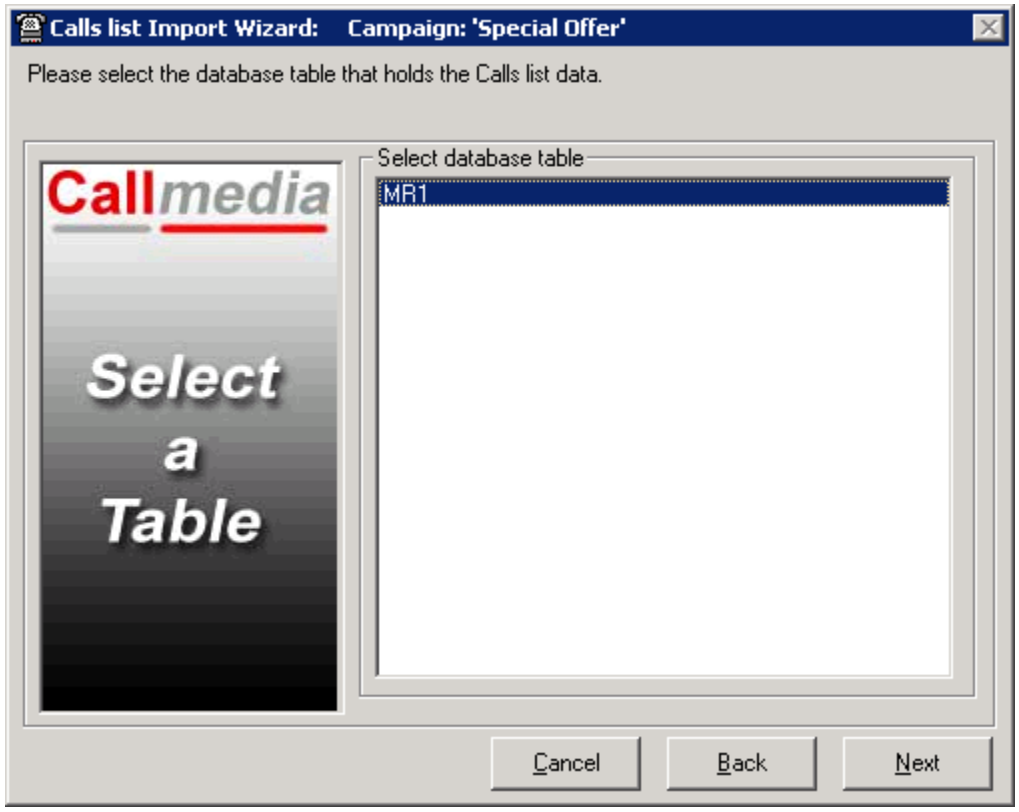

Figure 111: Call*media* Advance Call List Table Selection Screen

Select the unique identifier and the number columns and un-check the “Syntax Check TelNos. and “Check Leading Zeros” fields. Click “Next” to proceed.

