



Avaya Solution & Interoperability Test Lab

Application Notes for InVision Enterprise WFM with Avaya Call Management System using ODBC Interface – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate InVision Enterprise WFM (iWFM) with Avaya Call Management System using the ODBC interface to capture ACD call center data from Avaya Communication Manager. The ODBC interface is used to import splits/skills, Vector Directory Numbers (VDNs), and agent data into iWFM periodically. iWFM is a web-based software solution for enterprise-wide workforce management. It supports the workforce management process from forecasting to scheduling, optimization, time management and monitoring.

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 to integrate InVision Enterprise WFM (iWFM) with Avaya Call Management System (CMS) using the ODBC interface to capture ACD call center data from Avaya Communication Manager. The ODBC interface is used to import splits/skills, Vector Directory Numbers (VDNs), and agent data into iWFM periodically. iWFM is a web-based software solution for enterprise-wide workforce management. It supports the workforce management process from forecasting to scheduling, optimization, time management and monitoring.

InVision Enterprise WFM uses the ODBC interface to access the Informix database in Avaya CMS to import interval-based call and agent activity data. The data may be imported on an on-demand basis or automatically at pre-defined intervals. The historical reports that are supported by iWFM through this interface include a splits/skills report, a VDN report, an agent login/logout report, and an agent workmode/AUX reason report. These reports can be viewed within the iWFM Shift Center and OnlineCockpit, or in reports generated by iWFM.

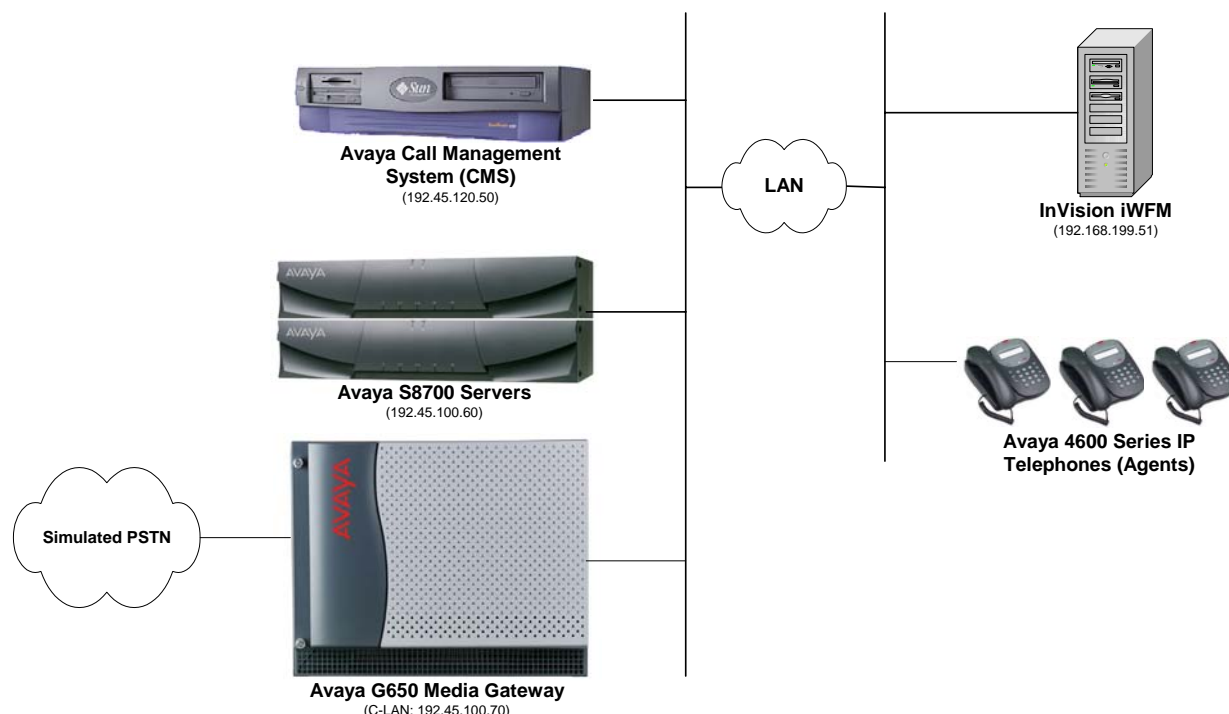


Figure 1: InVision Enterprise WFM with Avaya Call Management System

2. Equipment and Software Validated

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

Equipment	Software
Avaya S8700 Servers with G650 Media Gateway	Avaya Communication Manager 4.0.1, load 731.2
Avaya Call Management System	r14aa.h
Avaya 4600 Series IP Telephones	2.8 (H.323)
InVision Enterprise WFM (iWFM)	4.5.0

3. Configure Avaya Communication Manager

This section provides the procedures for configuring Avaya Communication Manager. The procedures include the following areas:

- Verify Avaya Communication Manager Options.
- Administer adjunct CMS release.
- Administer IP node names for C-LAN.
- Administer IP interface for C-LAN.
- Administer data module for C-LAN.
- Administer processor interface channel.
- Administer measured VDN.
- Administer measured Skill.

The detailed administration of contact center devices such as ACD/Skill, VDN, Vector, and Agents are assumed to be in place. These Application Notes will only cover how to enable ACD/Skill, VDN, and Agent data to be sent to Avaya CMS.

3.1. Verify Avaya Communication Manager Software Options

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 the **G3 Version** field is set to “V14” on **Page 1**, as shown below.

```
display system-parameters customer-options                               Page 1 of 11
                                OPTIONAL FEATURES

G3 Version: V14
  Location: 1                                RFA System ID (SID): 1
  Platform: 6                                RFA Module ID (MID): 1

                                USED
                                Platform Maximum Ports: 44000 727
                                Maximum Stations: 36000 239
                                Maximum XMOBILE Stations: 0 0
  Maximum Off-PBX Telephones - EC500: 0 0
  Maximum Off-PBX Telephones - OPS: 50 8
  Maximum Off-PBX Telephones - PBFMC: 0 0
  Maximum Off-PBX Telephones - PVFMC: 0 0
  Maximum Off-PBX Telephones - SCCAN: 0 0

(NOTE: You must logoff & login to effect the permission changes.)
```

Navigate to **Page 6**, and verify that the **Call Center Release** field is set to “4.0”, as shown below.

```
display system-parameters customer-options                               Page 6 of 11
                                CALL CENTER OPTIONAL FEATURES

                                Call Center Release: 4.0

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

3.2. Administer Adjunct CMS Release

Use the “change system-parameters features” command and navigate to **Page 12**. Set the **Adjunct CMS Release** field to the software release of the Avaya CMS. In this case, “R14” is used to correspond to Avaya CMS software release R14.0.

```
change system-parameters features                                     Page 12 of 17
      FEATURE-RELATED SYSTEM PARAMETERS

AGENT AND CALL SELECTION
      MIA Across Splits or Skills? y
      ACW Agents Considered Idle? y
      Call Selection Measurement: current-wait-time
Service Level Supervisor Call Selection Override? n
      Auto Reserve Agents: all

CALL MANAGEMENT SYSTEM
      REPORTING ADJUNCT RELEASE
      CMS (appl mis): R14
      CCR (appl ccr):

