AVAYA

Avaya Solution & Interoperability Test Lab

Application Notes for Audentify Record V1.1 with Avaya Communication Manager 2.1 and Avaya Computer Telephony V1.3 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required in order for Audentify Record to successfully interoperate with Avaya Communication Manager 2.1.

Audentify is a Call Recording solution able to capture audio from Communication Manager using a variety of integration mechanisms.

An Avaya S8700 Media Server with an Avaya G600 Media Gateway running Communication Manager 2.1 was used as the hosting PBX. Features and functionality were validated and performance testing was conducted in order to verify operation under light load.

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

1. Introduction

These Application Notes describe the compliance-tested configuration using an Audentify Record Server and Avaya Communication Manager. They address the external call recording capability of Communication Manager.

Audentify uses the TSAPI capability of Avaya Computer Telephony to monitor extensions on a Communication Manager system.

Audentify Record supports active Station-Side service observation over a T1 trunk as well as passive Trunk-Side recording. Both modes were tested with the configuration shown below.
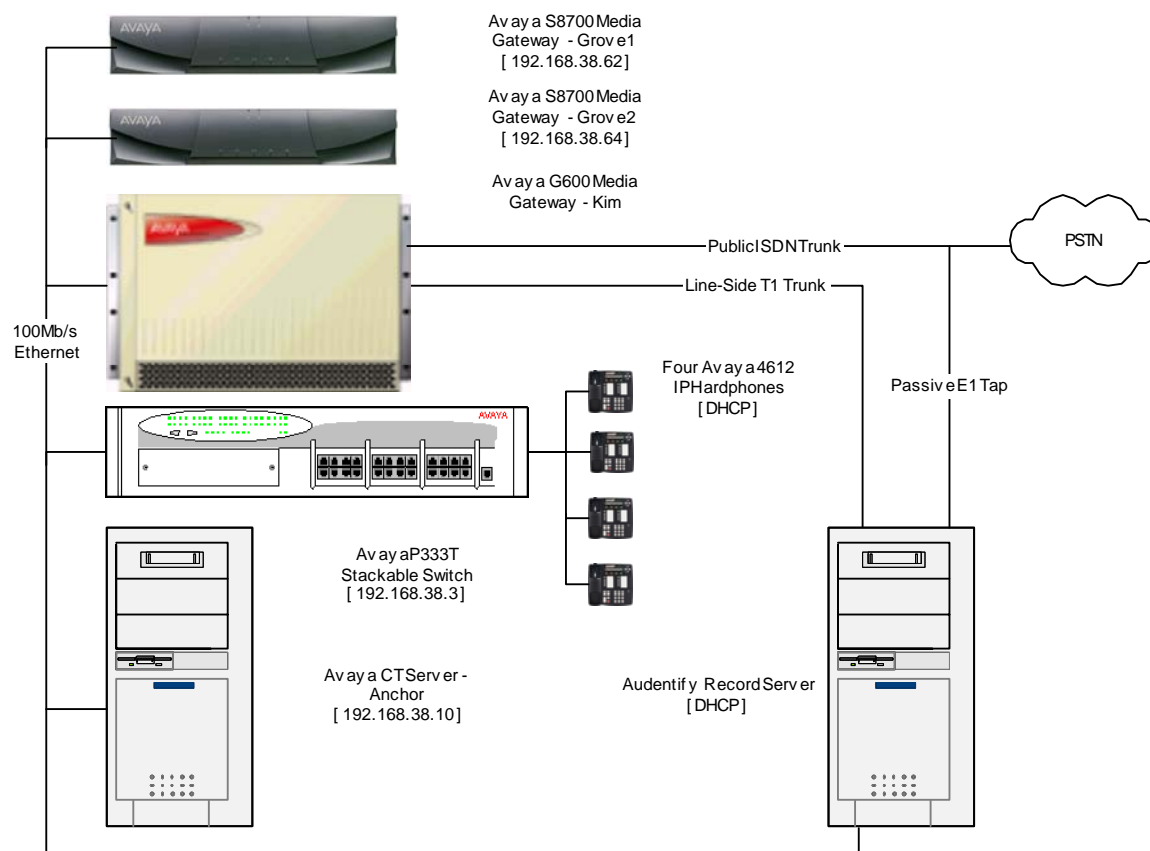