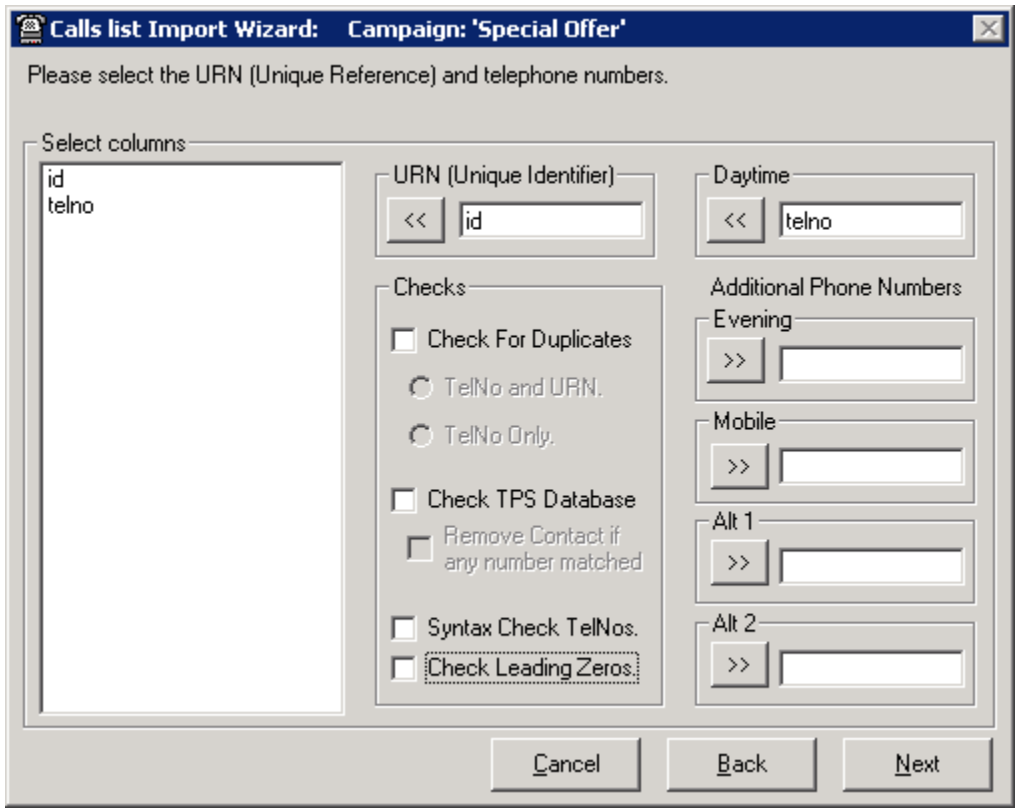

Figure 112: Call*media* Advance Call List Number Selection Screen

Click “Next”, as no greeting is used.

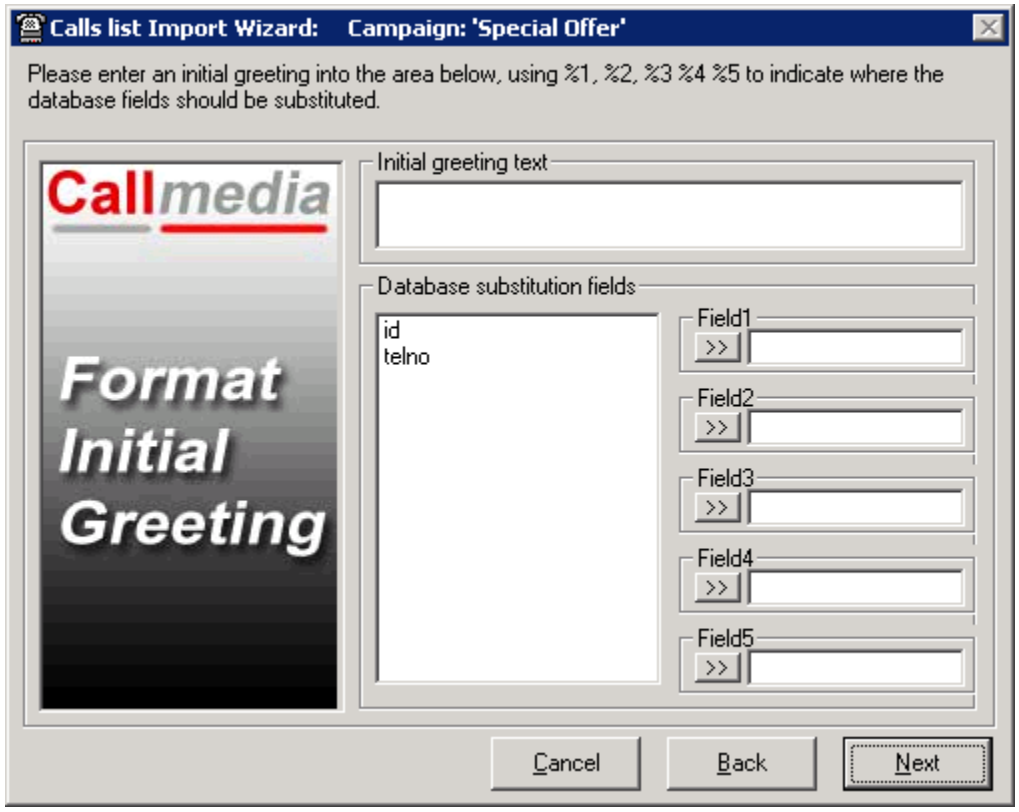

Figure 113: Call*media* Advance Call List Greeting Selection Screen

Click “Finish”.