      BCMS/VuStats LoginIDs? y
      BCMS/VuStats Measurement Interval: hour
BCMS/VuStats Abandon Call Timer (seconds):
      Validate BCMS/VuStats Login IDs? n
      Clear VuStats Shift Data: on-login
      Remove Inactive BCMS/VuStats Agents? n
```

3.3. Administer IP Node Name for C-LAN

Use the “change node-names ip” command, to add entries for Avaya CMS and the C-LAN that will be used for connectivity. In this case, “cms” and “192.45.120.50” are entered as **Name** and **IP Address** for the Avaya CMS server, and “clan2” and “192.45.100.70” are entered as **Name** and **IP Address** for the C-LAN. The actual node names and IP addresses may vary. Submit these changes.

change node-names ip				Page	1 of	1
IP NODE NAMES						
Name		IP Address		Name		IP Address
clan		192.45 .100.66		.		.
clan-1a05-AES2		192.45 .100.146		.		.
cms		192.45 .120.50		.		.
clan2		192.45 .100.70		.		.

3.4. Administer IP Interface for C-LAN

Add the C-LAN to the system configuration using the “add ip-interface 2a02” command. The actual slot number may vary. In this case, “2a02” is used as the slot number. Enter the C-LAN node name assigned from **Section 3.3** into the **Node Name** field. The **IP Address** field will be populated automatically.

Enter proper values for the **Subnet Mask** and **Gateway Address** fields. In this case, “255.255.255.0” and “192.45.100.1” are used to correspond to the network configuration in these Application Notes. Set the **Enable Ethernet Port** field to “y”. Default values may be used in the remaining fields. Submit these changes.

add ip-interface 2a02	Page 1 of 1
IP INTERFACES	
Type: C-LAN	
Slot: 02A02	
Code/Suffix: TN799 D	
Node Name: clan2	
IP Address: 192.45 .100.70	
Subnet Mask: 255.255.255.0	
Gateway Address: 192.45 .100.1	
Enable Ethernet Port? y	
Network Region: 1	
VLAN: n	
Number of CLAN Sockets Before Warning: 400	
Receive Buffer TCP Window Size: 8320	
ETHERNET OPTIONS	
Auto? y	

3.5. Administer Data Module for C-LAN

Add a new data module using the “add data-module n” command, where “n” is an available extension. Enter the following values, and submit these changes.

- **Name:** A descriptive name.
- **Type:** “ethernet”
- **Port:** Same slot number from **Section 3.4** above and port “17”.
- **Link:** An available link number.

change data-module 24981	Page 1 of 1
DATA MODULE	
Data Extension: 24981	Name: Clan2
Type: ethernet	
Port: 02A0217	
Link: 2	
Network uses 1's for Broadcast Addresses? y	

3.6. Administer Processor Interface Channel

Assign a new processor interface channel with the “change communication-interface processor-channels” command. Add an entry with the following values, and submit these changes.

- **Enable:** “y”
- **Appl.:** “mis”
- **Mode:** “s” for server mode.
- **Interface Link:** Link number for data module Ethernet port from **Section 3.5**.
- **Interface Chan:** TCP channel number for Avaya CMS. In this case “5001”.
- **Destination Node:** Avaya CMS server node name from **Section 3.3**.
- **Destination Port:** “0”
- **Session Local:** Corresponding channel number in **Proc Chan** field. In this case “1”.
- **Session Remote:** Corresponding channel number in **Proc Chan** field. In this case “1”.

The **Interface Chan** field contains the Avaya CMS TCP channel number, which is defined as part of the Avaya CMS installation. For the compliance testing, the default TCP channel number of “5001” was used.

change communication-interface processor-channels									
PROCESSOR CHANNEL ASSIGNMENT									
Proc	Chan	Enable	Appl.	Gtwy To	Mode	Interface Link/Chan	Destination Node	Port	Session Local/Remote IDnp
1:	y	mis		s	2	5001 cms		0	1 1
2:	n							0	

3.7. Administer Measured VDN

Use the “change vdn n” command, where “n” is the extension of the VDN to be measured by Avaya CMS. Set the **Measured** field to “external” or “both” to enable measurement data on the VDN to be sent to Avaya CMS. Repeat this step for all VDNs that will be monitored by Avaya CMS.

change vdn 38000									
VECTOR DIRECTORY NUMBER									
Extension: 38000									
Name*: InVision VDN 1									
Vector Number: 380									
Meet-me Conferencing? n									
Allow VDN Override? n									
COR: 1									
TN*: 1									
Measured: both									
Acceptable Service Level (sec): 10									
Service Objective (sec): 20									
VDN of Origin Annc. Extension*:									
1st Skill*:									
2nd Skill*:									
3rd Skill*:									
* Follows VDN Override Rules									

3.8. Administer Measured Skill

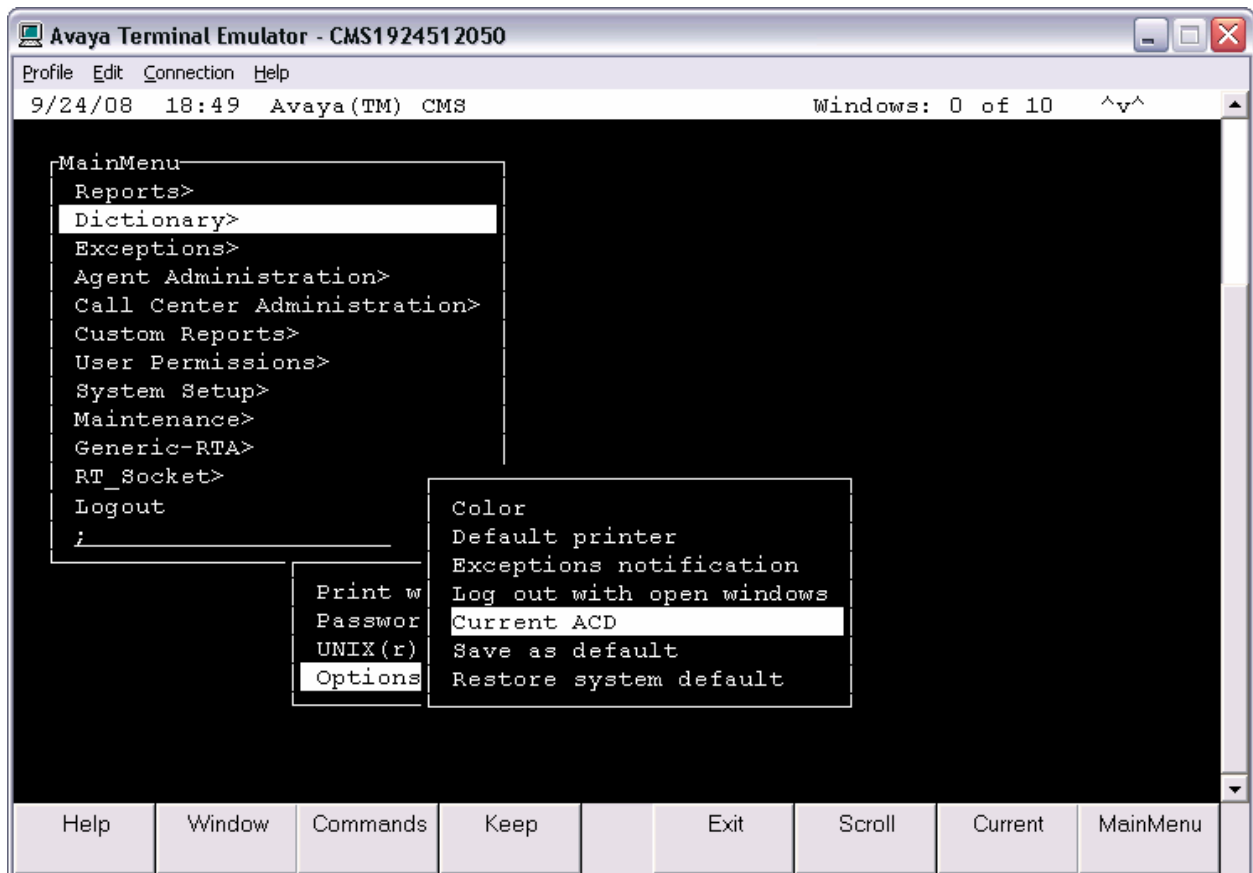
Use the “change hunt-group n” command, where “n” is the extension of the ACD/Skill group number to be measured by Avaya CMS. Set the **Measured** field to “external” or “both” to enable real-time measurement data on the ACD/Skill group and the associated agents to be sent to Avaya CMS. Repeat this step for all ACD/Skill groups that will be measured by Avaya CMS.

change hunt-group 280		Page 2 of 3	
		HUNT GROUP	
Skill?	y	Expected Call Handling Time (sec):	180
AAS?	n	Service Level Target (% in sec):	80 in 20
Measured:	both	Service Objective (sec):	20
Supervisor Extension:		Service Level Supervisor?	y
		Activate on Oldest Call Waiting?	y
		Call Selection Override?	n
Controlling Adjunct:	none	Level 1 Threshold (sec):	50
		Level 2 Threshold (sec):	
		Dynamic Threshold Adjustment?	n
VuStats Objective:			
Timed ACW Interval (sec):		Dynamic Queue Position?	n
Multiple Call Handling:	none		
		Redirect on No Answer (rings):	
		Redirect to VDN:	
		Forced Entry of Stroke Counts or Call Work Codes?	n

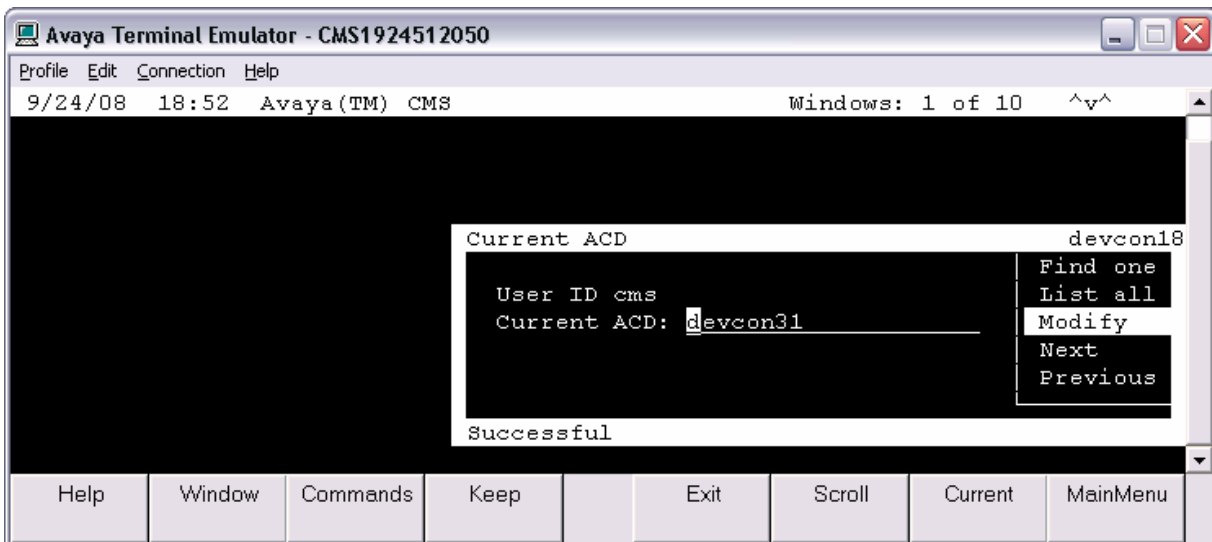
4. Configure Avaya Call Management System

This section covers the configuration of Avaya CMS to support the import of splits/skills, VDN, and agent data from InVision Enterprise WFM via the ODBC interface.