Figure 1: Tested Avaya Communication Manager System with Audentify Record Server

2. Equipment and Software Validated

Equipment	Software
Avaya S8700 Media Server	CM2.1 load 410.0
Avaya G600 Media Server	N/A
Avaya Computer Telephony Server	V1.3
Avaya P333T Stackable Switch	V4.0.17
Audentify Record Server	R1.1

3. Configure Communication Manager

Different features of Communication Manager need to be configured for the two recording modes to be tested. Please refer to the Administrators Guide for Communication Manager for further details – Avaya Document number 555-233-506 [1]. The specific options are detailed below.

3.1. Passive Trunk-Side Recording

By definition, no specific configuration is required within Communication Manager, since this is intended to monitor an existing and active trunk. However, for completeness, the definition of the passively tapped trunk is included.

There are three main configuration elements for a trunk – DS1 configuration, Signaling Group, and Trunk Group. All three screen shots are shown below:

Display DS1 2a07

```
                Voice System name: Grove - DS1 CIRCUIT PACK


        Location: 02A07                       Name: BT 01483 5474xx
        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: 01010100
                        DCP/Analog Bearer Capability: 3.1kHz

                                 T303 Timer(sec): 4


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

Display Signal 91

```
                    Voice System name: Grove - SIGNALING GROUP

 Group Number: 91            Group Type: isdn-pri
                      Associated Signaling? y        Max number of NCA TSC: 0
                          Primary D-Channel: 02A0716    Max number of CA TSC: 0
                                                      Trunk Group for NCA TSC: 91
          Trunk Group for Channel Selection: 91      X-Mobility/Wireless Type: NONE
              Supplementary Service Protocol: a
```

Display Trunk 91

```
                    Voice System name: Grove - TRUNK GROUP

Group Number: 91                Group Type: isdn        CDR Reports: r
  Group Name: BT 01483 5474xx/5476xx     COR: 1       TN: 1       TAC: 791
    Direction: two-way      Outgoing Display? n      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
TRUNK PARAMETERS
        Codeset to Send Display: 6      Codeset to Send National IEs: 6
        Max Message Size to Send: 260    Charge Advice: none
 Supplementary Service Protocol: a     Digit Handling (in/out): enbloc/overlap


          Trunk Hunt: cyclical
                                        Digital Loss Group: 13
Incoming Calling Number - Delete:     Insert:          Format:
           Bit Rate: 1200       Synchronization: async    Duplex: full
 Disconnect Supervision - In? y  Out? n
 Answer Supervision Timeout: 0
```

```
TRUNK FEATURES
        ACA Assignment? n              Measured: both      Wideband Support? n
                                                            Maintenance Tests? y
                            Data Restriction? n    NCA-TSC Trunk Member: 1
                              Send Name: y      Send Calling Number: y
           Used for DCS? n
  Suppress # Outpulsing? n    Format: public
Outgoing Channel ID Encoding: preferred      UUI IE Treatment: shared
                                        Maximum Size of UUI IE Contents: 128
                                           Replace Restricted Numbers? n
                                           Replace Unavailable Numbers? n
                                                Send Connected Number: y
                                          Modify Tandem Calling Number? n
          Send UUI IE? y
            Send UCID? n           BSR Reply-best DISC Cause Value: 31
 Send Codeset 6/7 LAI IE? y                    Ds1 Echo Cancellation? n

