

Avaya Solution & Interoperability Test Lab

Application Notes for Amtelco Intelligent Soft Agent with Avaya Communication Manager using Avaya SIP Enablement Services – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the Amtelco Intelligent Soft Agent application to successfully interoperate with Avaya Communication Manager using Avaya SIP Enablement Services. Amtelco Intelligent Soft Agent is a software-based healthcare call center application that offers features to facilitate call center efficiency. The compliance testing focused on the integration of Amtelco Intelligent Soft Agent as a SIP agent on 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.

1. Introduction

These Application Notes describe the configuration steps required for the Amtelco Intelligent Soft Agent application to successfully interoperate with Avaya Communication Manager using Avaya SIP Enablement Services (SES). Amtelco Intelligent Soft Agent is a software-based healthcare call center application that offers features to facilitate call center efficiency, such as providing client attributes, searches, directories, on-call schedules, scripted messaging, and scripted dispatching of messages to the call answering agents.

The Amtelco Intelligent Soft Agent application is an integral component of the Amtelco Infinity Intelligent Series call center system. The solution consists of the Amtelco Intelligent Series Server, the Amtelco Intelligent Series Supervisor, and the Amtelco Intelligent Soft Agent.

The compliance testing focused on the integration of Amtelco Intelligent Soft Agent as SIP agents on Avaya Communication Manager. In the compliance testing, each Amtelco Intelligent Soft Agent registered to Avaya SES as a SIP endpoint, used the appropriate feature access codes to log in to an ACD split in a non-EAS (Expert Agent Selection) environment, and became available to answer incoming ACD calls.

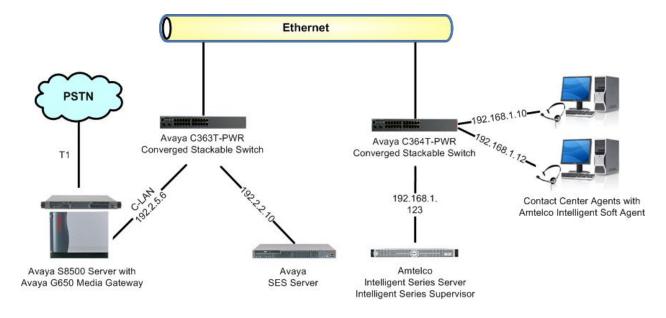


Figure 1: Amtelco Intelligent Soft Agent with Avaya Communication Manager using Avaya SES

2.

Equipment and Software Validated

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

Equipment	Software
Avaya S8500 Server	Avaya Communication Manager 5.0, R015x.00.0.825.4
Avaya G650 Media Gateway	
TN799DP C-LAN Circuit Pack	HW01 FW017
Avaya SIP Enablement Services	5.0, SES-5.0.0.0-825.31
Amtelco Intelligent Series Server with	3.1.3176.22570
Amtelco Intelligent Series Supervisor	5.51.3176.3
Amtelco Intelligent Soft Agent running	
1Call Telephone Agent	1.0.3176.15

3. Configure Avaya Communication Manager

The detailed administration of basic connectivity between Avaya Communication Manager and Avaya SES is not the focus of these Application Notes and will not be described. For administration of basic connectivity to Avaya SES, refer to the appropriate documentation listed in **Section 11**. This section provides the procedures for the following:

- Verify Avaya Communication Manager License
- Administer feature access codes
- Administer SIP stations
- Administer ACD split
- Administer routing vector and VDN