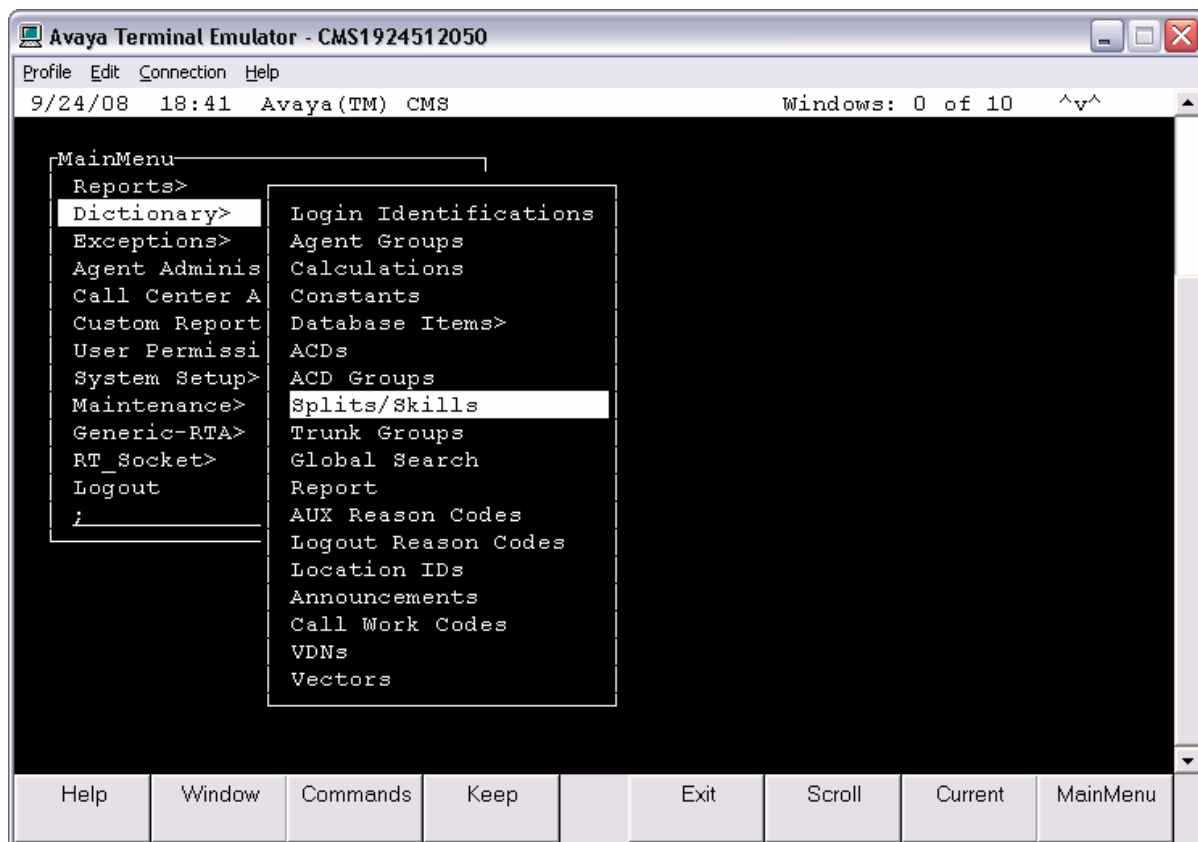
Use a terminal emulator to connect to the Avaya CMS server, and log in with the proper credentials. Enter “cms” at the command prompt to display the **MainMenu** screen. The first step is to configure the **Current ACD**, which in this case is *devcon31*, an ACD name assigned on Avaya CMS. From the CMS terminal emulator click on the **Commands** option button at the bottom of the screen. Navigate to **Options**→**Current ACD** to specify the current ACD and press the **Enter** key.



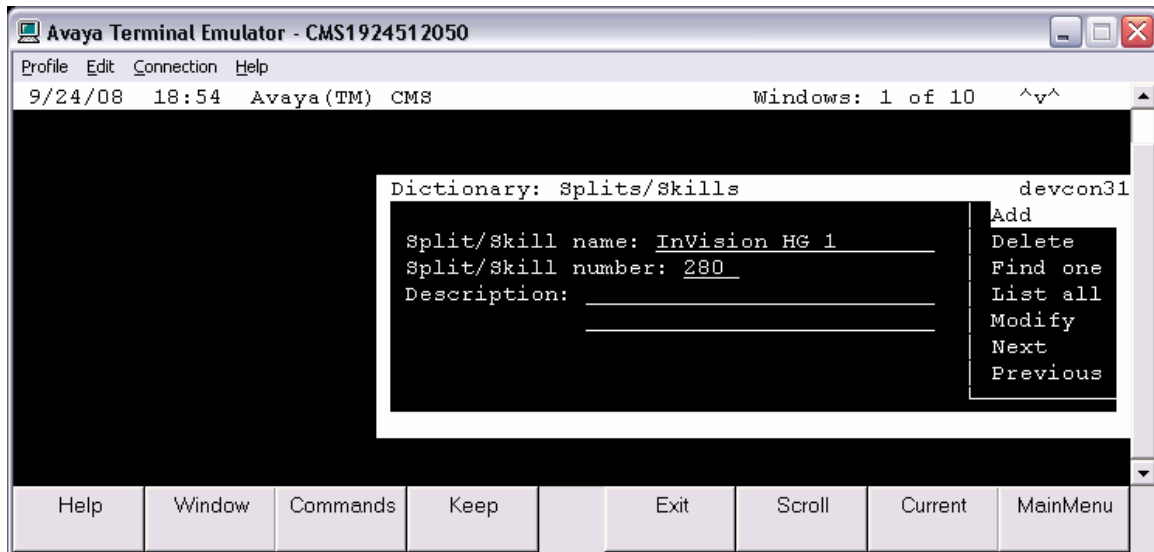
In the following screen, set the **Current ACD** field to *devcon31* and then select **Modify** in the right pane of the screen. Hit the **Enter** key. Upon completion, *Successful* is displayed in the dialog box as shown in the figure below. Click the **Exit** button to return to the CMS main menu.



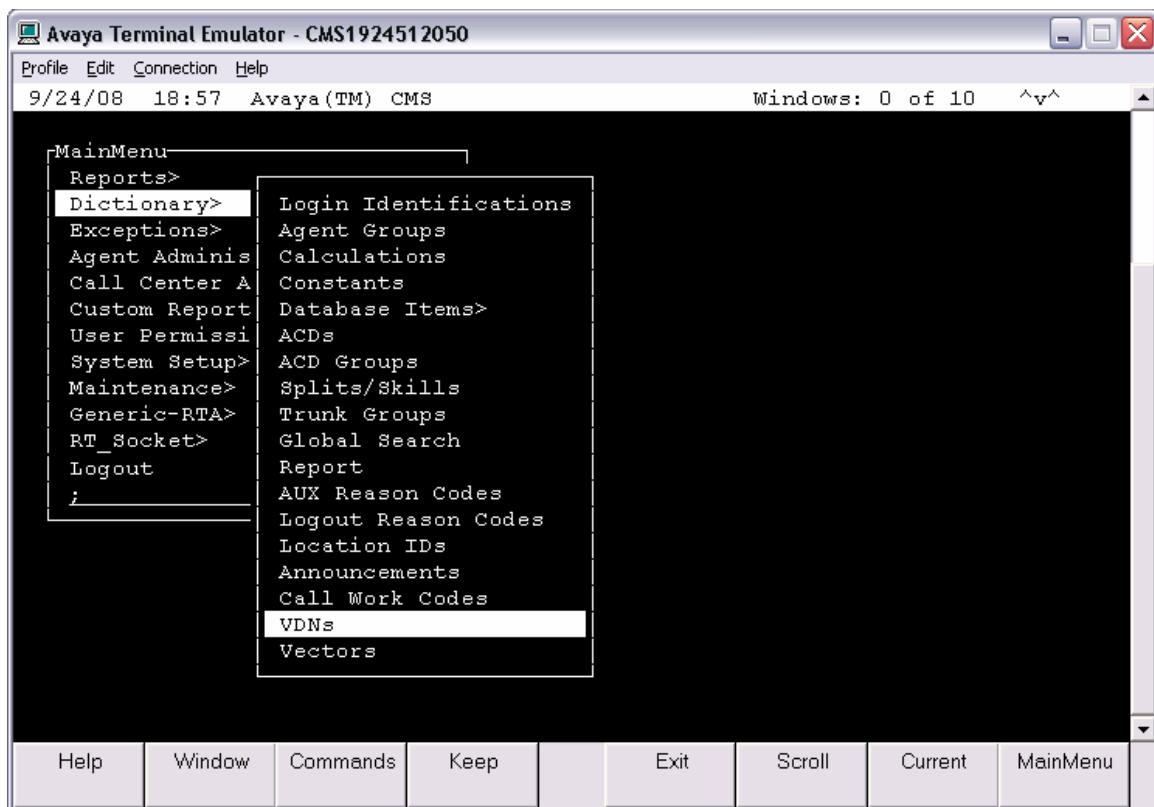
From the CMS main menu, navigate to **Dictionary**→**Splits/Skills**, as shown below, to configure the splits/skills that will be monitored by iWFM. Hit the **Enter** key.



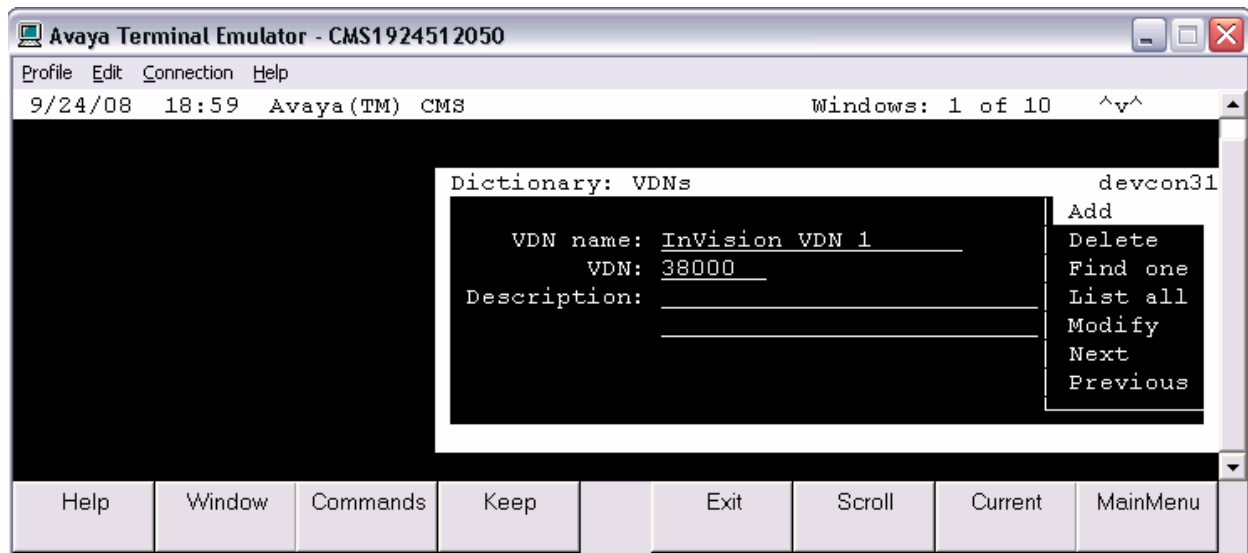
The **Dictionary: Splits/Skills** screen is displayed. Provide a descriptive name for the split/skill and the number assigned to the split/skill in Avaya Communication Manager (see **section 3.8**). Click the **Add** option in the right pane. Repeat this step for each split/skill to be monitored by iWFM.



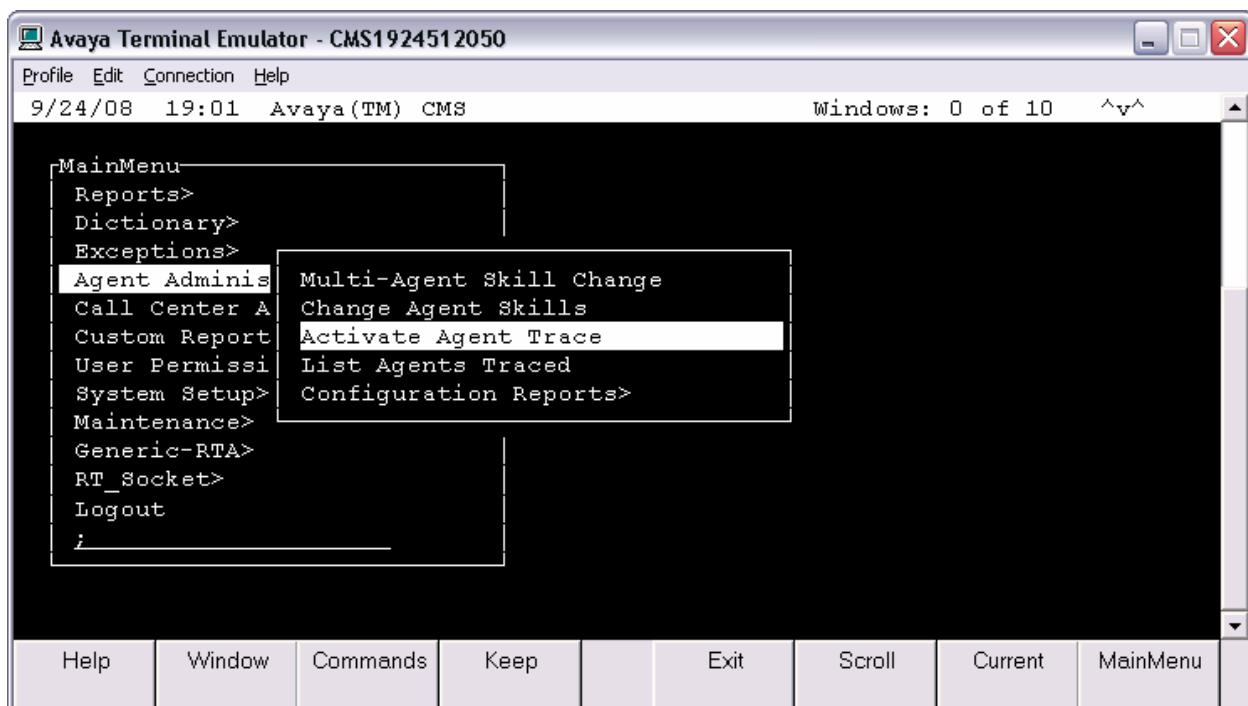
Return to the CMS main menu and navigate to **Dictionary→VDNs**, as shown below, to configure the VDNs to be monitored by iWFM.



The **Dictionary: VDNs** screen is displayed. Provide a descriptive name for the VDN and the extension assigned to the VDN in Avaya Communication Manager (see **section 3.7**). Click the **Add** option in the right pane. Repeat this step for each VDN to be monitored by iWFM.



Next, agent tracing needs to be enabled for each ACD agent configured in Avaya Communication Manager to support the agent workmode/AUX reason report in iWFM. From the CMS main menu, navigate to **Agent Administration**→**Activate Agent Trace** and hit the **Enter** key.



From the **Agent Administration: Activate Agent Trace** screen shown below provide the login agent IDs for each agent and set the **Agent trace** field to *on*. Select **Modify** in the right pane. Click the **Exit** button at the bottom of the screen to return to the CMS main menu.



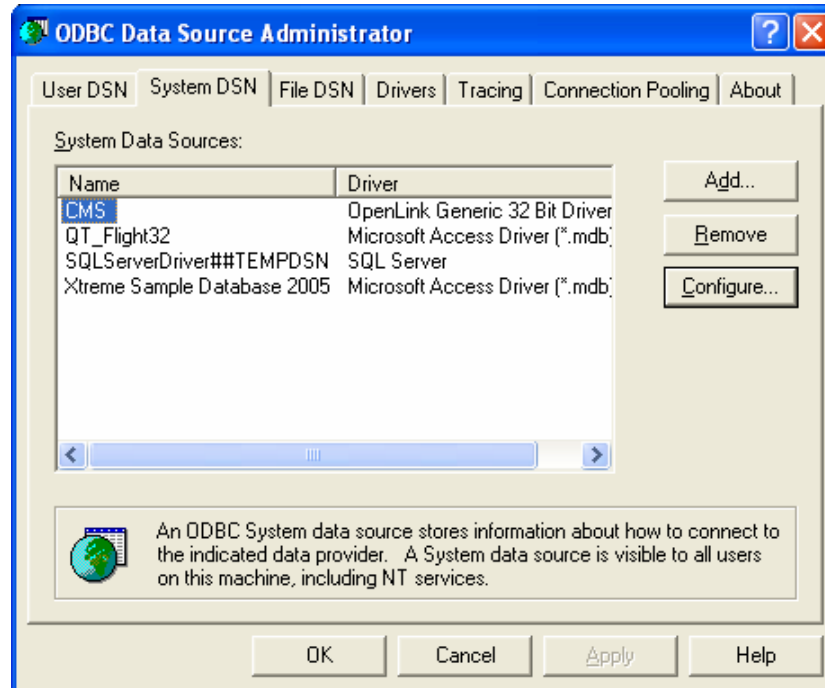
5. Configure InVision Enterprise WFM (iWFM)

This section provides the procedure for configuring InVision Enterprise WFM for the historical splits/skills, VDN, and agent reports. There are two agent reports supported, an agent login/logout report and an agent workmode/AUX reason code report. The procedure includes the following steps:

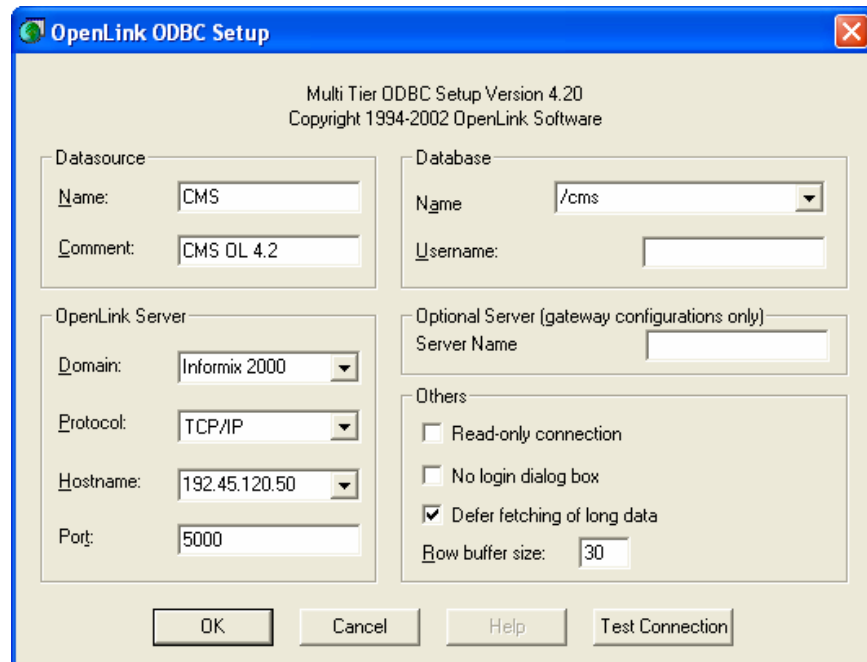
- Configure the ODBC Interface
- Configure the `Ispis_Ul.ini` File
- Administer External System for Avaya CMS
- Configure Master Data in iWFM for the Splits/Skills and VDN Reports including:
 - Queues
 - Value Types
 - Map Value Types to Queues
 - Associate the Value Type in iWFM with the data items in Avaya CMS
- Configure Master Data in iWFM for the Agent Login/Logout Report including:
 - Planning Unit to group master data
 - Contracts for employees in call center
 - Employees for Call Center Agents
 - Activities for Splits/Skills
 - Map Activities, Planning Unit, and External System to Employees
 - Map External System to Activities
- Configure Master Data in iWFM for Agent Workmode/AUX Reason Code Report including:
 - Activities for Workmodes and AUX Reason Codes

5.1. Configure the ODBC Interface

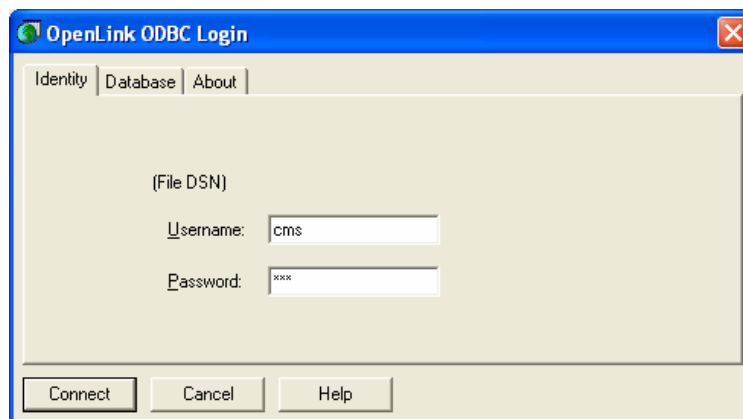
This section covers the configuration of the ODBC interface to Avaya CMS. A connection to the Avaya CMS Informix database is established using an ODBC driver installed on the InVision Enterprise WFM server. The ODBC client software is supplied with the Avaya CMS software. To configure the ODBC interface, navigate to **Administrative Tools→Data Sources (ODBC)** in the Windows control panel. The following screen is displayed. Note that the following screen lists the ODBC interface, which is already configured for Avaya CMS.



The ODBC interface for Avaya CMS is configured as shown in the figure below.



To test the ODBC connection, click on the **Test Connection** button in the window above. The **ODBC Login** window shown below is displayed. Enter the login credentials for Avaya CMS and click the **Connect** button.



If the ODBC connection is successfully established to Avaya CMS, the following status window is displayed.



5.2. Configure the Isps_U1.ini File

The internal settings of the ODBC interface are specified in the Isps_U1.ini file. The parameters should be configured as follows:

- **Protocol** should be set to '1' to enable debug on the interface.
- **TimeZone** provides a numerical value specifying the desired time zone.
- **Source** specifies the name of the ODBC connection configured in section 5.1.
- **User** and **Password** should be set to the login information for the ODBC connection.
- **Interval** defines the interval setting in minutes for grouping call data statistics.

The last four parameters in the Avaya ODBC section of the file are required for the historical agent reports. These fields are not required for the historical splits/skills and VDN reports. The **IgnoreBreaks** parameter should be set to '1' if only the Agent login/logout report will be supported. If the Agent workmode/AUX reason code report will be supported, then the **IgnoreBreaks** parameters should be set to '0'. The other parameters should be configured as shown below.