                                        US NI Delayed Calling Name Update? n


                 SBS? n  Network (Japan) Needs Connect Before Disconnect? n
```

```
                     INCOMING CALL HANDLING TREATMENT
Service/        Called     Called       Del   Insert        Per Call  Night
Feature         Len        Number                           CPN/BN    Serv
public-ntwrk     6      547400          6     17001
public-ntwrk     6      547499          6     30004
public-ntwrk     6      547411          6     18011
public-ntwrk     6      547402          6     15002
public-ntwrk     6      547401          6     15001
public-ntwrk     6      547420          6     10020
public-ntwrk     6      547421          6     10018
public-ntwrk     6      547429          6     14970
public-ntwrk     6      547428          6     14971
public-ntwrk     6      547600          6     17062
public-ntwrk     6      547602          6     17002
public-ntwrk     6      547603          6     17003
public-ntwrk     6      547474          6     40008
public-ntwrk     6      547620          6     67001
public-ntwrk     6      547621          6     60001
public-ntwrk     6      547622          6     60002
public-ntwrk     6      547623          6     60003
public-ntwrk     6      547403          6     93312345
```

```
                              TRUNK GROUP
                              Administered Members (min/max):   1/4
GROUP MEMBER ASSIGNMENTS              Total Administered Members:   4

        Port    Code Sfx Name      Night          Sig Grp
 1: 02A0701  TN2464                                   91
 2: 02A0702  TN2464                                   91
 3: 02A0703  TN2464                                   91
 4: 02A0704  TN2464                                   91
```

3.2. Active Line-Side T1 Service Observation

This mode uses a DS1 trunk configured for T1 and a group of 24 extensions configured as off-premises analogue stations. The DS1 configuration and a sample extension (station 13001) are shown below:

Display DS1 2B04

```
                Voice System name: Grove - DS1 CIRCUIT PACK

          Location: 02B04                      Name: Line-Side T1
          Bit Rate: 1.544            Line Coding: ami-basic
   Line Compensation: 1              Framing Mode: d4
      Signaling Mode: robbed-bit



Interface Companding: mulaw
          Idle Code: 11111111

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

Display Station 13001

```
display station 13001                                        Page   1 of   3
                              STATION

Extension: 13001                    Lock Messages? n          BCC: 0
     Type: DS1FD                     Security Code:             TN: 1
     Port: 02B0401                  Coverage Path 1:           COR: 1
     Name: Line-Side T1 Port 01     Coverage Path 2:           COS: 1
                                    Hunt-to Station:         Tests? n


STATION OPTIONS
          Loss Group: 4
   Off Premises Station? y
     R Balance Network? n


FEATURE OPTIONS
        LWC Reception: spe
         LWC Activation? y               Coverage Msg Retrieval? y
 LWC Log External Calls? n                       Auto Answer: none
          CDR Privacy? n                     Data Restriction? n
  Redirect Notification? y              Call Waiting Indication? y
 Per Button Ring Control? n          Att. Call Waiting Indication? y
                                      Distinctive Audible Alert? y
       Switchhook Flash? y               Adjunct Supervision? y
   Ignore Rotary Digits? n
      H.320 Conversion? n      Per Station CPN - Send Calling Number?
     Service Link Mode: as-needed
       Multimedia Mode: basic
 MWI Served User Type:
           AUDIX Name:
 Messaging Server Name:                  Coverage After Forwarding? s
                                         Multimedia Early Answer? n


 Emergency Location Ext: 13001

 SITE DATA
      Room:                                    Headset? n
      Jack:                                    Speaker? n
     Cable:                                   Mounting: d
     Floor:                                Cord Length: 0
  Building:                                  Set Color:




ABBREVIATED DIALING
    List1:                   List2:                    List3:

HOT LINE DESTINATION
      Abbreviated Dialing List Number (From above 1, 2 or 3):
                                             Dial Code:

    Line Appearance: call-appr
```

4. Configure the Avaya P333T Stackable Switch

No special configuration of this device is necessary in this configuration.

5. Configure the Avaya Computer Telephony Server

No special configuration of this server is necessary for integration with the Audentify solution.

Since TSAPI is a Client/Server architecture, the only administration required is at the Client (Audentify Server) end of the link.

Anchor is a general purpose PC running Windows NT 4.0 Server and Avaya Computer Telephony V1.3.

6. Configure the Audentify Server

The Audentify Server required slightly different configuration options for the two recording modes to be tested, and rules need to be configured for any recording to take place.