3.1. Verify Avaya Communication Manager License

Log into the System Access Terminal (SAT) to verify that the Avaya Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the "display system-parameters customer-options" command to verify that there is sufficient capacity for SIP stations by comparing the **Maximum Off-PBX Telephones - OPS** field value with the corresponding value in the **USED** column. The difference between the two values needs to be greater than or equal to the desired number of Amtelco Intelligent Soft Agent users.

```
display system-parameters customer-options
                                                                      1 of 11
                                                               Page
                               OPTIONAL FEATURES
    G3 Version: V15
                                                Software Package: Standard
      Location: 1
                                             RFA System ID (SID): 1
      Platform: 12
                                             RFA Module ID (MID): 1
                                                             USED
                               Platform Maximum Ports: 3200 234
                                    Maximum Stations: 2400 173
                             Maximum XMOBILE Stations: 0
                   Maximum Off-PBX Telephones - EC500: 0
                   Maximum Off-PBX Telephones - OPS: 100
                   Maximum Off-PBX Telephones - PBFMC: 0
                   Maximum Off-PBX Telephones - PVFMC: 0
                   Maximum Off-PBX Telephones - SCCAN: 0
        (NOTE: You must logoff & login to effect the permission changes.)
```

Navigate to **Page 6**, and verify that the **Expert Agent Selection (EAS)** customer option is set to "n", as shown below. If the Vectoring feature will be used for routing of incoming calls, then verify that the **Vectoring (Basic)** customer option is set to "y". In the compliance testing, the Vectoring feature was used.

```
display system-parameters customer-options
                                                               Page
                                                                      6 of 11
                        CALL CENTER OPTIONAL FEATURES
                         Call Center Release: 5.0
                               ACD? y
                                                               Reason Codes? n
                      BCMS (Basic)? y
                                                   Service Level Maximizer? n
         BCMS/VuStats Service Level? n
                                                 Service Observing (Basic)? y
                                        Service Observing (Remote/By FAC)? y
  BSR Local Treatment for IP & ISDN? n
                                                 Service Observing (VDNs)? y
                 Business Advocate? n
                   Call Work Codes? y
                                                                  Timed ACW? y
      DTMF Feedback Signals For VRU? n
                                                          Vectoring (Basic)? y
                  Dynamic Advocate? n
                                                      Vectoring (Prompting)? y
      Expert Agent Selection (EAS)? n
                                                  Vectoring (G3V4 Enhanced)? y
                           EAS-PHD? n
                                                   Vectoring (3.0 Enhanced)? y
                                        Vectoring (ANI/II-Digits Routing)? y
                  Forced ACD Calls? n
              Least Occupied Agent? n
                                          Vectoring (G3V4 Advanced Routing)? y
         Lookahead Interflow (LAI)? n
                                                          Vectoring (CINFO)? y
Multiple Call Handling (On Request)? n
                                           Vectoring (Best Service Routing)? y
   Multiple Call Handling (Forced)? n
                                                       Vectoring (Holidays)? y
                                                      Vectoring (Variables)? y
  PASTE (Display PBX Data on Phone)? y
        (NOTE: You must logoff & login to effect the permission changes.)
```

3.2. Administer Feature Access Codes

Use the "change feature-access-codes" command, and enter available access code values for **Auto-In Access Code**, **Aux Work Access Code**, **Login Access Code**, and **Logout Access Code**, as shown below.

```
display feature-access-codes
                                                                        5 of
                                                                 Page
                               FEATURE ACCESS CODE (FAC)
                         Automatic Call Distribution Features
                    After Call Work Access Code: 120
                             Assist Access Code: 121
                            Auto-In Access Code: 122
                           Aux Work Access Code: 123
                              Login Access Code: 124
                             Logout Access Code: 125
                          Manual-in Access Code: 126
      Service Observing Listen Only Access Code: 127
      Service Observing Listen/Talk Access Code: 128
          Service Observing No Talk Access Code: 129
             Remote Logout of Agent Access Code:
```

3.3. Administer SIP Stations

Use the "add station n" command, where "n" is an available extension number. Enter the following values for the specified fields, and retain the default values for the remaining fields. Note that there is no need to set the security code, as this will be administered on the SES server.

• **Port:** Enter "X" to indicate no hardware associated with the station.