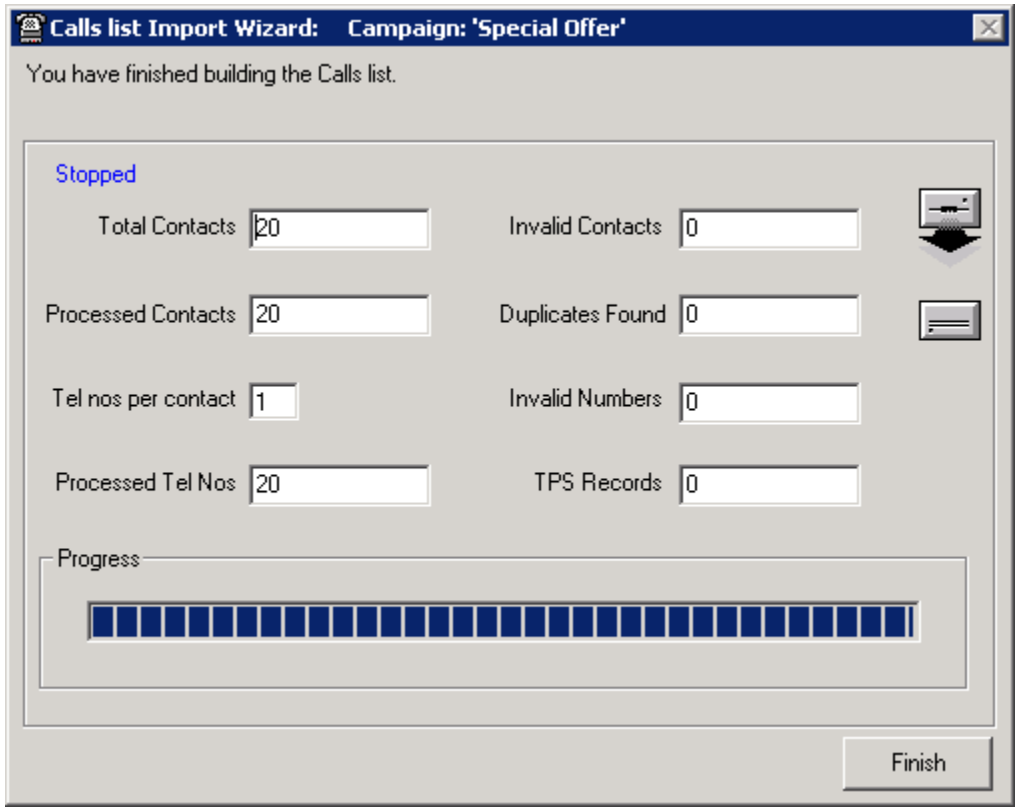

Figure 114: Call*media* Advance Call List Conclusion Screen

The call list is now displayed.

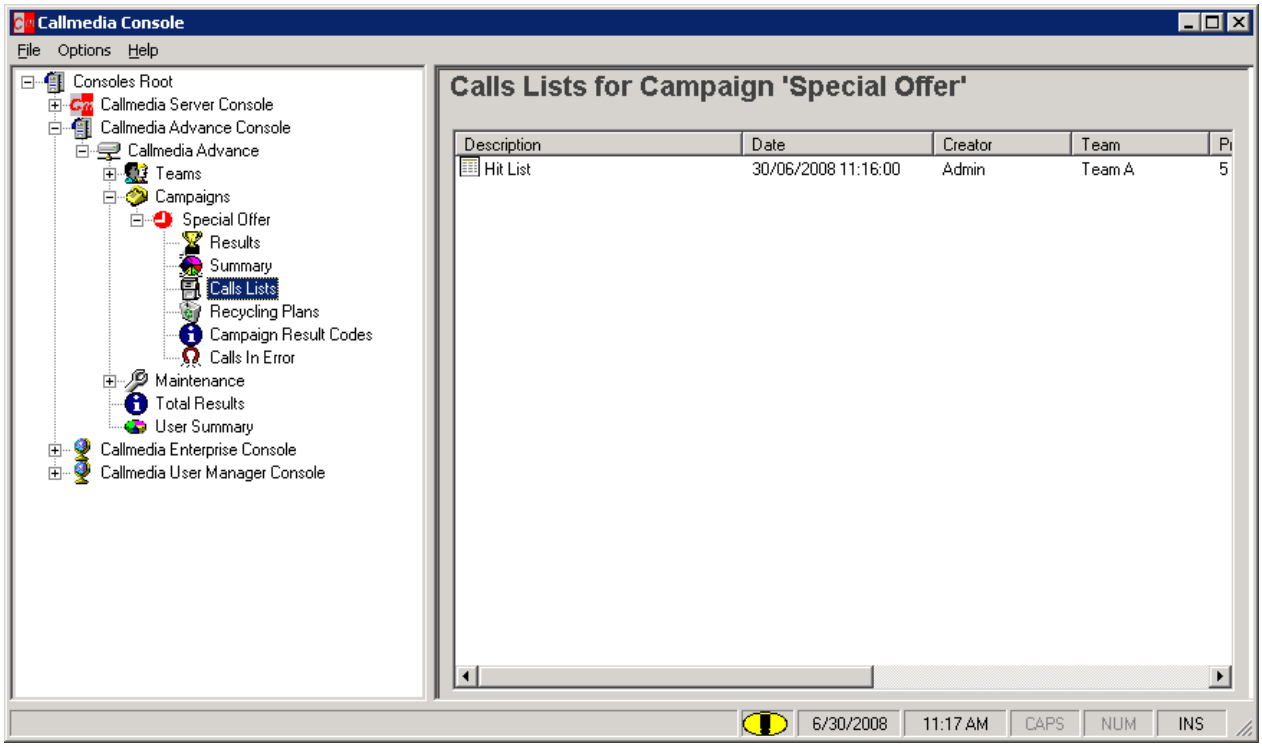

Figure 115: Call*media* Advance Call List Summary Screen

Right click on the team which was allocated in **Figure 76.**

Figure 116: Call*media* User Manager Team Members Screen

Enable outgoing calls for the team which is to conduct the campaign.