```
[GENERAL]
CallLastAutoImportDate=22.08.2003
CallAutoImportMode=2
CallAutoImportTime=06:00
CallAutoImportInterval=15
AgentLastAutoImportDate=22.08.2003
AgentAutoImportMode=2
AgentAutoImportTime=06:30
AgentAutoImportInterval=15
NoAutoImportStartTime=
NoAutoImportEndTime=
Protocol=1
CallAutoImportIntervalReferenceTime=00:00
AgentAutoImportIntervalReferenceTime=00:00
AutomaticImportForMissingDays=1
WriteAlways=0

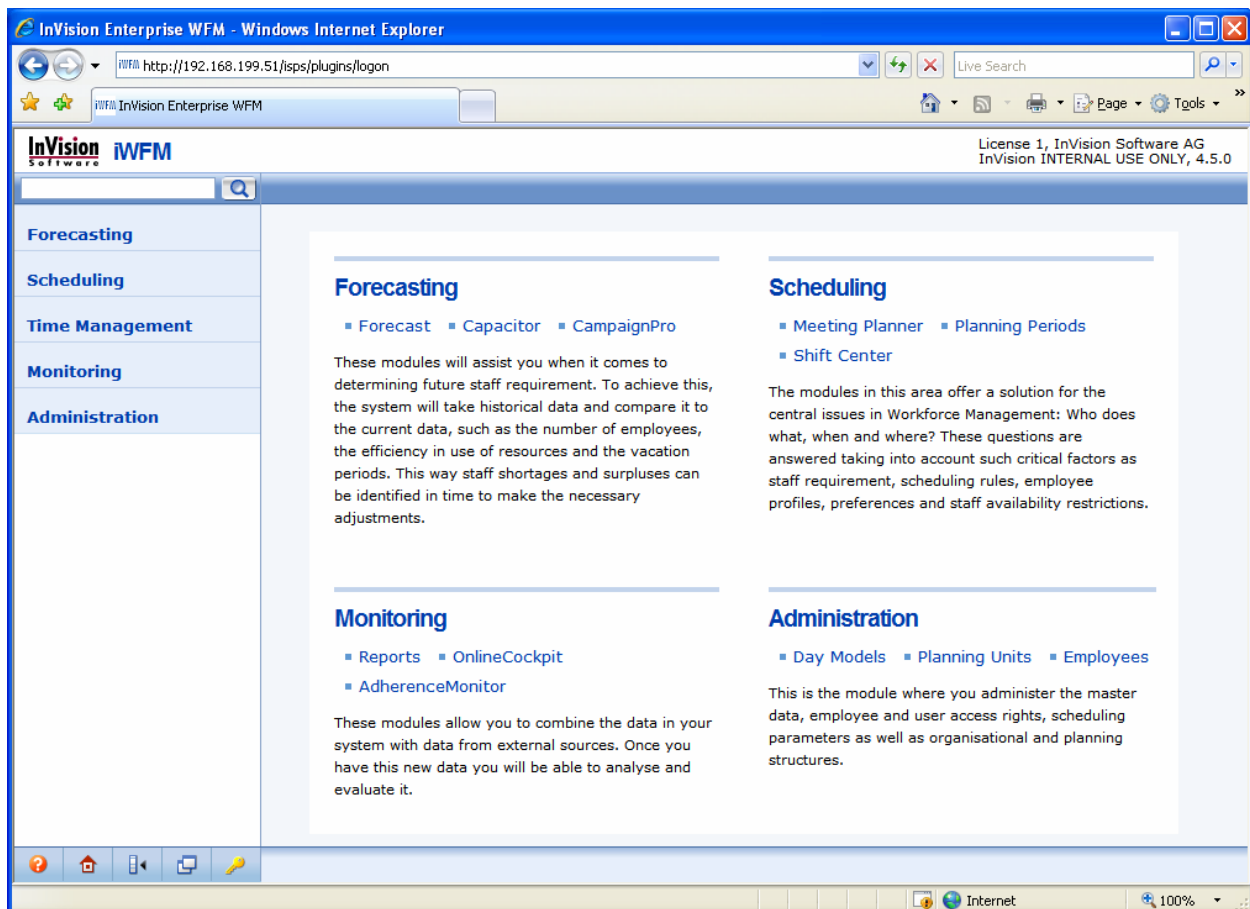
[DB]
1=R4-System,0,admin,D2038D07FE62503015