• Name: Enter a descriptive name.

```
add station 60801
                                                              Page
                                                                     1 of
                                    STATION
Extension: 60801
                                                                      BCC: 0
                                        Lock Messages? n
    Type: 6408D+
                                        Security Code:
                                                                       TN: 1
    Port: X
                                      Coverage Path 1:
                                                                      COR: 1
    Name: Amtelco Soft Agent 1
                                                                      COS: 1
                                      Coverage Path 2:
                                      Hunt-to Station:
STATION OPTIONS
                                          Time of Day Lock Table:
                                   Personalized Ringing Pattern: 1
             Loss Group: 2
            Data Module? n
                                               Message Lamp Ext: 60801
           Speakerphone: 2-way
                                            Mute Button Enabled? y
       Display Language: english
         Survivable COR: internal
                                              Media Complex Ext:
                                                   IP SoftPhone? n
   Survivable Trunk Dest? y
                                             Remote Office Phone? n
```

Repeat the "add station n" command to add the desired number of SIP stations. For the compliance testing, two SIP stations were administered as shown below.

list station 60801 count 2							
			STATIONS				
Ext/ Hunt-to	Port/ Type	Name/ Surv	GK NN	Move	Room/ Data Ext		OR/ Cable/ COS Jack
60801	X 6408D+	Amtelco	Soft Agent 1	no		1	1
60802	X 6408D+	Amtelco	Soft Agent 2	no		1	1

For each SIP station created above, specify that calls to the station be routed to Avaya SES by using the "change off-pbx-telephone station-mapping n" command, where "n" is the station extension. Enter the following values for the specified fields, and retain the default values for the remaining fields.

• **Application:** Enter "OPS" to indicate off-PBX station.

• **Phone Number:** Same digits from the **Station Extension** field.

• **Trunk Selection:** An existing trunk group to reach Avaya SES, in this case "5".

• Configuration Set: An existing configuration set to be used for the off-pbx call treatment.

change off-pbx	-		ng 60801 X TELEPHONE INTEG		1 of	2
Station Extension	Application	Dial CC Prefix	Phone Number	Trunk Selection	Config Set	
60801	OPS	- -	60801	5	1	

Repeat the "add off-pbx-telephone station-mapping n" command for all created SIP stations, as shown below for the compliance testing.

list off-pbx-telephone station-mapping						
	STATION TO OFF-PBX TELEPHONE MAPPING					
Station Extension	Appl CC	Phone Number	Config Set	Trunk Select	Mapping Mode	Calls Allowed
60801 60802	OPS OPS	60801 60802	1 / 1 /	5 5	both both	all all

3.4. Administer ACD Split

Add an ACD split for the SIP stations using the "add hunt n" command, where "n" is an available hunt group number. Enter a descriptive **Group Name**, and an available extension for **Group Extension**. Enable the **ACD**, **Queue**, and **Vector** fields. Retain the default values for the remaining fields.

```
add hunt-group 802
                                                              Page
                                                                     1 of 61
                                 HUNT GROUP
           Group Number: 802
                                                         ACD? y
            Group Name: Amtelco ACD Group
                                                       Queue? y
        Group Extension: 67802
                                                      Vector? y
             Group Type: ucd-mia
                     TN: 1
                    COR: 1
                                            MM Early Answer? n
                                    Local Agent Preference? n
          Security Code:
ISDN/SIP Caller Display:
            Queue Limit: unlimited
Calls Warning Threshold: Port:
 Time Warning Threshold:
                              Port:
```

Navigate to **Page 4**, and enter the SIP station extensions from **Section 3.3** as members. Note that multiple ACD splits can be created as desired, however, each Amtelco Intelligent Soft Agent can only be in one ACD split. In the compliance testing, one ACD split was created for the two Amtelco Intelligent Soft Agents, and the agents can answer different types of incoming calls by using separate Vector Directory Numbers (VDNs) to route calls to the same ACD split.

```
add hunt-group 802
                                                                     4 of 60
                                                               Page
                                HUNT GROUP
        Group Number: 802 Group Extension: 67802
                                                         Group Type: ucd-mia
 Member Range Allowed: 1 - 1500 Administered Members (min/max): 0
                                       Total Administered Members: 0
GROUP MEMBER ASSIGNMENTS
     Ext.
             Name(19 characters)
                                                         Name(19 characters)
                                           Ext
  1: 60801
                                        14:
  2: 60802
                                        15:
                                        16:
  4:
                                        17:
```