6.1. CTI Configuration

The CTI configuration to access the Avaya CT server is consistent for all modes – mainly containing the credentials for accessing the TSAPI link as well as listing the devices to be monitored. The latter are the DeviceID's. The contents of the "AvayaConnector.cfg" file are shown below:

```
[Default]
StartTime=now
RepeatSecs=10
Cycles=-1

[AvayaConnector]
ServerID=AVAYA#GROVE#CSTA#ANCHOR
LoginID=tsuser
Password=tsuser
LoggerHost=localhost
LoggerPort=43666
DeviceIDs=10018,10016,10014,16001
ChannelMappings=ChannelMapping.cfg
```

6.2. Agent Configuration

Please note that this refers to an agent as far as Audentify is concerned – it relates to an Avaya Call Centre agent by virtue of the User PBXID. This mechanism is also used by Audentify to group related agents. A sample screen shot showing Agent ID 15001 is shown below:
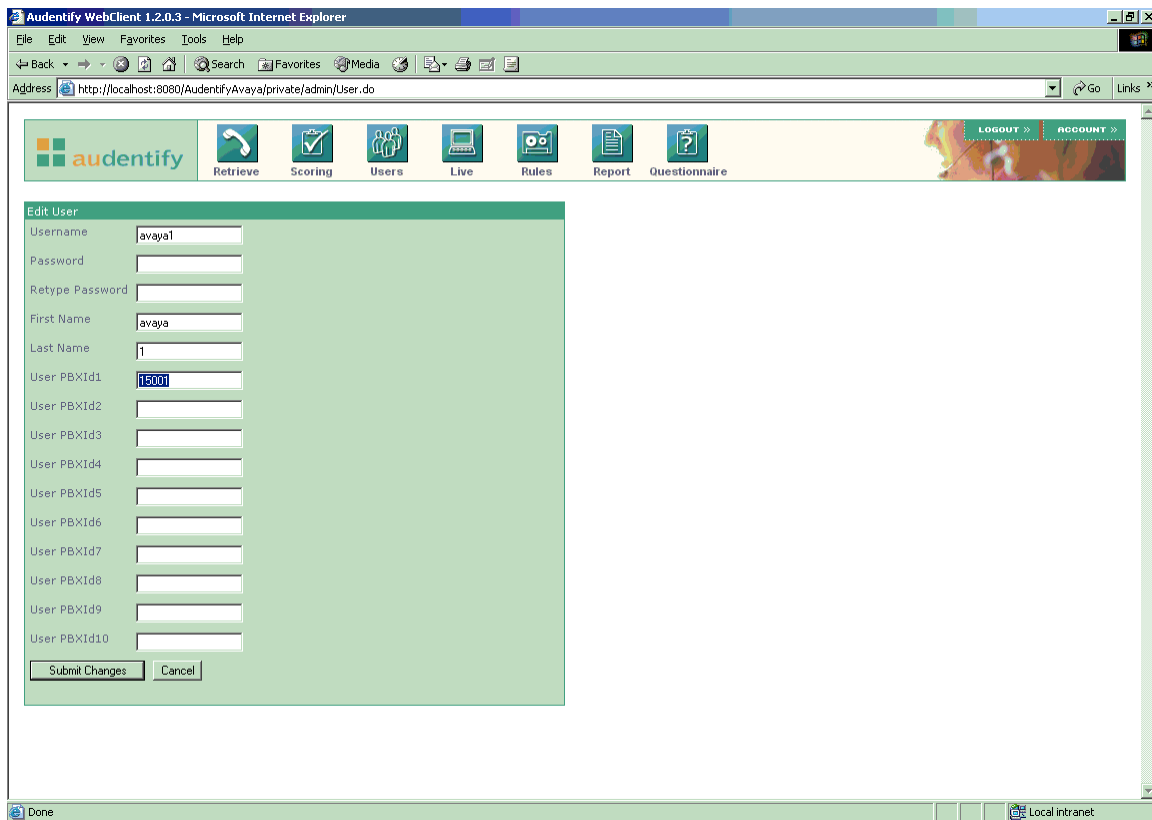
Figure 2: Audentify Agent Configuration