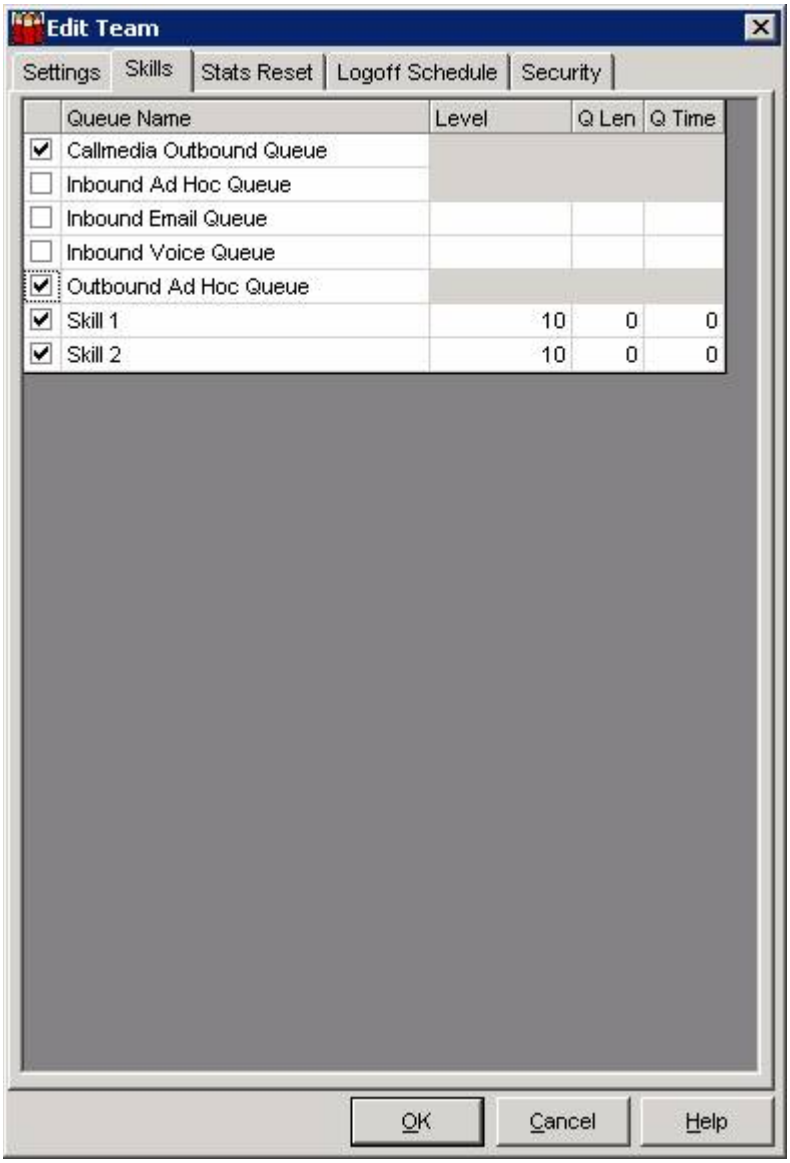

Figure 117: Call*media* User Manager Team Skills For Campaign Screen

3.4. Install Call*media* Client

Install the Call*media* Client on each desktop PC which is to be used by agents. It is also useful to install the Call*media* Client on the server, so that the Call*media* Console can be used for system configuration.

Run the "MenuBox.exe" application from the "\MenuBox" directory of the Call*media* software distribution medium. Click "INSTALL CLIENT SOFTWARE".

Figure 118: Call*media* Client Install Screen

Click “Next”.