3.5. Administer Routing Vector and VDN

Modify a vector using the "change vector n" command, where "n" is an available vector number. This vector will provide routing of incoming calls to the ACD split. Enter a descriptive **Name**, and any desired call treatment. In the compliance testing, the incoming calls were given the ringback call treatment prior to queuing to the ACD split. Note that the vector **Number** may vary, and that the **queue-to split** is configured with the hunt group number from **Section 3.4**.

```
change vector 801

CALL VECTOR

Number: 801

Name: AmtelcoHospital

Multimedia? n Attendant Vectoring? n Meet-me Conf? n Lock? n

Basic? y EAS? n 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

O1 wait-time 2 secs hearing ringback

O2 queue-to split 802 pri m

O3
```

Add a VDN using the "add vdn n" command, where "n" is an available extension. Enter a descriptive **Name**, and the vector number above for **Vector Number**.

```
add vdn 68801

Page 1 of 3

VECTOR DIRECTORY NUMBER

Extension: 68801

Name*: Amtelco Bayside Hospital

Vector Number: 801

Attendant Vectoring? n

Meet-me Conferencing? n

Allow VDN Override? n

COR: 1

TN*: 1

Measured: none
```

Repeat this section to add all desired VDNs. In the compliance testing, two VDNs were administered as shown below.

```
VECTOR DIRECTORY NUMBERS

VECTOR DIRECTORY NUMBERS

Evnt

VDN Vec Orig Noti

Name (22 characters) Ext/Skills Ovr COR TN Num Meas Annc Adj

Amtelco Bayside Hospit 68801 n 1 1 801 none

Amtelco Bayside Dental 68802 n 1 1 801 none
```

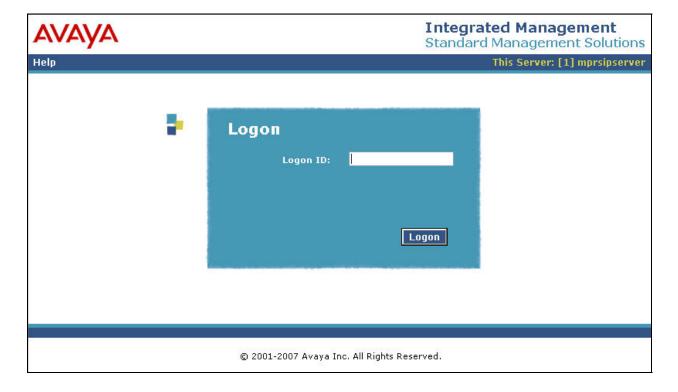
4. Configure Avaya SIP Enablement Services

This section provides the procedures for configuring Avaya SIP Enablement Services (SES). The procedures include the following areas:

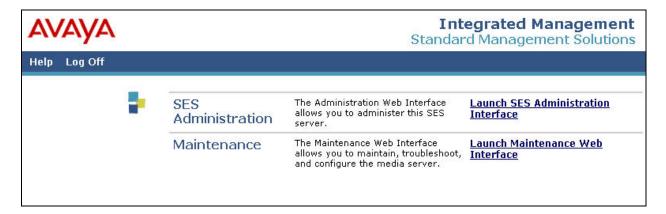
- Launch SES administration interface
- Administer users

4.1. Launch SES Administration Interface

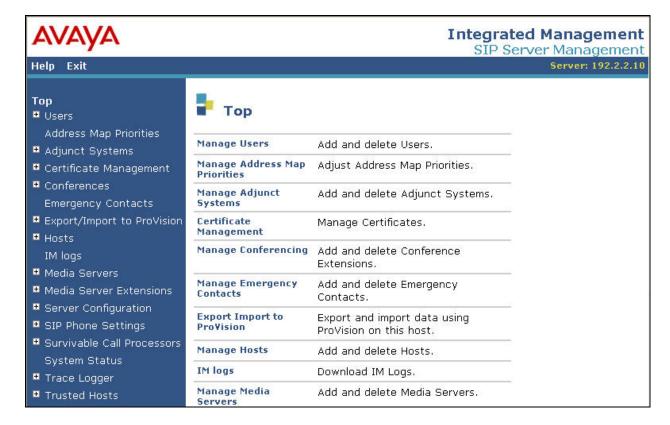
Access the SES web interface by using the URL "http://ip-address/admin" in an Internet browser window, where "ip-address" is the IP address of the SES server. Log in with the appropriate credentials.