6.3. Rule Configuration

Rules allow the recording algorithm to be defined within Audentify. For testing, very simple rules were defined for recording 100% of calls for agent1 (x15001) and agent2 (x15002) regardless of duration or direction. However, the logic behind recording rules can be far more complex. A screen shot showing the rules used for testing is shown below:
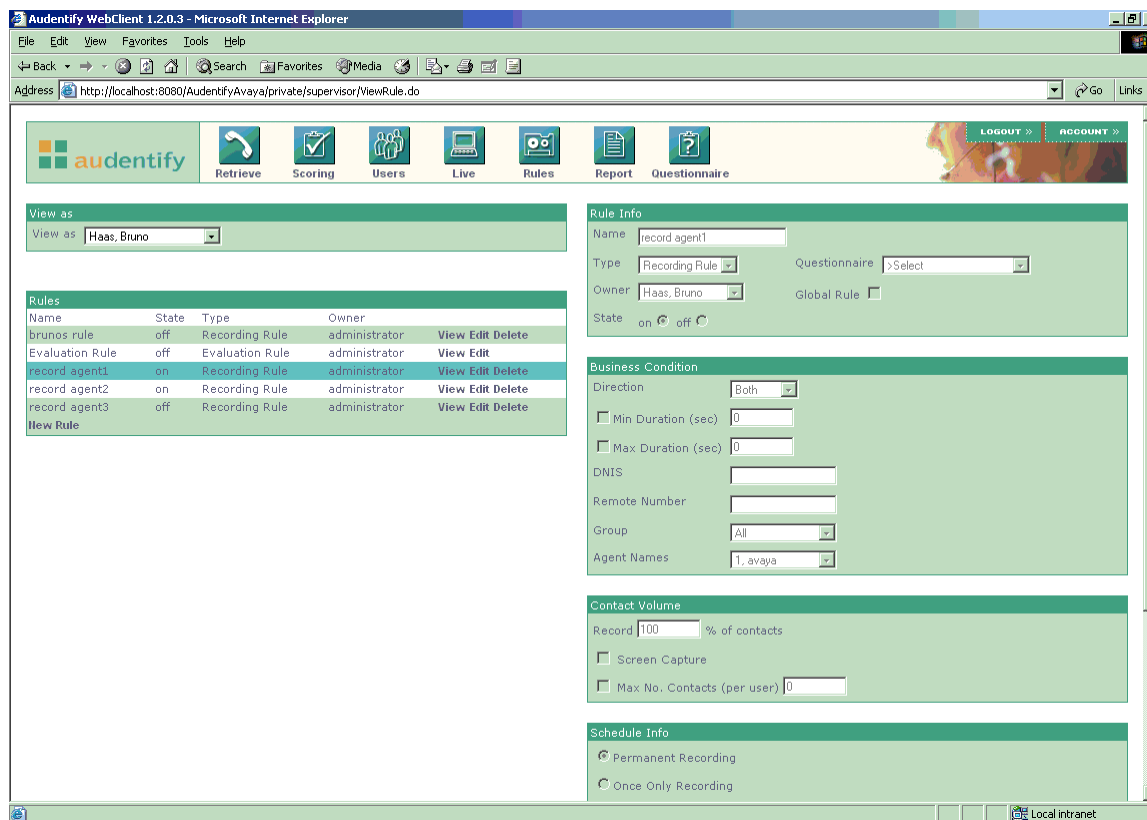
Figure 3: Audentify Rule Configuration – Part One