[R4-System]
CallVersionId=101
AgentLevelId=5000

[Avaya ODBC]
Protocol=1
TimeZone=12
Source=CMS
User=cms
Password=XXXXX
Interval=30
IgnoreBreaks=0
LoadAllAgentActivities=1
IncludeWorkmodeForAgent=1
MinimumActivityDuration=0
```

5.3. Configure Master Data in InVision Enterprise WFM for Historical Reports

This section covers the configuration of master data in InVision Enterprise WFM. Master data includes external systems, planning units, queues, value types, contracts, employees, and activities. To configure master data on iWFM, launch an Internet browser and enter the IP address of the iWFM server in the URL field. Log in using the appropriate “admin” credentials. The webpage shown below is displayed. iWFM configuration is performed through the AdminPro module of iWFM accessed by selecting the **Administration** option in the left pane.



5.3.1. Administer the External System for Avaya CMS

Before ACD call center data can be imported from Avaya CMS using the ODBC interface, an external system must be added to iWFM to represent the Avaya CMS system. External systems are defined in the AdminPro module of iWFM. From iWFM, navigate to **Administration→System→External Systems**. Click on the “+” icon to add a new external system. When adding an external system, set the **System Description** field to *Avaya CentreVu CMS* and provide a descriptive name (e.g., Avaya ODBC). For the splits/skills and VDN reports, enable the **PhoneLink** checkbox. For the agent reports, enable the **TimeLink** checkbox. Click **OK** to submit the form.

The screenshot shows the 'AdminPro / External Systems' window. The left sidebar contains a navigation tree with categories: Forecasting, Scheduling, Time Management, Monitoring, and Administration. Under Administration, the 'System' folder is expanded, showing 'External Systems' as the selected item. The main area displays a list of external systems with 'Avaya ODBC' selected. The right pane shows the configuration for 'Avaya ODBC' with two tabs: 'General' and 'System Connection'. The 'General' tab is active, showing 'System Description' set to 'Avaya CentreVu CMS', 'Name' set to 'Avaya ODBC', and 'Real Time Option' unchecked. The 'System Connection' tab is also visible, showing 'PhoneLink' checked, 'TimeLink' checked, and 'StaffLink' unchecked. At the bottom right are 'OK' and 'Cancel' buttons. The top right corner displays the license information: 'License 1, InVision Software AG, InVision INTERNAL USE ONLY, 4.5.0'.

Category	Sub-category	Item
Forecasting		
Scheduling		
Time Management		
Monitoring		
Administration	System	Scheduling Rules
		Settings
		External Systems
		Group Authorisation
		User Authorisation
		Password

Field	Value
System Description	Avaya CentreVu CMS
Name	Avaya ODBC
Real Time Option	<input type="checkbox"/>
PhoneLink	<input checked="" type="checkbox"/>
TimeLink	<input checked="" type="checkbox"/>
StaffLink	<input type="checkbox"/>

5.3.2. Configure Master Data for Splits/Skills and VDN Reports

This section covers the administration of master data for the splits/skills and VDN reports.

5.3.2.1 Administer Queues

Create **Queues** for splits/skills and VDNs. Navigate to **Administration→Forecasting→Queues** in AdminPro and provide a descriptive name and abbreviation for the split/skill. Enable the **Active** checkbox. Click **OK** to submit the form. Repeat for each split/skill and VDN to be monitored by iWFM.

The screenshot shows the 'InVision AdminPro / Queues' window. The left sidebar has a tree view with 'Administration' expanded, then 'Forecasting', and finally 'Queues' selected. The main pane shows a list of queues: 'Invision HG1', 'Invision HG2', and 'SuperQueueRoot'. 'Invision HG1' is selected. The right pane shows the configuration for 'Invision HG1' with tabs for 'General', 'Event Types', and 'Value Types'. The 'General' tab is active, showing fields for Name (Invision HG1), Abbreviation (Invision HG1), Active (checked), Interval (30), and Description. The 'Event Types' and 'Value Types' sections are empty, showing 'No entries are available.' at the bottom. The window title bar includes 'License 1, InVision Software AG' and 'InVision INTERNAL USE ONLY, 4.5.0'.

The following screen provides an example of a **Queue** configured for a VDN.

The screenshot shows the 'InVision AdminPro / Queues' window with the same sidebar structure. In the queue list, 'Invision VDN1' is selected. The right pane shows the configuration for 'Invision VDN1'. The 'General' tab is active, with fields for Name (Invision VDN1), Abbreviation (Invision VDN1), Active (checked), Interval (30), and Description. The 'Event Types' and 'Value Types' sections are empty, showing 'No entries are available.' at the bottom. The window title bar includes 'License 1, InVision Software AG' and 'InVision INTERNAL USE ONLY, 4.5.0'.

5.3.2.2 Administer Value Types

Create **Value Types** corresponding to the call center data statistics imported by iWFM. Navigate to **Administration**→**Forecasting**→**Value Types** in AdminPro and provide a descriptive name and abbreviation for each data item in the historical reports. These data items are available from Avaya CMS through the ODBC interface. The figure below provides an example of a value type for the *ABNCALLS* data item. Click **OK** to submit the form. Repeat this step for each data item in the historical splits/skills and VDN reports.

The screenshot shows the InVision AdminPro / Value Types window. The left sidebar contains a tree view with the following categories: Forecasting, Scheduling, Time Management, Monitoring, Administration, Event Types, Value Types (selected), Versions, Queues, Forecast Calendar, Weekly Distribution Curves, Scripts, Campaign Models, Time Management, System, Scheduling Rules, Settings, External Systems, Group Authorisation, User Authorisation, and Password. The main area displays a list of value types under the 'Name' column, including ABNCALLS, ABNCALLS1, ABNCALLS2, ABNCALLS3, ABNCALLS4, ABNCALLS5, ACCEPTABLE, ACDCALLS, ACDDTIME, ACWTIME, ANSTIME, BUSYCALLS, CALLOFFERED, DISCCALLS, INCALLS, INFLOWCALLS, I_ACDTIME, I_ACWTIME, I_AUXTIME, I_AVAILTIME, I_STAFFTIME, MAXOCWTIME, OTHERCALLS, OUTFLOWCALLS, and VDISCCALLS. The 'ABNCALLS' value type is selected, and its details are shown in the right pane. The 'General' tab is active, displaying the following fields: Name (ABNCALLS), Abbreviation (ABNCALLS), Type (Sum), and Description (empty). The bottom of the window has 'OK' and 'Cancel' buttons.

Name
ABNCALLS
ABNCALLS1
ABNCALLS2
ABNCALLS3
ABNCALLS4
ABNCALLS5
ACCEPTABLE
ACDCALLS
ACDDTIME
ACWTIME
ANSTIME
BUSYCALLS
CALLOFFERED
DISCCALLS
INCALLS
INFLOWCALLS
I_ACDTIME
I_ACWTIME
I_AUXTIME
I_AVAILTIME
I_STAFFTIME
MAXOCWTIME
OTHERCALLS
OUTFLOWCALLS
VDISCCALLS

Value Type: ABNCALLS

General

Name: ABNCALLS

Abbreviation: ABNCALLS

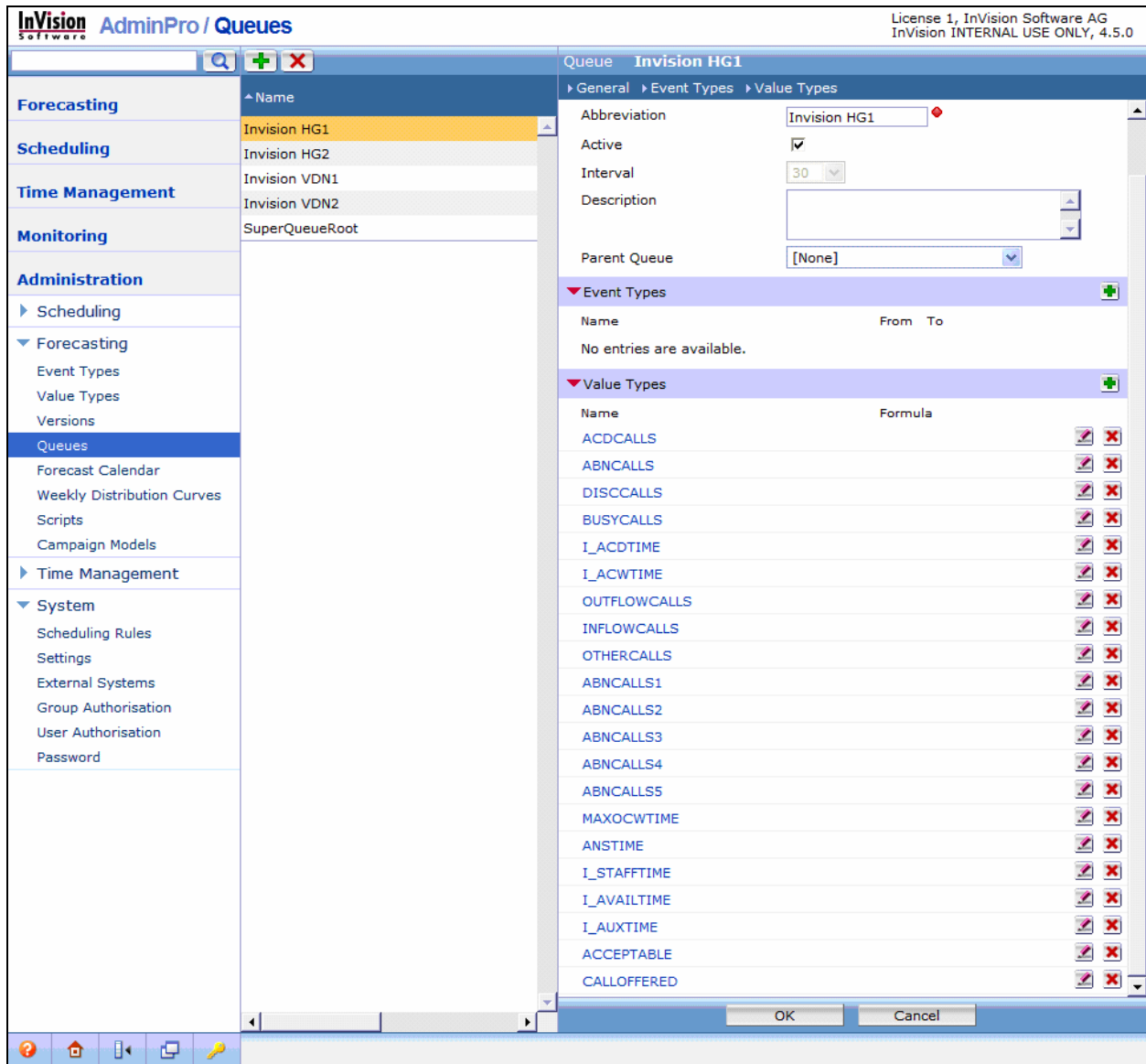
Type: Sum

Description:

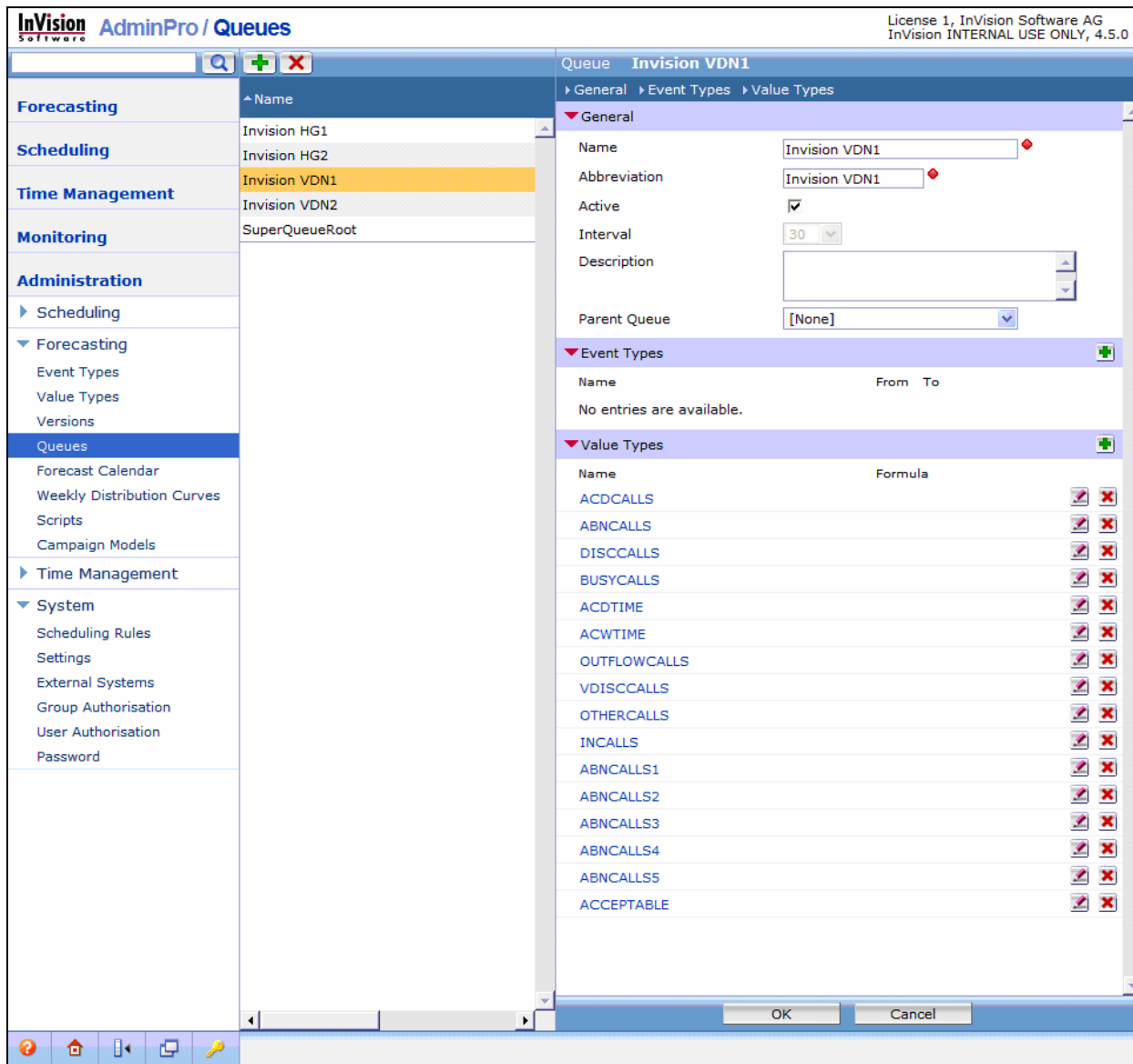
OK Cancel

5.3.2.3 Map Value Types to Queues

Edit the **Queue** configured in **section 5.3.2.1** for each split/skill and scroll down to the **Value Types** section and map the value types configured in **section 5.3.2.2** to this queue by clicking on the “+” icon in that section. The figure below displays the value types relevant to the queue associated with the splits/skills.

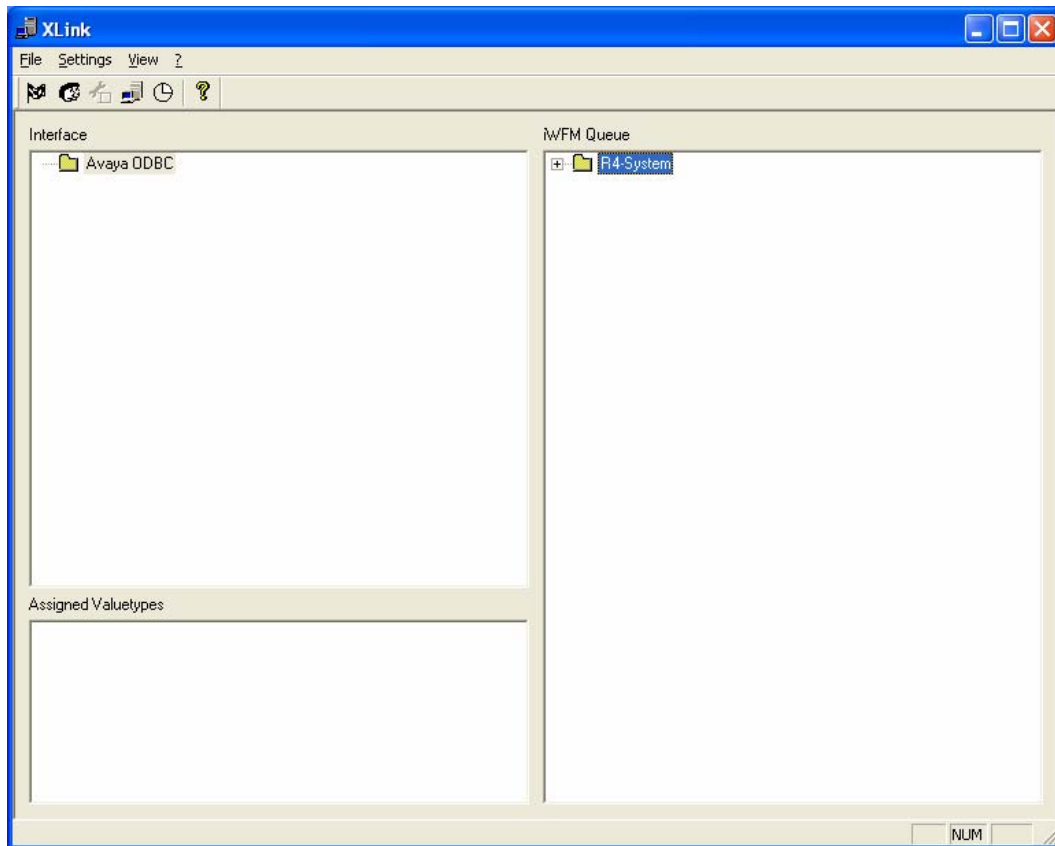


Edit the **Queue** configured in **section 5.3.2.1** for each VDN and scroll down to the **Value Types** section and map the value types configured in **section 5.3.2.2** to this queue by clicking on the “+” icon in that section. The figure below displays the value types relevant to the queue associated with the VDNs.

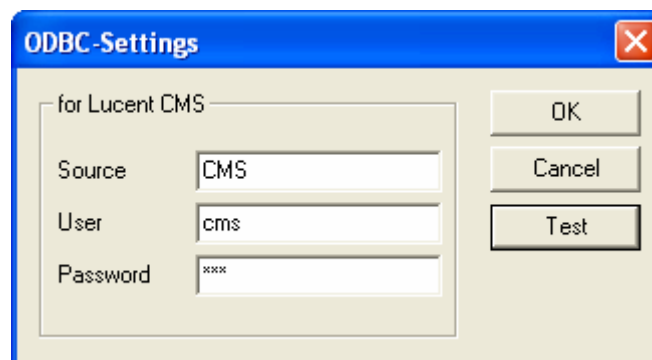


5.3.2.4 Associate iWFM Value Types to Avaya CMS Data Items

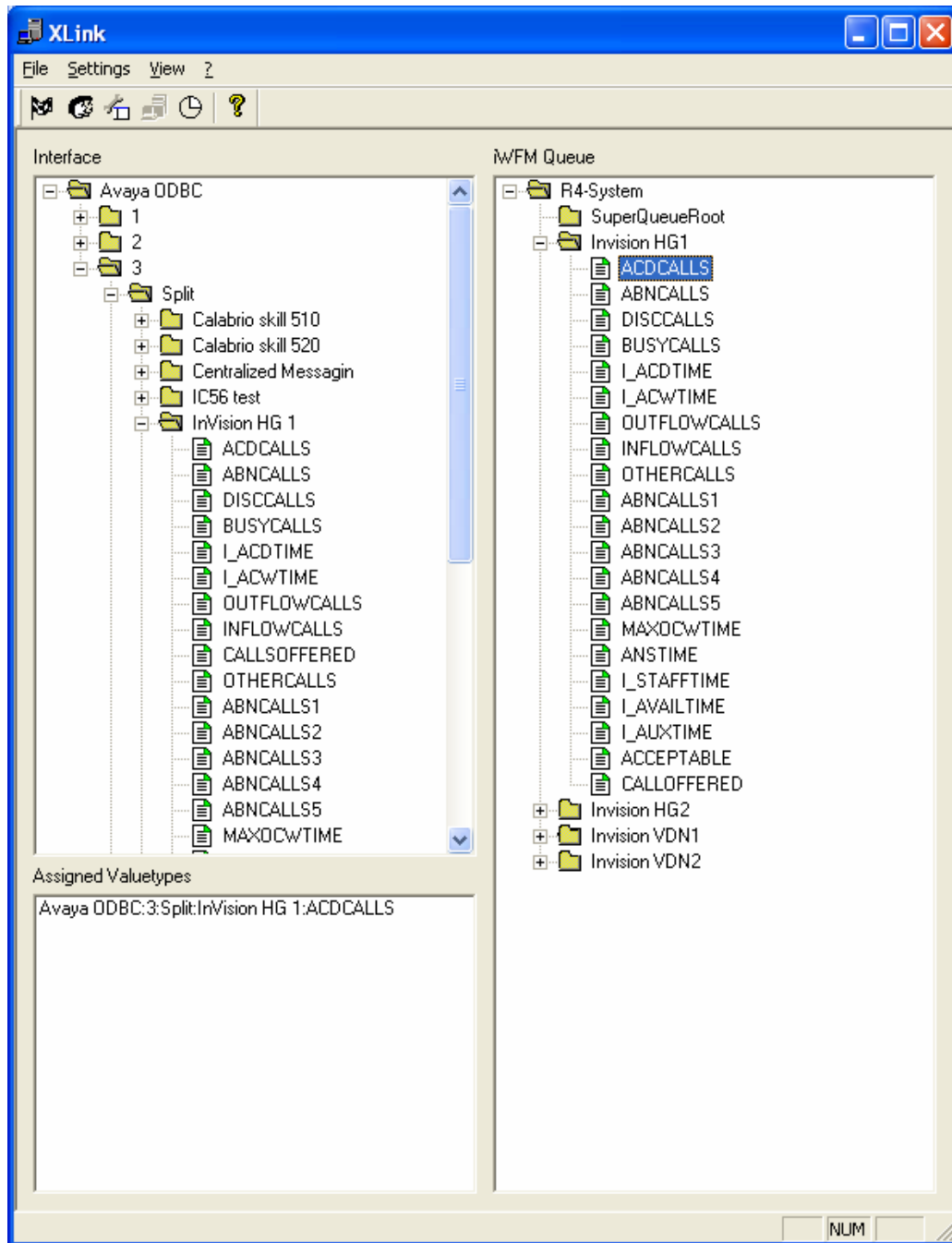
Start the **XLink** application to associate the value types configured in iWFM in **section 5.3.2.2** to the data items available from Avaya CMS via the ODBC interface. The `Ispis_Ul.ini` file configured in **section 5.2** is used by **XLink**. To start **XLink**, run the `Ispis_Uls.exe` application located in the `C:\Program Files\InVision Enterprise WFM\Client` directory. The window shown below is displayed.



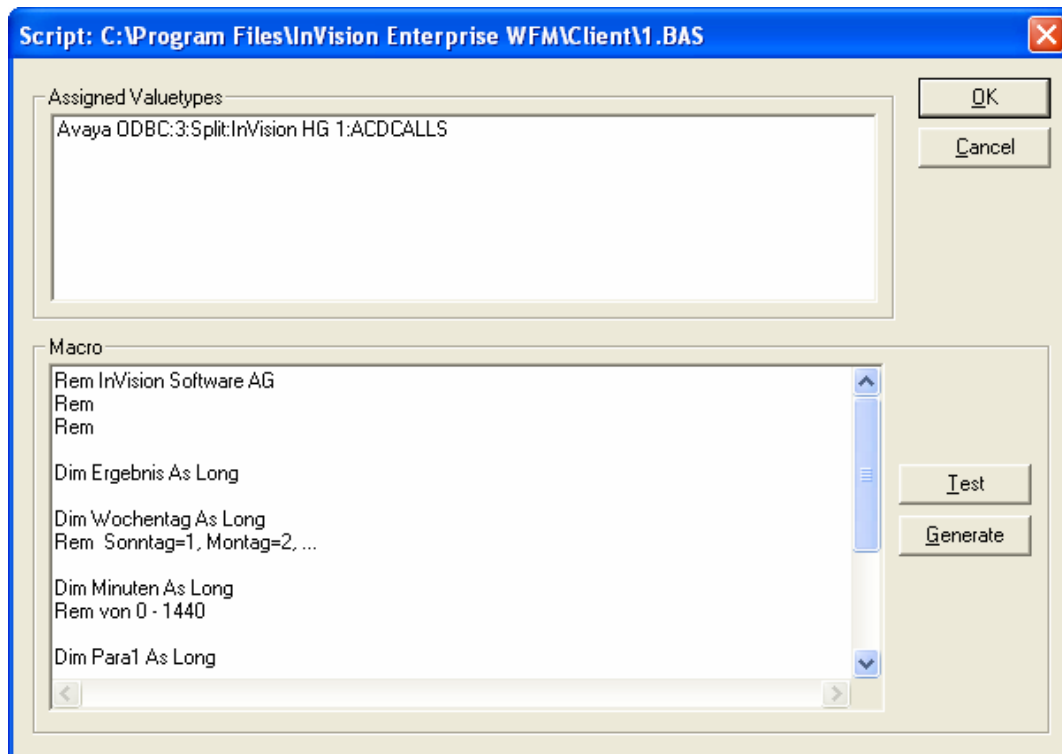
From the **Settings** menu option, select **ODBC-Settings** to configure the ODBC source and login credentials as shown below.



XLink displays the Avaya CMS data items available on the left and the iWFM value type on the right. These sub-items are displayed by expanding the options on each side of the screen. To associate an iWFM value type to a CMS data item, select the value type (e.g., ACDCALLS) and then double-click on the corresponding data item in the Avaya ODBC side (e.g., ACDCALLS). The association can be seen in the **Assigned Valuetypes** section of the window. Repeat these steps for all value types under all splits/skills and VDNs to be monitored by iWFM.



The next step is to generate the script for each association. To access this window, double-click the valuetype on the iWFM queue display. Click the **Generate** button to generate the script automatically which is displayed in the **Macro** sub-window shown below.



5.3.3. Configure Master Data for Agent Login/Logout Report

This section covers the administration of master data for the Agent Login/Logout report.

5.3.3.1 Administer the Planning Unit

Create a planning unit to group employees and other master data. To define a planning unit, navigate to **Administration→Scheduling→Planning Units** in the AdminPro module. Provide a descriptive name and abbreviation for the planning unit and set the **Interval** field to the appropriate value. Click **OK** to submit the form.

The screenshot shows the 'AdminPro / Planning Units' window. On the left is a navigation tree with categories: Forecasting, Scheduling, Time Management, Monitoring, and Administration. Under Administration, 'Scheduling' is expanded, showing sub-items: Skills, Activities, Day Models, Week Time Patterns, Work Time Pattern Models, and Shift Sequences. The main area displays a table with columns 'Colour' and 'Name'. One entry is visible: 'Avaya Call Center' with a black color swatch. To the right of the table is a configuration panel for the selected 'Avaya Call Center' unit. It has tabs for 'General', 'Business Hours', 'Activities', 'Day Models', 'User-Defined Parameters', and 'Cost Centre Parameters'. The 'General' tab is active, showing fields for Name (Avaya Call Center), Abbreviation (Avaya Call Center), Colour (black), Interval (15), Number of Workplaces (0), and Parent Planning Unit ([None]). Below these are sections for 'Business Hours' (showing 'No entries are available.') and 'Activities'. At the bottom are 'OK' and 'Cancel' buttons. The top right corner of the window displays the license information: 'License 1, InVision Software AG, InVision INTERNAL USE ONLY, 4.5.0'.

5.3.3.2 Administer Contract

Create a **Contract** for all of the employees who will be scheduled in iWFM. Contracts contain data about working hours, company regulations, and scheduling rules parameters that are important for scheduling each individual employee. To add a contract, navigate to **Administration**→**Scheduling**→**Contracts** in AdminPro. Provide a descriptive name and abbreviation for the contract and configure the other mandatory fields, indicated by a red bullet. Click **OK** to submit the form.