In the subsequent screen, select Launch SES Administration Interface.



The **Top** screen is displayed next.



4.2. Administer Users

Select **Users > Add** from the left pane to display the **Add User** screen. Enter the following values for the specified fields, and retain the default values in the remaining fields. Click on **Add** at the bottom of the screen to submit these changes.

• **Primary Handle:** The extension of the SIP station from **Section 3.3**.

Password: Enter a desired password.
 Confirm Password: Re-enter the same password.

• **Host:** Select the applicable host, in this case "192.2.2.10".

First Name: A descriptive first name.
Last Name: A descriptive last name.

• Add Media Server Extension: Check the box.



The **Continue** screen is displayed next. Click on the **Continue** button.



The **Add Media Server Extension** screen is displayed. This screen is used to associate a user with a media server extension on Avaya Communication Manager. Enter the following values for the specified fields. Click on **Add** to submit these changes.

• Extension: The extension of the SIP station from Section 3.3.

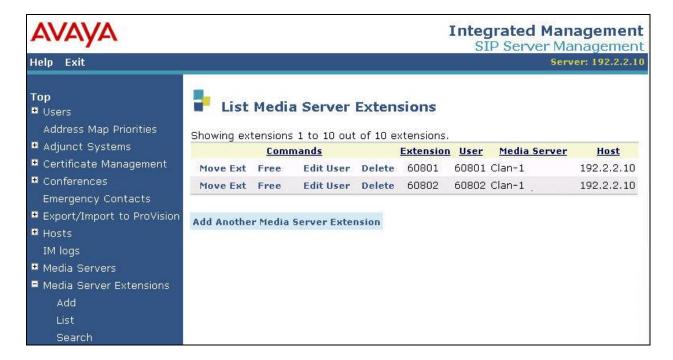
• **Media Server:** Select the appropriate media server, in this case "Clan-1".



The **Continue** screen is displayed next. Click on the **Continue** button.



Repeat this section to create a SIP user and a media server extension for each SIP station in **Section 3.3**. For the compliance testing, two SIP users and media server extensions were administered as shown below.



5. Configure Amtelco Intelligent Series Supervisor

This section provides the procedures for configuring the Amtelco Intelligent Series Supervisor. The procedures include the following areas:

- Launch Intelligent Series Supervisor
- Administer system
- Administer agents

5.1. Launch Intelligent Series Supervisor

From the server running the Amtelco Intelligent Series Supervisor, select **Start > All Programs** > **Amtelco > Intelligent Series Supervisor**. The **Supervisor Login** screen is displayed. Log in with the appropriate credentials.



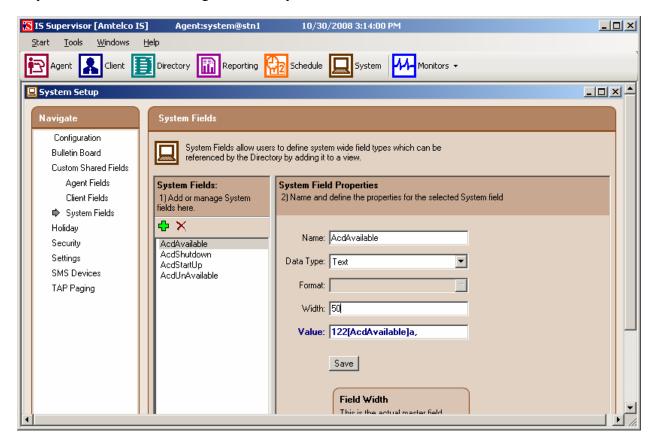
5.2. Administer System

From the **IS Supervisor** screen that is displayed next, select **System** from the top of the screen.