Since the screen did not quite contain all of the defined rules, the lower half is shown below:
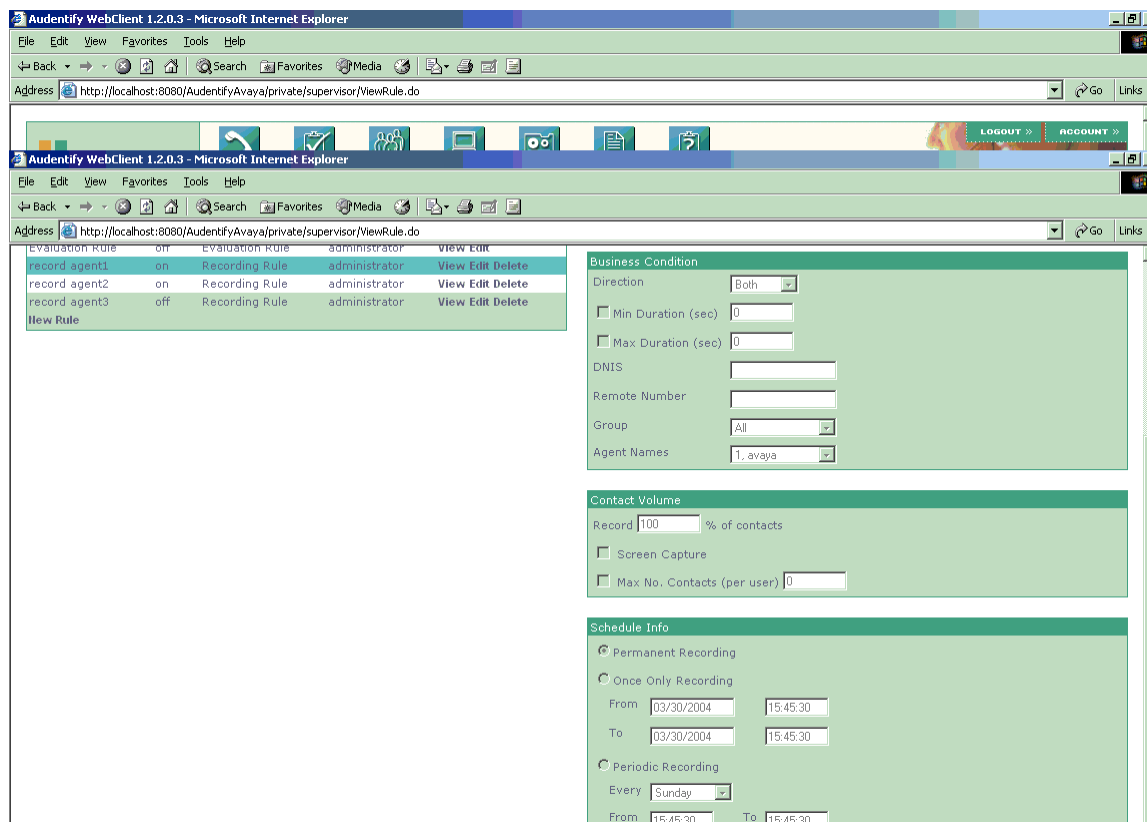
Figure 4: Audentify Rule Configuration – Part Two