The screenshot shows the InVision AdminPro / Contracts window. The left sidebar contains a navigation menu with categories: Forecasting, Scheduling, Time Management, Monitoring, and Administration. Under Administration, the Scheduling sub-menu is expanded, showing options like Skills, Activities, Day Models, Week Time Patterns, Work Time Pattern Models, Shift Sequences, Day Types, Planning Units, Planning Calendar, Selections, Attributes, Workplaces, Bonus Points Systems, Contracts (highlighted), Modulation Periods, and Employees. The main window displays the 'Basic Contract' form. The form has a title bar 'Contract Basic Contract' and a breadcrumb trail: 'General' > 'Work Time Guideline' > 'Working Hours for Each Day of the Week' > 'AutoScheduler Parameters' > 'Scheduling Parameters' > 'Overtime Factor' > 'Bonus Points Systems'. The 'General' section includes fields for Name, Abbreviation, Colour, Working Days Per Week, Calculation of the Workdays, Type of Employment, Target Work Time Calculation, and Previous Year's Vacation Invalid on. The 'Work Time Guideline' section is a table with columns for Day, Week, Month, and Year, and rows for Minimum, Target, and Maximum values. The 'Working Hours for Each Day of the Week' section includes fields for Monday, Tuesday, Wednesday, and Thursday. The bottom status bar shows 'Number of entries: 1'.

Day	Minimum	Target	Maximum
Monday	:	:	:
Tuesday	:	:	:
Wednesday	:	:	:
Thursday	:	:	:

5.3.3.3 Administer Employees

Add an employee corresponding to each agent in the call center. To add an employee, navigate to **Administration**→**Scheduling**→**Employees** in AdminPro. Provide a **Personnel Number** and a **Last Name**. The **First Name** is optional. Click **OK** to submit the form.

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InVision INTERNAL USE ONLY, 4.5.0

Planning Unit [All]
Selection [All]

Forecasting
Scheduling
Time Management
Monitoring
Administration

▼ Scheduling
Skills
Activities
Day Models
Week Time Patterns
Work Time Pattern Models
Shift Sequences
Day Types
Planning Units
Planning Calendar
Selections
Attributes
Workplaces
Bonus Points Systems
Contracts
Modulation Periods
Employees
► Forecasting

Colour	Personnel Number	Name
	1	Agent 29101,
	2	Agent 29102,
	3	Agent 29103,
	4	Agent 29104,

Employee Agent 29101, Avaya

► General ► Personal Data ► Miscellaneous ► Contracts ► Availability ► Skill Levels ► Activities
► Planning Units ► Attributes ► Shift Sequences ► Selections ► External Systems ► Workplaces
► Work Time Pattern Models ► Cost Centres ► Unit Costs ► Time Management Rules

▼ General

Personnel Number
User Name
Password
Join Date
Leave Date

▼ Personal Data

Valid From
Valid To
Title
First Name
Middle Name(s)
Last Name
Street
Postcode
City
Telephone
Telephone 2
E-Mail
E-Mail 2
Country
Marital Status

OK Cancel

Scroll down to the **Contracts** section and map the contract configured in **section 5.3.3.2** to the employee by clicking on the “+” icon in that section. Next, map the **Planning Unit** configured in **section 5.3.3.1** to the employee.

Finally, scroll down to the **External Systems** section and map the external system configured in **section 5.3.1** to the employee as shown in the figure below.

Repeat these steps for each agent in the call center.

5.3.3.4 Administer Activities

Define **Activities** corresponding to splits/skills and VDNs. To add activities, navigate to **Administration→Scheduling→Activities** in AdminPro. Click on the “+” icon to add an activity. The following screen shows the configuration of a split/skill as an example. Provide a descriptive name and abbreviation for the activity and set the activity type to the appropriate value. For the split/skill, the **Type** field is set to **Presence**. Click **OK** to submit the form.

The screenshot displays the 'InVision AdminPro / Activities' window. On the left, a navigation pane shows the 'Administration' menu with 'Scheduling' > 'Activities' selected. The main area shows a list of activities: 'Invision HG1' (highlighted), 'Invision HG2', and 'Present'. The right pane shows the configuration for 'Invision HG1'. The 'General' tab is active, showing fields for Name, Abbreviation, Colour, Type (set to 'Presence'), and Importance (100.00). There are also checkboxes for 'Paid', 'Comply With Rest Period', 'Plannable', 'Requestable', 'Replaceable', 'Exchangeable', and 'Allow Overstaffing If Requirement Is Zero'. The 'Third Party Software' section is collapsed. At the bottom, there are 'OK' and 'Cancel' buttons.

Colour	Name
	Invision HG1
	Invision HG2
	Present

Activity: Invision HG1

General

Name: Invision HG1

Abbreviation: Invision HG1

Colour: [Black]

Type: Presence

Importance: 100.00

Paid: ☐

Comply With Rest Period: ☐

Plannable: ☐

Requestable: ☐

Replaceable: ☐

Exchangeable: ☐

Allow Overstaffing If Requirement Is Zero: ☐

Official Name: []

Official Abbreviation: []

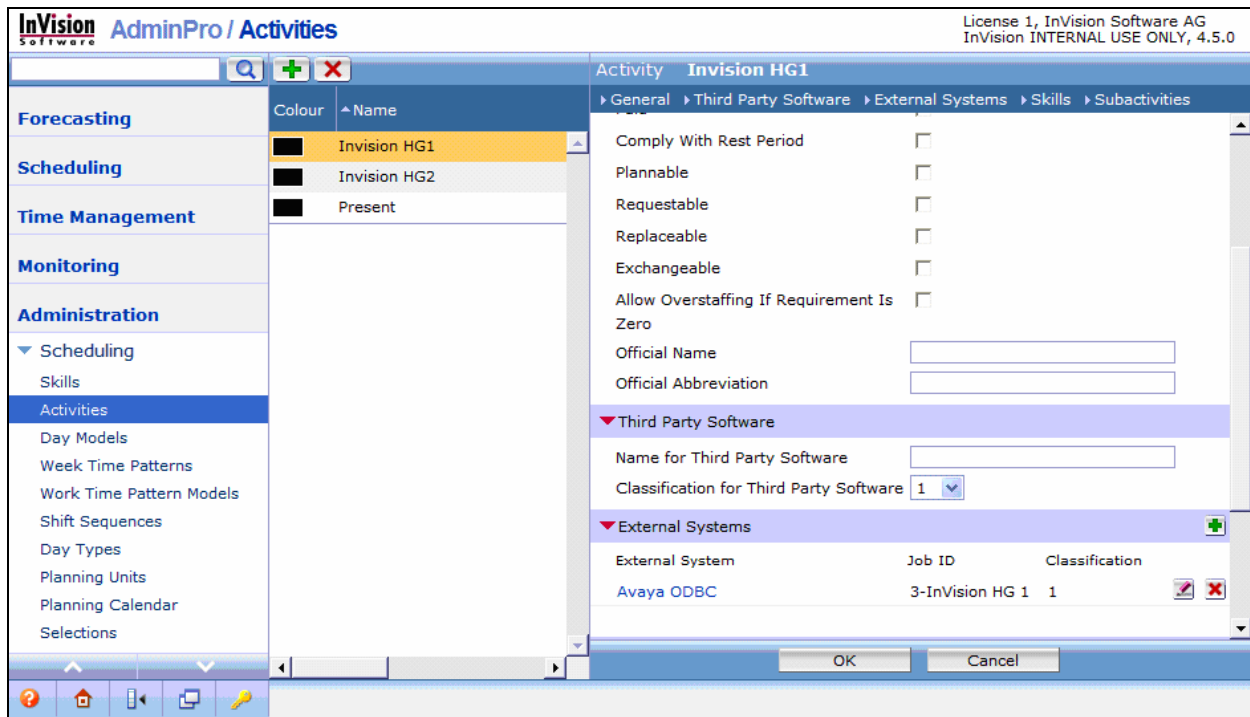
Third Party Software

Name for Third Party Software: []

Classification for Third Party Software: 1

OK Cancel

In the **External Systems** section, map the external system configured in **section 5.3.1** to this activity. The iWFM ODBC interface creates system activities to which iWFM activities can be mapped based on the supplied configuration. Repeat these steps for each split/skill.



5.3.3.5 Map Activities to Planning Unit

Edit the **Planning Unit** configured in **section 5.3.3.1**. Map the Activities configured in **section 5.3.3.4** to this planning unit.

5.3.4. Configure Master Data for Agent Workmode/AUX Reason Codes Report

This section covers the administration of master data for the Agent Workmode/AUX Reason Codes report. This report requires all of the master data configured in **section 5.3.3** and additional **Activities** for workmodes and AUX reason codes.

5.3.4.1 Administer Activities

Define **Activities** corresponding to workmodes and AUX reason codes. To add activities, navigate to **Administration→Scheduling→Activities** in AdminPro. Click on the “+” icon to add an activity. The following screen shows the configuration of the *ACD* workmode as an example. Provide a descriptive name and abbreviation for the activity and set the activity type to the appropriate value. For the ACD workmode, the **Type** field is set to **Presence**. Click **OK** to submit the form. In the **External Systems** section, map the external system configured in **section 5.3.1** to this activity. Repeat these steps for each workmode. The figure below displays the workmodes and AUX reason codes configured for this test configuration.

The screenshot shows the InVision AdminPro / Activities configuration window. The left sidebar lists various categories: Forecasting, Scheduling, Time Management, Monitoring, and Administration. Under Administration, the Scheduling section is expanded, showing a list of activities. The 'ACD' activity is selected and highlighted in yellow. The main window displays the configuration form for the 'ACD' activity. The form is divided into several sections: General, Third Party Software, and External Systems. The General section includes fields for Name (ACD), Abbreviation (ACD), Colour (black), Type (Presence), Importance (100.00), Paid (checkbox), Comply With Rest Period (checkbox), Plannable (checkbox), Requestable (checkbox), Replaceable (checkbox), Exchangeable (checkbox), Allow Overstaffing If Requirement Is Zero (checkbox), Official Name, and Official Abbreviation. The Third Party Software section includes fields for Name for Third Party Software and Classification for Third Party Software (1). The External Systems section includes a table with columns for External System, Job ID, and Classification. The table shows one entry: Avaya ODBC, 3-ACD, 1. The bottom of the window has OK and Cancel buttons.

External System	Job ID	Classification
Avaya ODBC	3-ACD	1

AUX reason codes are also configured as activities. The following screen shows the configuration of the *Training* AUX reason code as an example. Some AUX reason codes, such as Break and Lunch are configured with a **Type** of *Break*.

The screenshot shows the 'InVision AdminPro / Activities' window. The left sidebar contains a tree view with categories: Forecasting, Scheduling, Time Management, Monitoring, and Administration. Under Administration, 'Activities' is selected. The main area displays a list of activities with columns 'Colour' and 'Name'. 'Training' is highlighted in yellow. To the right, the 'Training' activity configuration form is open, showing tabs for General, Third Party Software, External Systems, Skills, and Subactivities. The 'General' tab is active, showing fields for Name, Abbreviation, Colour, Type (set to 'Presence'), Importance (100.00), and various checkboxes for Paid, Comply With Rest Period, Plannable, Requestable, Replaceable, Exchangeable, and Allow Overstaffing. Below these are fields for Official Name and Official Abbreviation. The 'Third Party Software' tab shows fields for Name for Third Party Software and Classification for Third Party Software (set to 1). The 'External Systems' tab shows a table with one entry: 'Avaya ODBC' with Job ID '3-Training' and Classification '1'. The bottom of the window has 'OK' and 'Cancel' buttons.

Category	Activity	Colour	Name
Forecasting	Present		Present
	Invision HG1		Invision HG1
Scheduling	Invision HG2		Invision HG2
	Lunch		Lunch
Time Management	Training		Training
	Meeting		Meeting
Monitoring	Break		Break
	Default-AUX		Default-AUX
	RING		RING
	DACW		DACW
	DACD		DACD
	ACW		ACW
	ACD		ACD
	OTHER		OTHER
	AVAIL		AVAIL
	TRACE-ON		TRACE-ON
Administration	TRACE-OFF		TRACE-OFF
	UNKNOWN		UNKNOWN

Field	Value
Name	Training
Abbreviation	Training
Colour	
Type	Presence
Importance	100.00
Paid	<input type="checkbox"/>
Comply With Rest Period	<input type="checkbox"/>
Plannable	<input type="checkbox"/>
Requestable	<input type="checkbox"/>
Replaceable	<input type="checkbox"/>
Exchangeable	<input type="checkbox"/>
Allow Overstaffing If Requirement Is Zero	<input type="checkbox"/>
Official Name	
Official Abbreviation	

Field	Value
Name for Third Party Software	
Classification for Third Party Software	1

External System	Job ID	Classification
Avaya ODBC	3-Training	1

5.3.4.2 Map Activities to Planning Unit

Edit the **Planning Unit** configured in section 5.3.3.1. Map the Activities configured in section 5.3.4.1 to this planning unit.

6. Interoperability Compliance Testing

The interoperability compliance test included feature testing focused on verifying the ability of InVision Enterprise WFM to import ACD call center data from Avaya CMS using the ODBC interface and displaying splits/skills, VDN, and agent data on iWFM Shift Center and OnlineCockpit.

6.1. General Test Approach

The feature test cases were performed manually. Incoming calls were made to the monitored splits/skills and VDNs to generate call center statistics to be imported into iWFM. In addition, agent activity was generated for the historical agent reports. The verification of all tests included checking the proper display of historical splits/skills, VDN, and agent data in iWFM, including data accuracy.

6.2. Test Results

All test cases were executed and passed.

7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya Call Management System, and InVision Enterprise WFM.

7.1. Verify Avaya Communication Manager

Verify the status of the processor interface channel by using the “status processor-channels n” command, where “n” is the processor channel number from **Section 3.6**. Verify that the **Session Layer Status** is “In Service”, and that the **Socket Status** is “TCP connected”, as shown below.