The **System Setup** screen is displayed in the lower pane. Select **Custom Shared Fields** > **System Fields** from the left pane, followed by **AcdAvailable** in the middle pane. In the **System Field Properties** screen in the right pane, enter the appropriate dial string into the **Value** field to correspond to the agent Auto-In work mode request to Avaya Communication Manager.

Note that the dial string for the agent Auto-In work mode request is the Auto-In feature access code, followed by the split number. In the example below, "122" corresponds to the Auto-In feature access code from **Section 3.2**, and "[AcdAvailable]a" instructs the application to pick up the next portion of the dial string from the agent's **AcdAvailable** parameter, as the split number may not be common for all agents in the system.

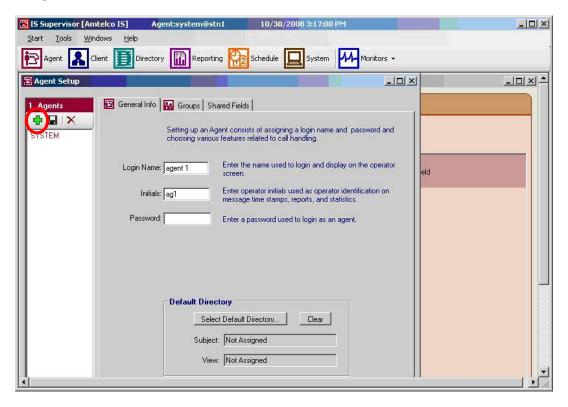


Repeat this section to administer the **Value** field for all remaining system fields shown above. For the compliance testing, the following values were administered:

System Field	Value	Corresponding Feature Access Code on Avaya Communication Manager
AcdAvailable	122[AcdAvailable]a,	Auto-In
AcdShutdown	125[AcdShutdown]a,	Logout
AcdStartUp	124[AcdStartUp]a,	Login
AcdUnAvailable	123[AcdUnAvailable],	Aux Work

5.3. Administer Agents

Select **Agent** from the top of the screen, to display the **Agent Setup** screen. Click on the **Add New Agent** icon circled below to add a new agent. Select the **General Info** tab, and enter desired **Login Name**, **Initials**, and **Password**.



Select the **Shared Fields** tab. Select the **AcdAvailable** parameter under **Shared Fields**, and enter the split number this agent belongs to, in this case "0802". Precede the split number with leading zeroes when less than four digits. Repeat and set the **Value** field for all remaining parameters. Repeat this section to add all remaining agents.



6. Configure Amtelco Intelligent Soft Agent

This section provides the procedures for configuring the Amtelco Intelligent Soft Agent. The procedures include the following areas:

- Launch Soft Agent
- Administer setup

6.1. Launch Soft Agent

From an agent PC running the Amtelco Intelligent Soft Agent application, double-click on the **1Call Agent** icon below, which is created as part of installation.

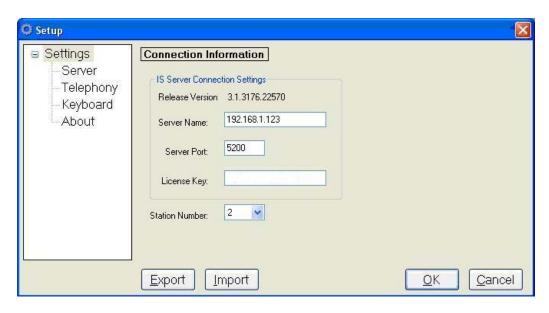


The **Soft Agent Login** screen is displayed. Press the **Ctrl** and **F12** keys together to enter set up.



6.2. Administer Setup

The **Setup** screen is displayed next. In the **Server Name** field, enter the IP address of the Amtelco Intelligent Series Server. Enter "5200" for **Server Port**, and a valid license for the **License Key** field. For **Station Number**, select the unique number provided by the administrator for the agent.