6.4. Rule Testing

A simple inbound call was made to one of the monitored agents to validate the operation of the rules and the Audentify system in general. A screenshot of the successfully recorded call is shown below:
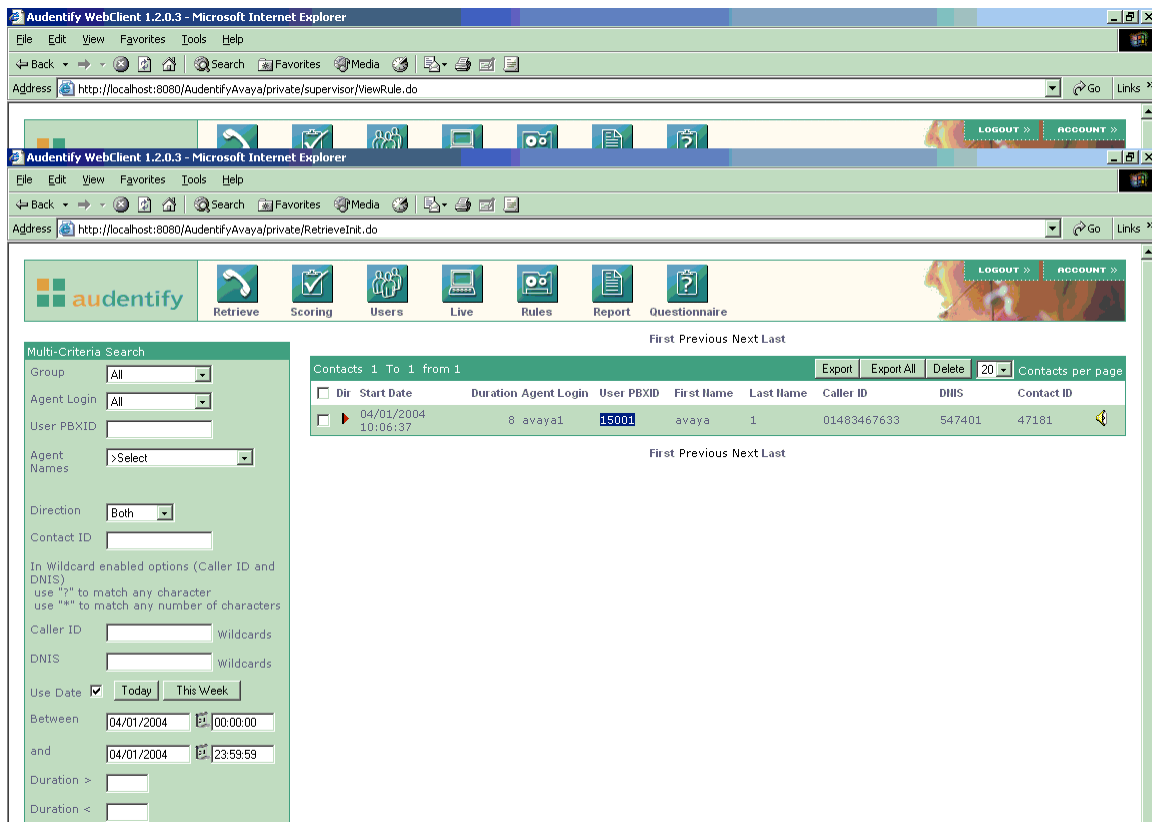
Figure 5: Audentify Rule Test

6.5. Sample Recording Retrieval

Having made several calls as defined in the Test Plan, a sample recording retrieval was carried out to validate the data stored for each recording. A screenshot of the successfully recorded calls is shown below:
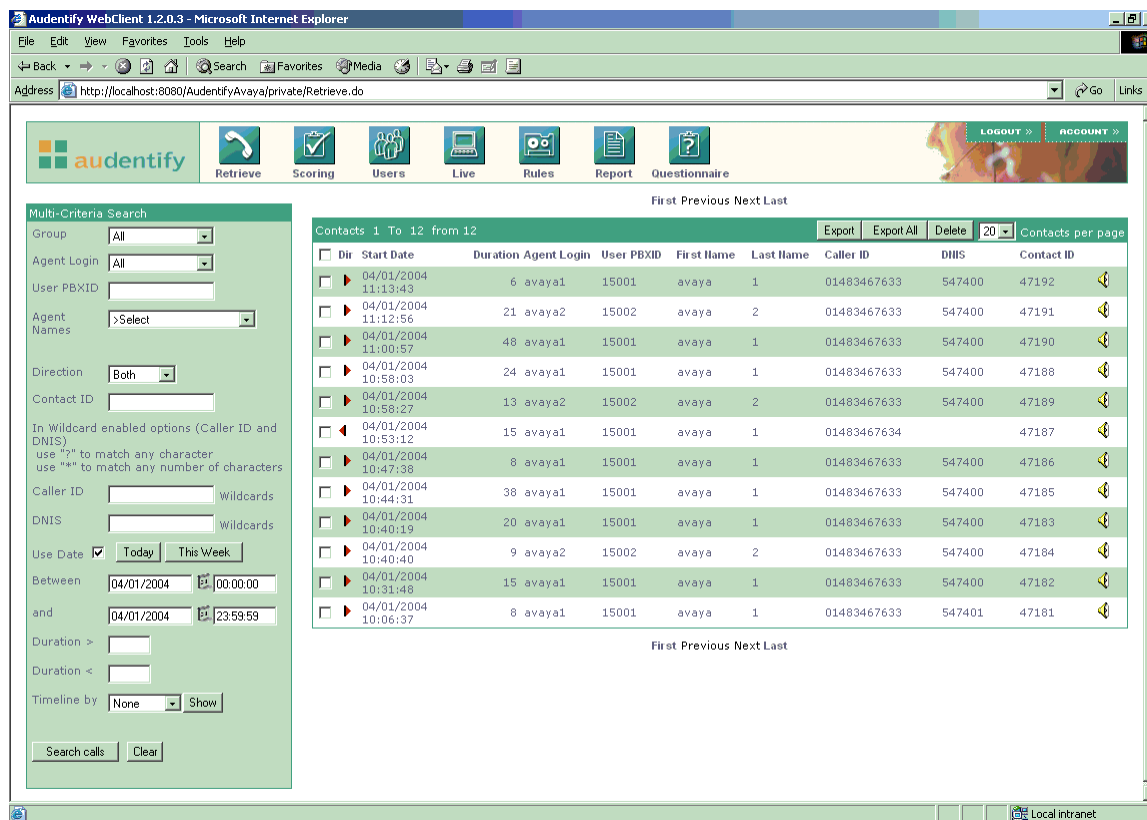
Figure 6: Audentify Recording Retrieve