```
status processor-channels 1
                        PROCESSOR-CHANNEL STATUS

      Channel Number: 1
      Session Layer Status: In Service
      Socket Status: TCP connected
      Link Number: 2
      Link Type: ethernet
      Message Buffer Number: 0

      Last Failure: Far end sent disconnect message
      At: 03/31/08 15:04
```

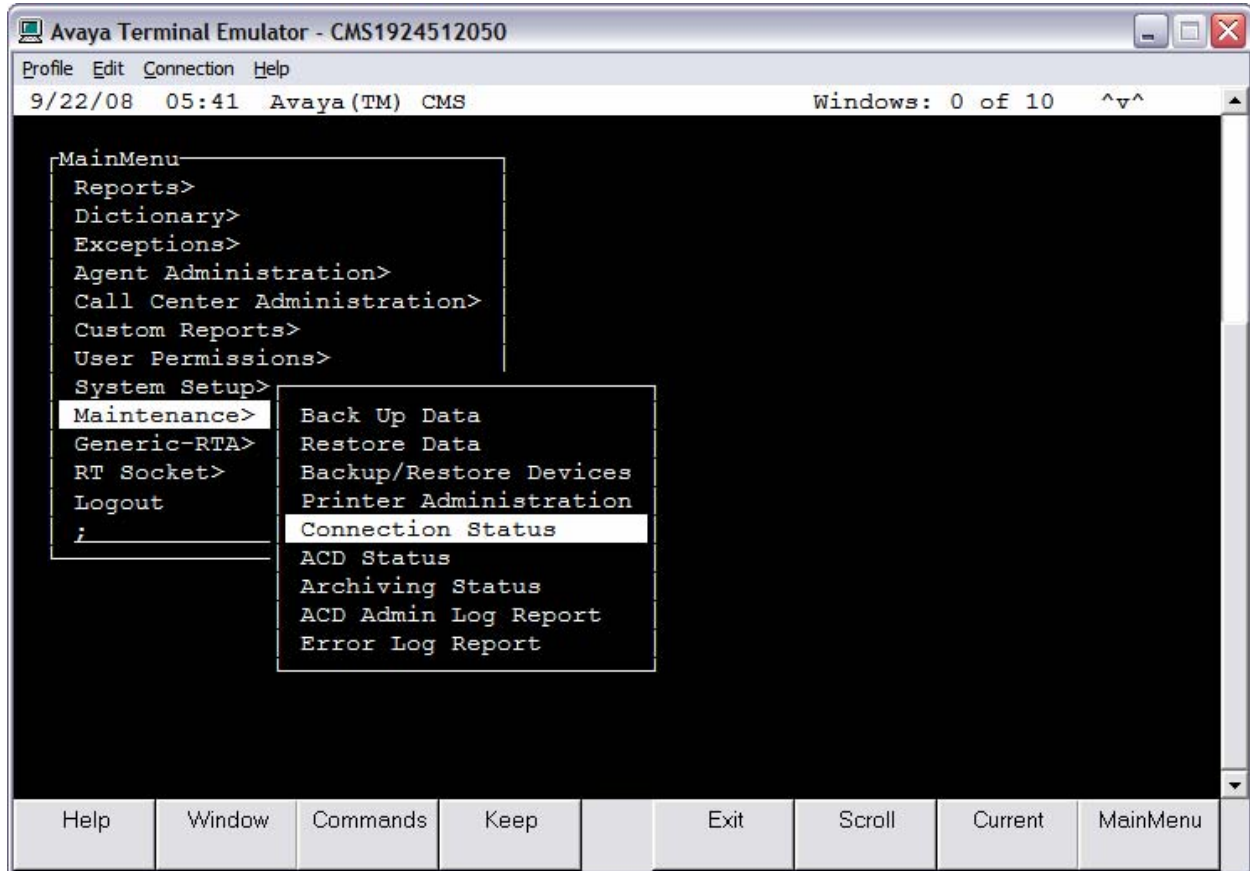
Verify the status of the TCP/IP link number by using the “status link n” command, where “n” is the TCP/IP link number assigned to the C-LAN used to connect to the Avaya CMS server from **Section 3.5**. Verify that the **Link Status** is “connected”, and that the **Service State** is “in-service/active”, as shown below.

```
status link 2
                        LINK/PORT STATUS
                        Page 1 of 5