Select **Settings** > **Telephony** in the left pane. Select the **General** tab. For the **Number of appearances** field, select the appropriate number matching to the number of call appearances for the SIP station on Avaya Communication Manager. Enter the SIP user's primary handle and password from **Section 4.2** for the **User name** and **Password** fields respectively. Enter the IP address of the Avaya SES server for the **Domain** field.



7. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following with the Amtelco Intelligent Soft Agent application: registration with Avaya SES, handling of ACD calls and screen pops with calling and called party information, hold/reconnect/transfer/conference of ACD calls, and support of media shuffling and audio codec.

The serviceability testing focused on verifying the ability of Amtelco Soft Agent to recover from adverse conditions, such as disconnect and reconnect the Ethernet cable to the Amtelco server and client.

7.1. General Test Approach

The feature test cases were performed manually. Incoming calls were placed to the VDNs with available agents running the Amtelco Intelligent Soft Agent application. Manual call controls from the application were exercised to verify proper call handling such as transfer and conference.

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cables to the Amtelco Intelligent Series Server, Avaya SES, and Amtelco Intelligent Soft Agent.

The verification of all tests included checking of proper states and talk paths at the Amtelco Intelligent Soft Agents.

7.2. Test Results

All feature test cases were executed and passed.

The following are the observations from the compliance testing:

- Only the G.711 codec was supported due to Amtelco license restrictions.
- The application only supports the non-EAS environment with each agent in one ACD split.
- Users need to rely on the audible feedback for ACD login and change work mode results.
- Upon loss of connectivity between the Amtelco server and clients, new calls will not be delivered, existing calls may be dropped, and agents will be logged out of the application. The agents need to manually log back into the application after the connectivity is restored.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya SES, and Amtelco Intelligent Soft Agent.

8.1. Verify Avaya Communication Manager and Avaya SES

On Avaya AES, verify the registration status of the Amtelco Intelligent Soft Agents by selecting **Users > Search Registered Users** from the left pane. Verify that all logged in Amtelco Intelligent Soft Agents are listed as registered users.

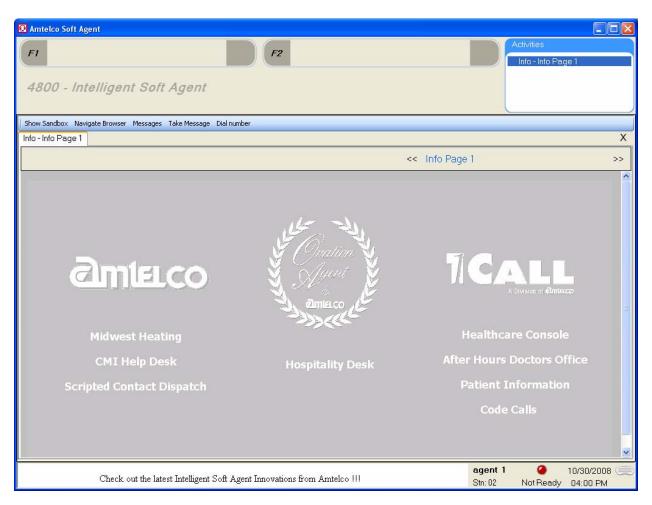


8.2. Verify Amtelco Intelligent Soft Agent

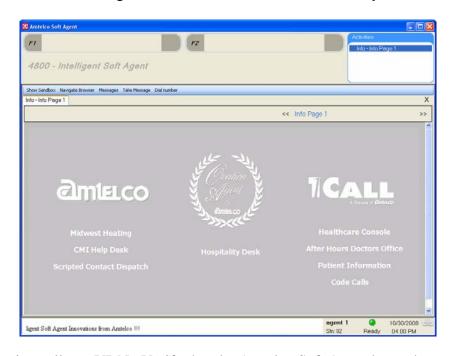
From the agent PC, follow the procedure in **Section 6.1** to launch the Amtelco Intelligent Soft Agent and log in with the appropriate credentials from **Section 5.3**. As part of the log in process, the application registers with Avaya SES automatically, and logs the agent into the administered ACD split.