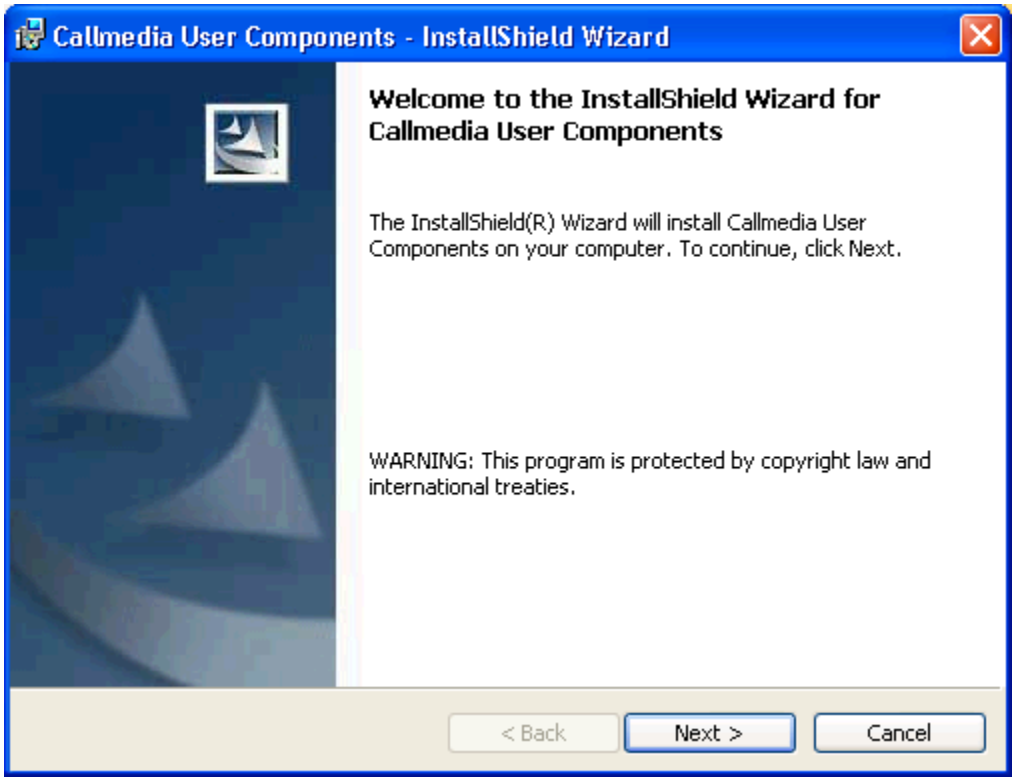

Figure 119: Call*media* Client Install Welcome Screen

Click “Next”.

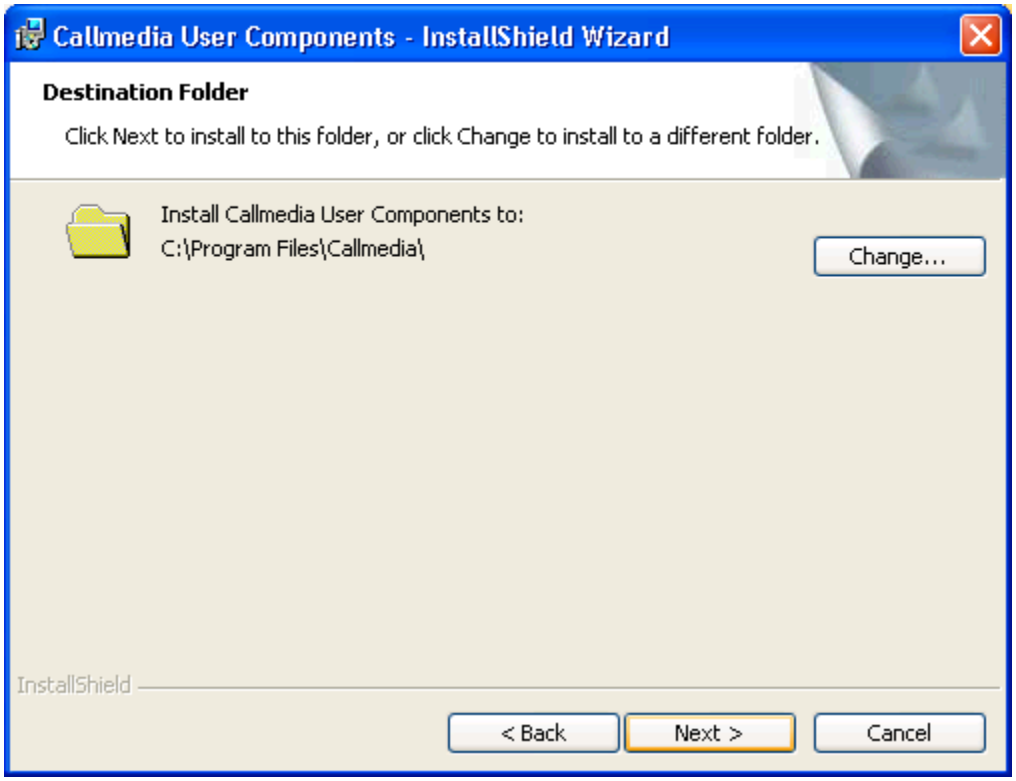

Figure 120: Call*media* Client Install Welcome Screen

Select “Call*media* Enterprise or Blended Contact Center” and click “Next”.