7. Interoperability Compliance Testing

7.1. General Test Approach

Testing included validation of correct operation of typical Voice Recording functions including Inbound, Outbound, Blind Transfer, Attended Transfer, and Conference calls. These tests were repeated for both modes of recording. Light load testing and link integrity testing was also carried out.

7.2. Test Results

All tests passed.

8. Verification Steps

The following verification steps can be used to isolate problems in the field and to ensure that the CTI link is correctly passing data between the various components of the solution. Please note that it is a requirement of the Compliance Test that a fully operational Avaya CT server be provided prior to testing. As such, the operation of the Avaya CT server is assumed to be in service. The section verifies the connectivity from the Avaya CT server to the Audentify Record Server.

1. Avaya CT is shipped with a very simple TSAPI application called "TSTEST". Whilst this utility only allows connection to a server and the origination of a single call, it is invaluable in verifying CTI connectivity. There is also a small application called "TSSPY" which can be used to trace the messages to and from the Avaya CT Server. These two in conjunction are able to ensure that the CTI link is operating correctly. Hence the only required verification step for CTI is to use "TSTEST" to initiate a call from one known physical extension to another. Having made the CTI call, ensure that the physical devices are indeed trying to call each other, manually answer the call, and then use "TSTEST" to clear the call.
2. Audentify Record has a CTI Message tracing capability to aid fault diagnosis in the field. Generate a simple inbound test call to a monitored station and ensure that the Message Trace contains a set of events related to the test call. This message trace also contains information as to whether the call should be stored or not.
3. The status of the Line-Side T1 extensions, if this recording mode is being used, can be tested from Communication Manager as with a conventional station. If the status is "disconnected", then the T1 trunk is not operating correctly. The "Test DS1 xxxx" command can be used to check the DS1 card is connected correctly – the first test is physical connectivity. Please refer to the Communication Manager manuals for details of other error messages that may be displayed when using this command. Please note that some tests may either fail or be aborted due to the status of the extensions – these messages may be of little of no significance in this configuration.

9. Support

If technical support is required for the Audentify Record server, then please contact their Technical Support Manager, Tom Blackie

Email: tomb@audentify.com

Phone: +44 1223 448000

10. Conclusion

These Application Notes describe the configuration steps required for Audentify Record to successfully interoperate with Avaya Communication Manager 2.1. An Avaya S8700 Media Server with an Avaya G600 Media Gateway running Communication Manager 2.1, together with Avaya Computer Telephony V1.3, was used as the hosting environment. Features and functionality were validated and performance testing was conducted in order to verify operation under light load. The configuration described in these Application Notes has been successfully compliance tested.

11. Additional References

[1] Administrators Guide for Communication Manager (Doc ID: 555-233-506) can be found at http://support.avaya.com.
[2] Installation Guide for Avaya Computer Telephony can be also be found at http://support.avaya.com.

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