At this point, the verification in **Section 8.1** can be performed to verify successfully registration with Avaya SES, and verify that the audible confirmation tone is provided to the agent for successful login to the ACD split.

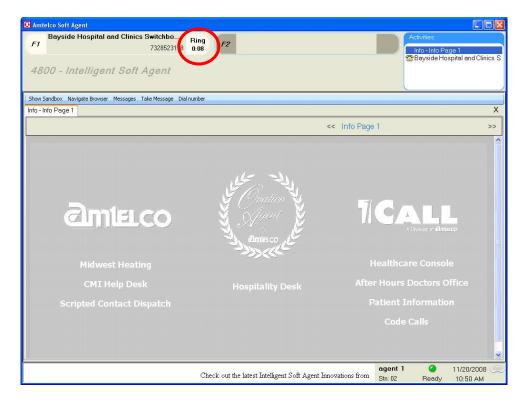
Also verify that the agent login name is displayed in the lower right corner of the **Amtelco Soft Agent** screen, in this case "agent 1", along with the status of **Not Ready**. Click the **Not Ready** icon to become ready.



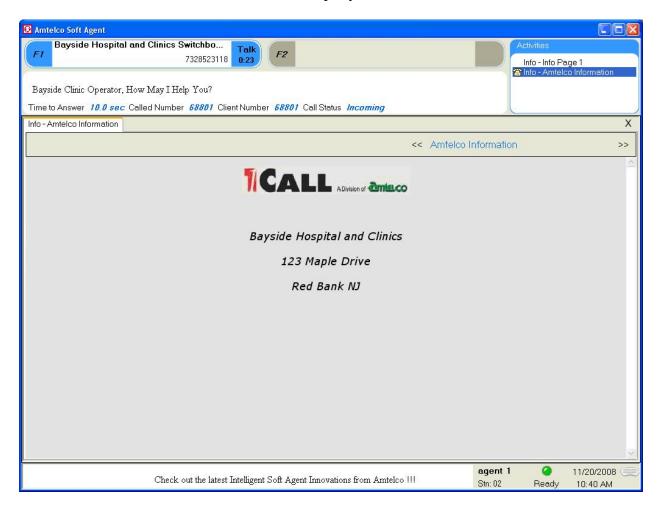
The application sends the administered dial string to Avaya Communication Manager to move the agent into the Auto-In work mode. Verify that the agent hears the audible confirmation tone, and that the icon in the lower right corner of the screen turns into **Ready**.



Make an incoming call to a VDN. Verify that the Amtelco Soft Agent hears the audible ringback, and that the upper left portion of the agent screen is updated with the calling and called party information. Click on the **Ring** area circled below.



Verify that the agent is connected to the caller with two-way talk paths, and that the status is updated to **Talk**. In addition, the lower pane of the agent screen is populated with information retrieved from the database based on the called party number.



9. Support

Technical support on Amtelco Intelligent Soft Agent can be obtained through the following:

• **Phone:** (800) 553-7679

• Email: service@amtelco.com

• Web: www.amtelco.com/Welcome.htm

10. Conclusion

These Application Notes describe the configuration steps required for the Amtelco Intelligent Soft Agent application to successfully interoperate with Avaya Communication Manager using Avaya SES.

All feature test cases completed with observations listed in **Section 7.2**.

11. Additional References

This section references the product documentation relevant to these Application Notes.

- *Administrator Guide for Avaya Communication Manager*, Document 03-300509, Issue 4.0, Release 5.0, January 2008, available at http://support.avaya.com.
- Installing, Administering, Maintaining, & Troubleshooting SIP Enablement Services, Document 03-600768, Issue 5.0, January 2008, available at http://support.avaya.com
- SIP Support in Avaya Communication Manager Running on Avaya S8xxx Servers, Document 555-245-206, Issue 8, January 2008, available at http://support.avaya.com
- System Setup Supervisor Reference Guide, September 2008, documentation CD available as part of installation.
- Soft Agent User Reference Guide, September 2008, documentation CD available as part of installation

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