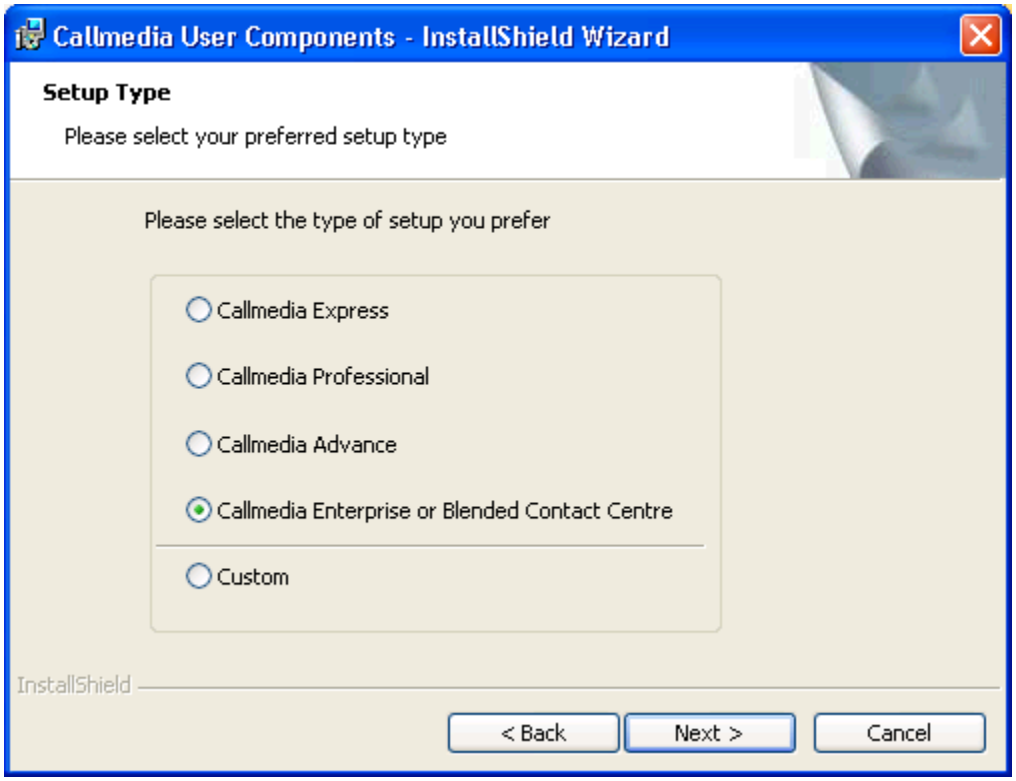

Figure 121: Call*media* Client Install Welcome Screen

Configure the client using the values shown in the following table and click “Next”.

Parameter	Usage
Hot Desking	Check this box to allow the agent to interactively an extension number when logging on.
Socket Number	Accept the default number which is offered.
Specify IP Address	Check this box.
IP Address	Enter the IP address of the Call*media* server.

Table 27: Call*media* Client Install Configuration Parameters

Figure 122: Call*media* Client Install Configuration Screen

Click “Next”.

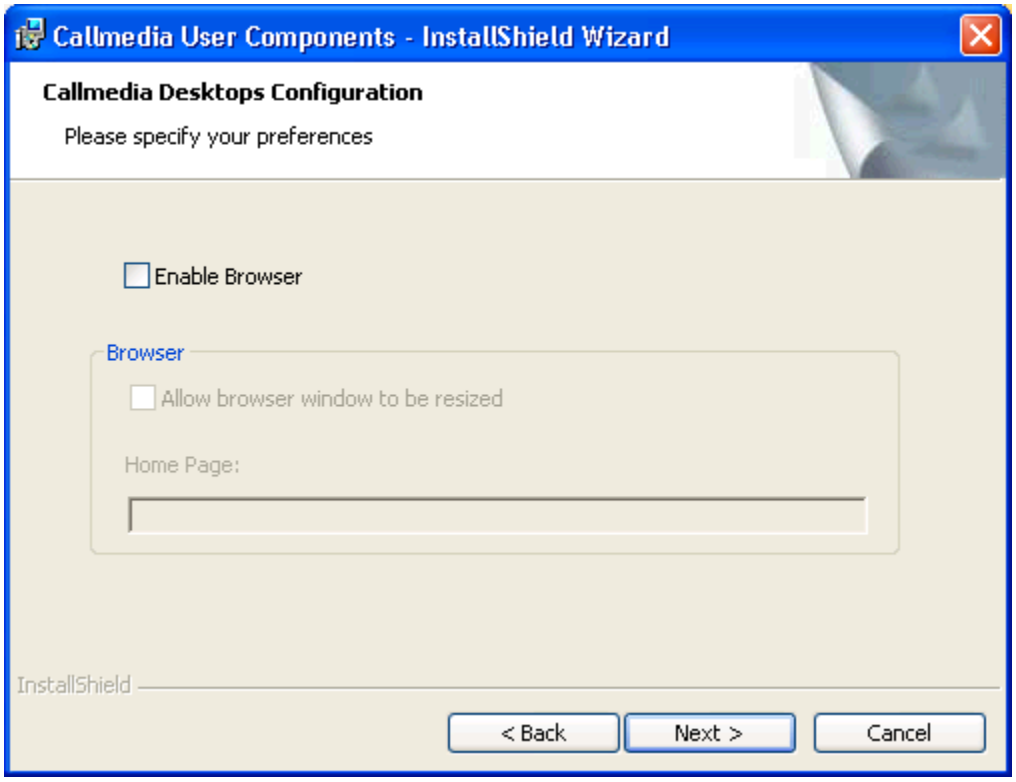

Figure 123: Call*media* Client Desktop Configuration Screen

Click “Install”.

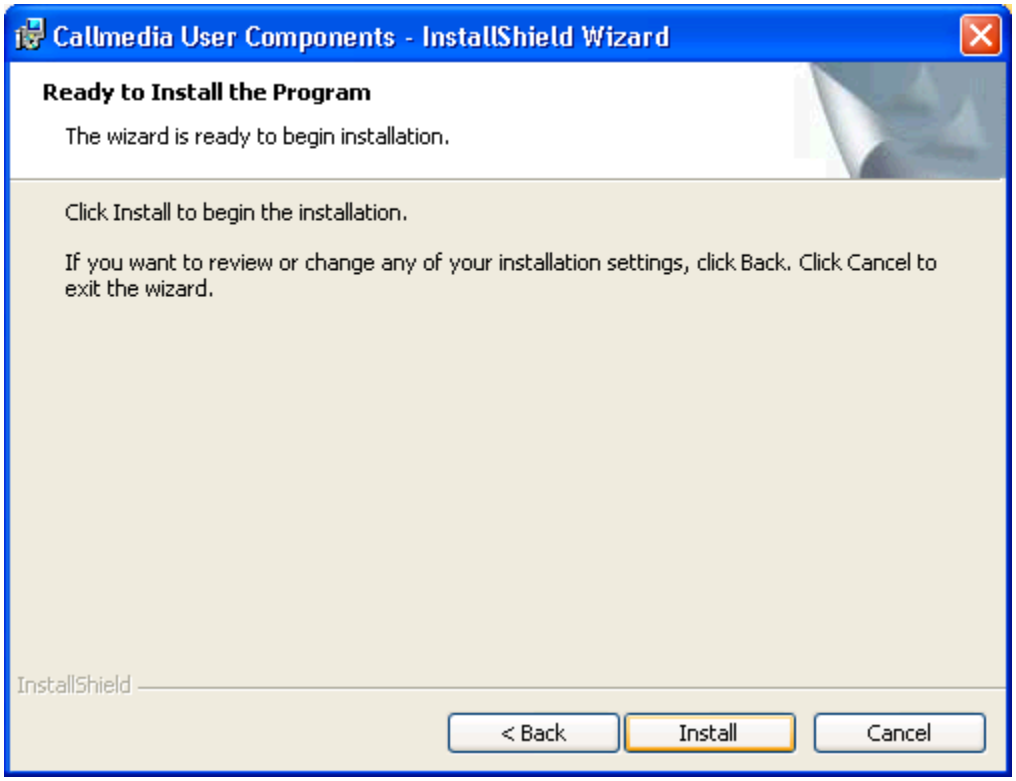

Figure 124: Call*media* Client Install Initiation Screen

Click “Finish”.

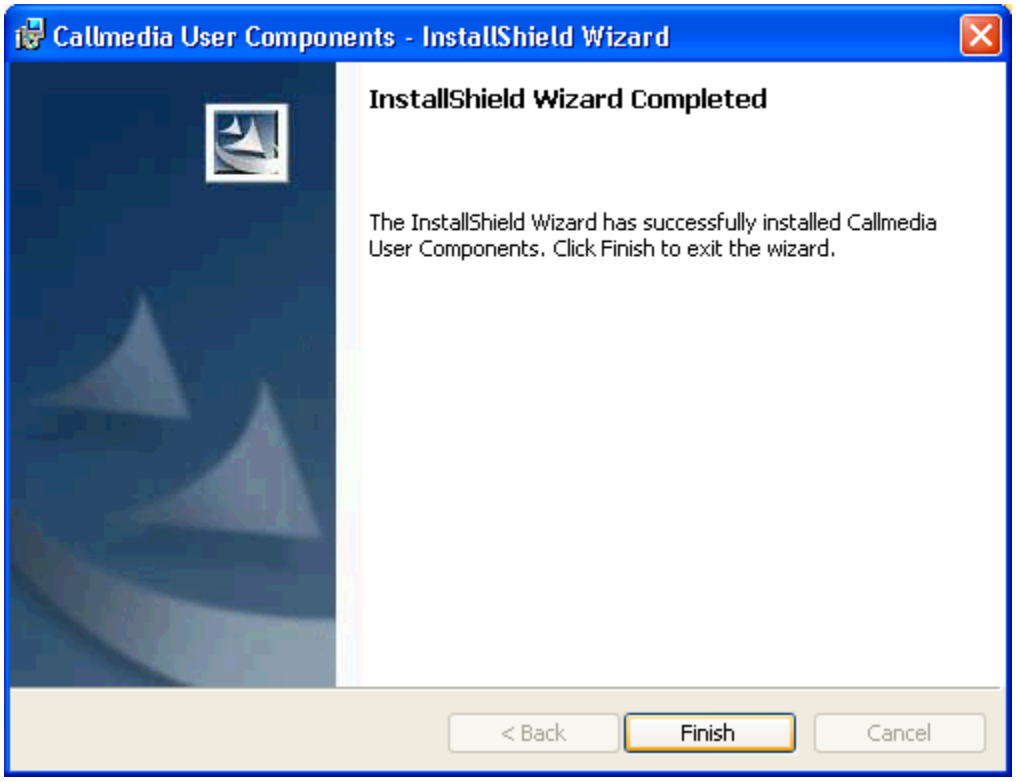

Figure 125: Call*media* Client Install Completion Screen

4. Interoperability Compliance Testing

4.1. General Test Approach

All tests performed were of a functional nature. No performance or load testing was performed. The following tests were performed during compliance testing:

- Verify agent login/logout using the Call*media* Desktop control, which is illustrated below.
- Verify agent status changes correctly changes to agent's ability to receive incoming calls.
- Verify that onhook/offhook workstation status is updated.
- Verify that the agent login password is verified correctly.
- Verify that incoming calls are queued if no agents are logged in.
- Verify that incoming calls are queued if no agents are available.
- Verify that incoming calls are delivered only to those agents which have registered with the corresponding skills.
- Verify that the Call*media* Desktop signals incoming calls.
- Verify that calls can be terminated by the handset or the Call*media* Desktop.
- Verify that the agent can perform hold and retrieve operations either via the Call*media* Desktop or the associated handset.
- Verify that the Call*media* Desktop can initiate and terminate After Call Work status.
- Verify that the agent can transfer or blind transfer a call to another agent or other telephone using the agent handset.
- Verify that the agent can initiate a conference to another agent or other telephone using the agent handset.
- Verify the ability for the agent to make external calls via a campaign.
- Verify the ability for the Call*media* to detect that called parties are busy or do not answer and reattempt such calls at a later time.
- Verify the ability of the various Call*media* components to detect and gracefully recover from problems caused by temporary interface interruptions or the temporary unavailable of other components due to power failure.
- Verify that incoming calls are directed to the "overflow" extension shown in **Figure 1** if Call*media* is unable to accept such calls due to temporary errors.

4.2. Test Results

All of the Call*media* components tested functioned correctly. Conference and transfer operations were only initiated via Avaya telephone handsets, as the Call*media* Desktop has limited support for transfer / conference operations. For these operations, the identity of the calling party is not shown by the by the transferred-to Callmedia Desktop, only by the associated agent telephone.

5. Verification Steps

The correct operation of the various system components can be verified via the following steps:

- Use the CM "status trunk" command to verify that the PSTN is "in-service".
- Verify that local telephones can call each other.
- Verify that external telephones can call/be called by local telephones.
- Verify that the AES administration tool can be used to make a call between local stations.
- Verify that external telephones can call VDN extensions assigned to Call*media*, and that agents which have registered for with the required skills are signaled.

6. Conclusion

These Application Notes contain instructions for configuring Avaya Communication Manager, Avaya Application Enablement Services, Call*media* Server, and Call*media* Client to serve as a contact center solution. A list of instructions is provided to enable the user to verify that the various components have been correctly configured.

7. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com.

[1] *Administrator Guide for Avaya Communication Manager*, January 2008, Issue 4.0, Document Number 03-300509.
[2] *Feature Description and Implementation for Avaya Communication Manager*, January 2008, Issue 6, Document Number 555-245-205.
[3] *Application Enablement Services Installation and Upgrade Guide for a Bundled Server*, May 2008, Issue 7, Document Number 02-300356
[4] *Application Enablement Services TSAPI, JTAPI, and CVLAN Client and SDK Installation Guide*, May 2008, Document Number 02-300543
[5] *Callmedia Advance System Administrators Guide*, Release 4.3
[6] *Callmedia Advance Installation and Support Guide*
[7] *Callmedia Advance Implementation Guide*
[8] *Callmedia Enterprise System Administrators Guide*, May 2007
[9] *Callmedia Enterprise Installation and Support Guide*, May 2007
[10] *Callmedia Enterprise Implementation Guide*, May 2007
[11] *Switch Driver Guide Avaya Communications Manager*, Version 3.7.4

The Callmedia user documentation is included on the product distribution media.

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 DevConnect Program at devconnect@avaya.com.