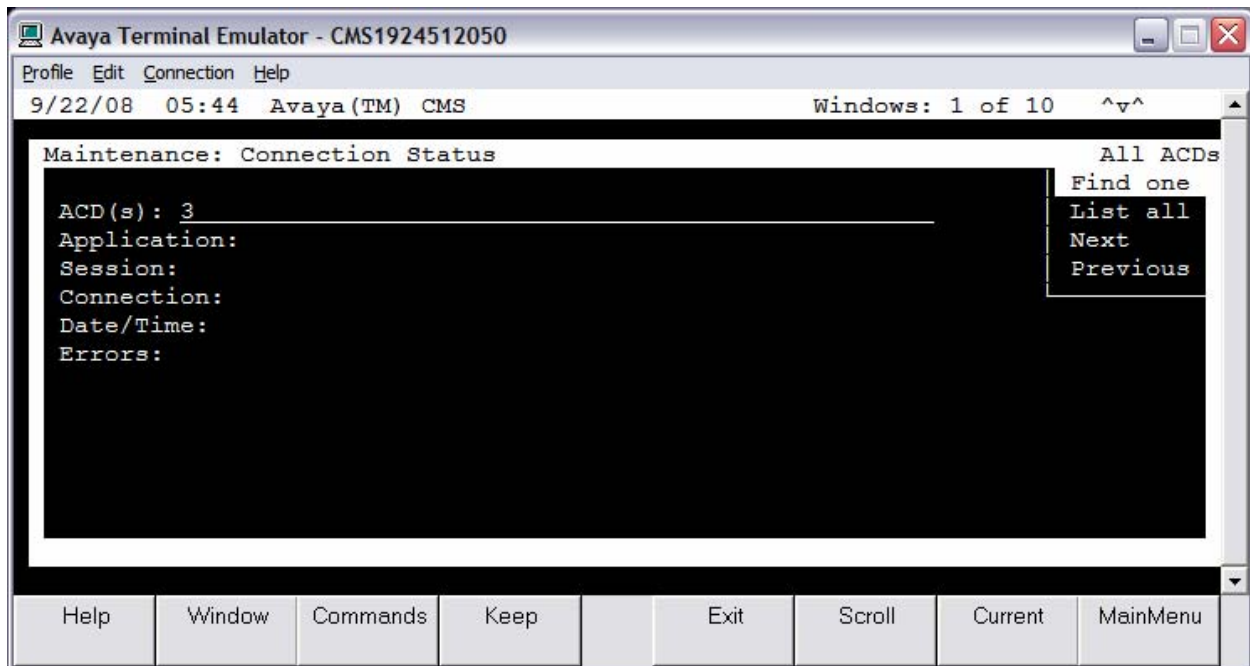
      Link Number: 2
      Link Status: connected
      Link Type: ethernet
      Link Name: Clan2
      Service Port Location: 02A0217
      Service Port Data Extension: 24981
      Service State: in-service/active
      Node Name: clan2
      Source IP Address: 192.45.100.70
      Subnet Mask: 255.255.255.0
      Broadcast Address: 192.45.100.255
      Physical Address: 00:04:0d:4b:28:08
      Enabled? yes
      Maintenance Busy? no
      Active Channels: 1
```

7.2. Verify Avaya Call Management System

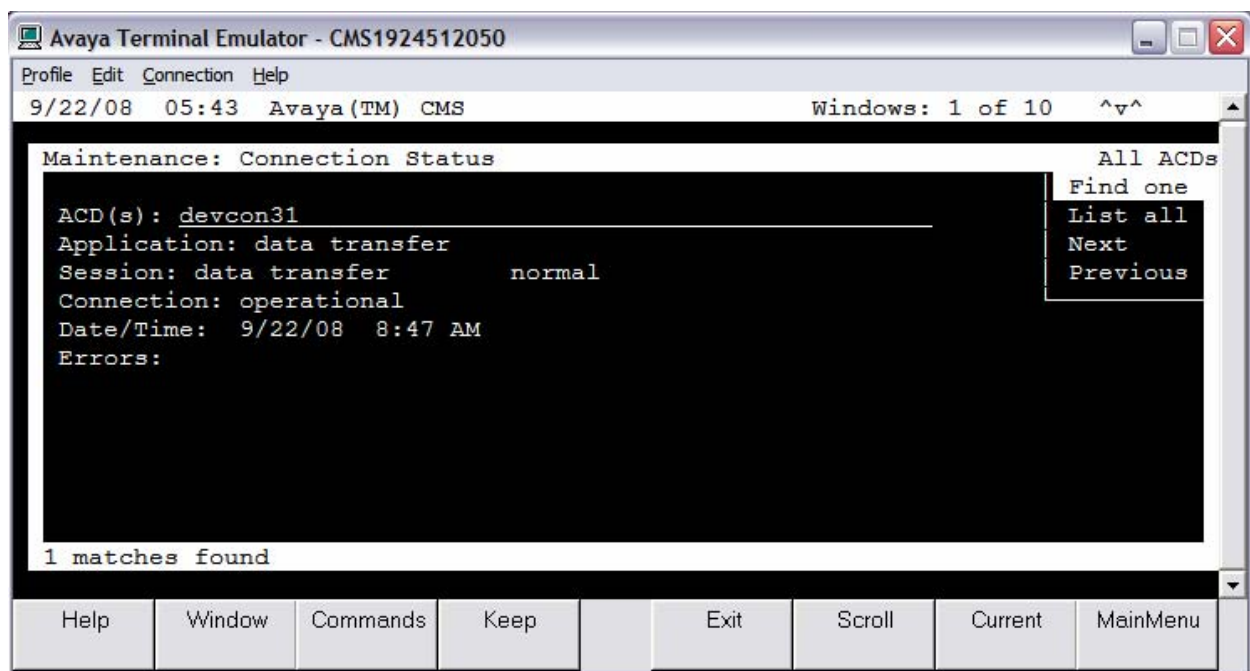
From the **MainMenu**, verify the status of the connection to Avaya Communication Manager by selecting **Maintenance** → **Connection Status**, as shown below.



Enter the corresponding **ACD(s)** number. For the compliance testing, the corresponding switch connection is ACD system “3”. Tab over to **Find one** and press **Enter**.

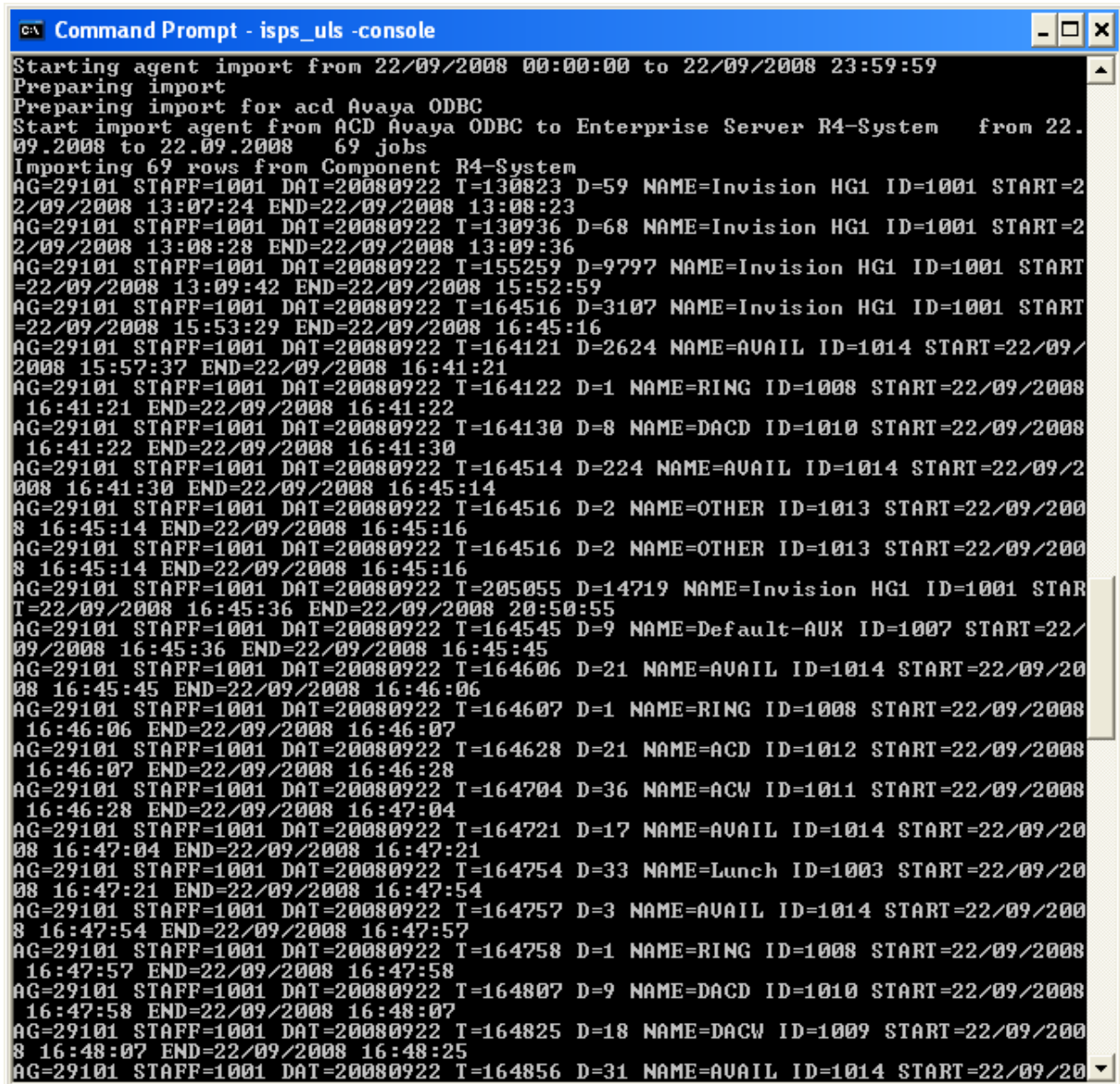


The switch connection status is displayed. Check the status in the **Session** and **Connection** fields, as shown below.



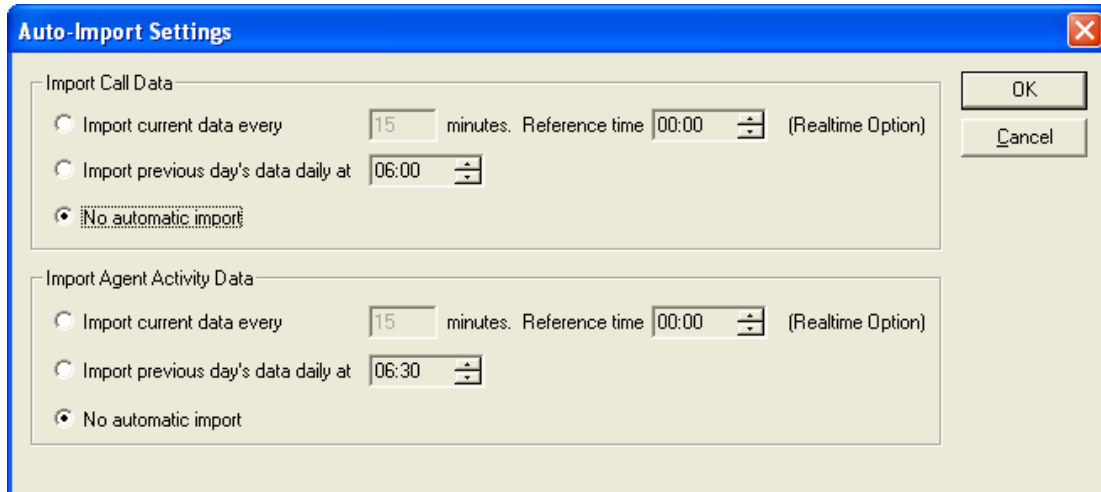
7.3. Verify InVision Enterprise WFM

To run the Avaya CMS ODBC interface on InVision Enterprise WFM, navigate to the C:\Program Files\InVision Enterprise WFM\Server directory using Windows Explorer and double-click on the *Ispis_Uls.exe* application. The window shown below is displayed and updates in real-time as data is being imported via the ODBC interface. Note that data can be imported on an on-demand basis or automatically at pre-defined intervals.



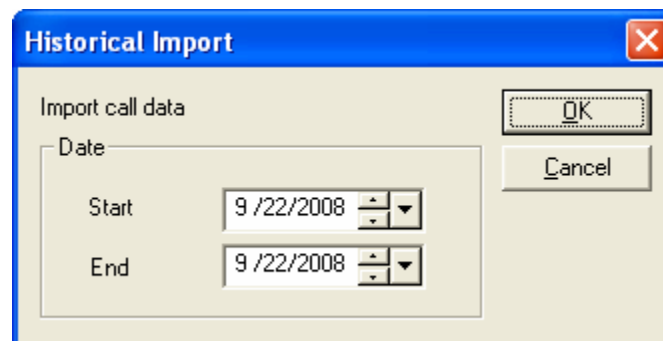
```
Command Prompt - ispis_uls -console
Starting agent import from 22/09/2008 00:00:00 to 22/09/2008 23:59:59
Preparing import
Preparing import for acd Avaya ODBC
Start import agent from ACD Avaya ODBC to Enterprise Server R4-System from 22.
09.2008 to 22.09.2008 69 jobs
Importing 69 rows from Component R4-System
AG=29101 STAFF=1001 DAT=20080922 T=130823 D=59 NAME=Invision HG1 ID=1001 START=2
2/09/2008 13:07:24 END=22/09/2008 13:08:23
AG=29101 STAFF=1001 DAT=20080922 T=130936 D=68 NAME=Invision HG1 ID=1001 START=2
2/09/2008 13:08:28 END=22/09/2008 13:09:36
AG=29101 STAFF=1001 DAT=20080922 T=155259 D=9797 NAME=Invision HG1 ID=1001 START
=22/09/2008 13:09:42 END=22/09/2008 15:52:59
AG=29101 STAFF=1001 DAT=20080922 T=164516 D=3107 NAME=Invision HG1 ID=1001 START
=22/09/2008 15:53:29 END=22/09/2008 16:45:16
AG=29101 STAFF=1001 DAT=20080922 T=164121 D=2624 NAME=AVAIL ID=1014 START=22/09/
2008 15:57:37 END=22/09/2008 16:41:21
AG=29101 STAFF=1001 DAT=20080922 T=164122 D=1 NAME=RING ID=1008 START=22/09/2008
16:41:21 END=22/09/2008 16:41:22
AG=29101 STAFF=1001 DAT=20080922 T=164130 D=8 NAME=DACD ID=1010 START=22/09/2008
16:41:22 END=22/09/2008 16:41:30
AG=29101 STAFF=1001 DAT=20080922 T=164514 D=224 NAME=AVAIL ID=1014 START=22/09/2
008 16:41:30 END=22/09/2008 16:45:14
AG=29101 STAFF=1001 DAT=20080922 T=164516 D=2 NAME=OTHER ID=1013 START=22/09/200
8 16:45:14 END=22/09/2008 16:45:16
AG=29101 STAFF=1001 DAT=20080922 T=164516 D=2 NAME=OTHER ID=1013 START=22/09/200
8 16:45:14 END=22/09/2008 16:45:16
AG=29101 STAFF=1001 DAT=20080922 T=205055 D=14719 NAME=Invision HG1 ID=1001 STAR
T=22/09/2008 16:45:36 END=22/09/2008 20:50:55
AG=29101 STAFF=1001 DAT=20080922 T=164545 D=9 NAME=Default-AUX ID=1007 START=22/
09/2008 16:45:36 END=22/09/2008 16:45:45
AG=29101 STAFF=1001 DAT=20080922 T=164606 D=21 NAME=AVAIL ID=1014 START=22/09/20
08 16:45:45 END=22/09/2008 16:46:06
AG=29101 STAFF=1001 DAT=20080922 T=164607 D=1 NAME=RING ID=1008 START=22/09/2008
16:46:06 END=22/09/2008 16:46:07
AG=29101 STAFF=1001 DAT=20080922 T=164628 D=21 NAME=ACD ID=1012 START=22/09/2008
16:46:07 END=22/09/2008 16:46:28
AG=29101 STAFF=1001 DAT=20080922 T=164704 D=36 NAME=ACW ID=1011 START=22/09/2008
16:46:28 END=22/09/2008 16:47:04
AG=29101 STAFF=1001 DAT=20080922 T=164721 D=17 NAME=AVAIL ID=1014 START=22/09/20
08 16:47:04 END=22/09/2008 16:47:21
AG=29101 STAFF=1001 DAT=20080922 T=164754 D=33 NAME=Lunch ID=1003 START=22/09/20
08 16:47:21 END=22/09/2008 16:47:54
AG=29101 STAFF=1001 DAT=20080922 T=164757 D=3 NAME=AVAIL ID=1014 START=22/09/200
8 16:47:54 END=22/09/2008 16:47:57
AG=29101 STAFF=1001 DAT=20080922 T=164758 D=1 NAME=RING ID=1008 START=22/09/2008
16:47:57 END=22/09/2008 16:47:58
AG=29101 STAFF=1001 DAT=20080922 T=164807 D=9 NAME=DACD ID=1010 START=22/09/2008
16:47:58 END=22/09/2008 16:48:07
AG=29101 STAFF=1001 DAT=20080922 T=164825 D=18 NAME=DACW ID=1009 START=22/09/200
8 16:48:07 END=22/09/2008 16:48:25
AG=29101 STAFF=1001 DAT=20080922 T=164856 D=31 NAME=AVAIL ID=1014 START=22/09/20
```

All of the historical reports can be imported on-demand or automatically at pre-defined intervals. The import settings are configured by selecting **Settings→Auto-Import Settings** from the **XLink** window shown in **section 5.3.2.4**. The figure below shows the configuration for a manual import.



The **Auto-Import Settings** dialog box is shown with a blue title bar and a close button. It contains two sections: **Import Call Data** and **Import Agent Activity Data**. Each section has three radio button options: **Import current data every** (with a numeric input field set to 15 and the text "minutes. Reference time 00:00 (Realtime Option)"), **Import previous day's data daily at** (with a time input field set to 06:00), and **No automatic import** (which is selected). On the right side of the dialog are **OK** and **Cancel** buttons.

If iWFM is configured for manual data imports, then an import can be triggered by selecting **File→Start Import** from the **XLink** window. The following Import call data window is displayed. Specify the **Start** and **End** date for the report and then click **OK**.



The **Historical Import** dialog box is shown with a blue title bar and a close button. It contains a section titled **Import call data** with a **Date** label. Below this label are two rows: **Start** and **End**, each with a date input field set to 9/22/2008 and a dropdown arrow. On the right side of the dialog are **OK** and **Cancel** buttons.

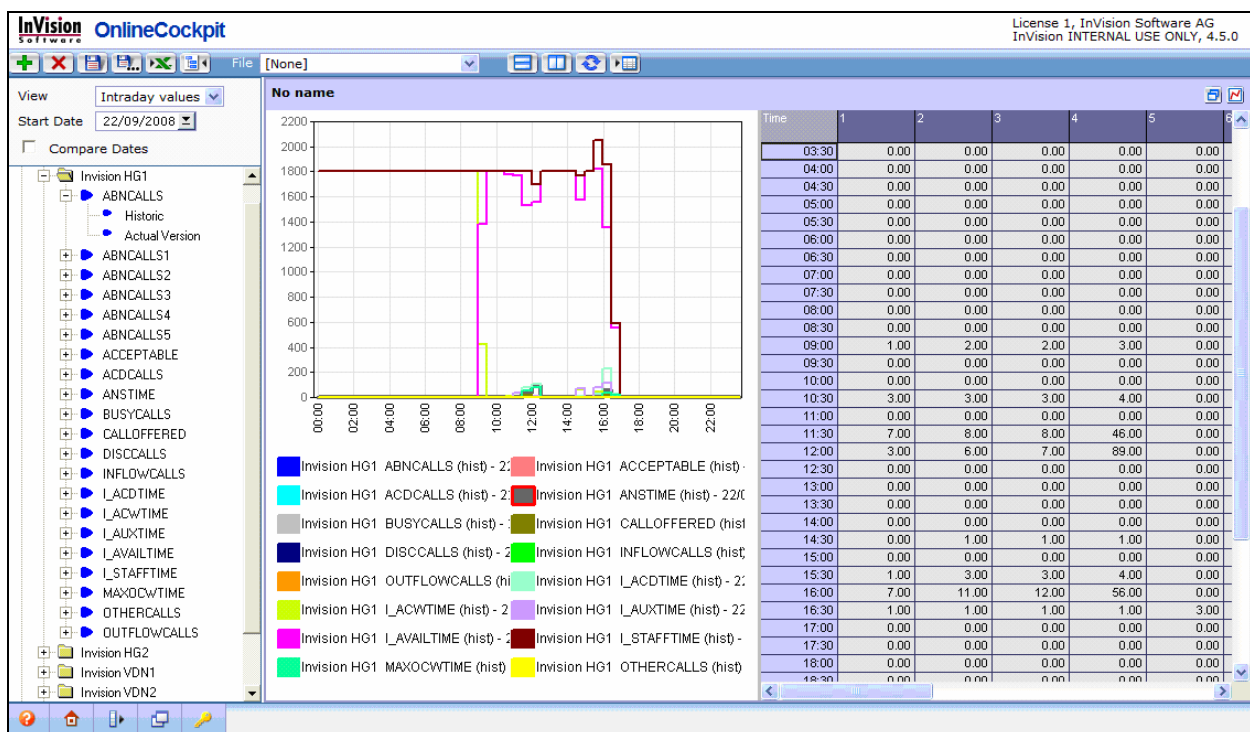
In addition, a data log file is created in the C:\Program Files\InVision Enterprise WFM\Auxillary\Logs directory that contains the raw data imported by iWFM from Avaya CMS. The following log contains the data imported for the splits/skills report.

```
09/22/08 22:07:56 > SELECT ROW_DATE, STARTTIME,
INTRVL,ACDCALLS,ABNCALLS,DISCCALLS,BUSYCALLS,I_ACDTIME,I_ACWTIME,OUTFLOWCALLS,INFLOWCA
LLS,CALLSOFFERED,OTHERCALLS,ABNCALLS1,ABNCALLS2,ABNCALLS3,ABNCALLS4,ABNCALLS5,MAXOCWTI
ME,ANSTIME,I_STAFFTIME,I_AVAILTIME,I_AUXTIME,ACCEPTABLE FROM hsplit WHERE ( ROW_DATE
BETWEEN {d '2008-09-22'} AND {d '2008-09-22'} ) AND SPLIT = 280 AND ACD = 3
09/22/08 22:07:57 > 0;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 30;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 100;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 130;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 200;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 230;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 300;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 330;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 400;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 430;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 500;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 530;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 600;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 630;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 700;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 730;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 800;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 830;30;0;0;0;0;0;1800;0;0;0;0;0;0;0;0;0;0;1800;0;0;0
09/22/08 22:07:57 > 900;30;2;1;0;0;1;420;0;0;3;0;1;0;0;0;0;2;3;1800;1378;0;2
09/22/08 22:07:57 > 930;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1800;0;0
09/22/08 22:07:57 > 1000;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1800;0;0
09/22/08 22:07:57 > 1030;30;3;3;0;0;4;8;0;0;6;0;3;0;0;0;0;2;4;1800;1781;0;3
09/22/08 22:07:57 > 1100;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1769;31;0
09/22/08 22:07:57 > 1130;30;8;7;0;0;80;0;0;0;15;0;2;1;1;1;1;55;46;1800;1533;0;8
09/22/08 22:07:57 > 1200;30;7;3;0;0;104;0;0;0;10;0;3;0;0;0;0;77;89;1698;1558;10;6
09/22/08 22:07:57 > 1230;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1800;0;0
09/22/08 22:07:57 > 1300;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1800;0;0
09/22/08 22:07:57 > 1330;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1800;0;0
09/22/08 22:07:57 > 1400;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1800;0;0
09/22/08 22:07:57 > 1430;30;1;0;0;0;8;64;0;0;1;0;0;0;0;0;0;1;1;1770;1574;71;1
09/22/08 22:07:57 > 1500;30;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;1800;1800;0;0
09/22/08 22:07:57 > 1530;30;3;1;0;0;29;46;0;0;4;0;1;0;0;0;0;2;4;2053;1824;76;3
09/22/08 22:07:57 >
1600;30;12;7;0;0;226;37;1;0;20;1;4;1;1;1;0;37;56;1861;1352;117;11
09/22/08 22:07:57 > 1630;30;1;1;0;3;28;0;0;0;5;3;0;1;0;0;0;18;1;586;555;2;1
09/22/08 22:07:57 > END AFTER 34 ROWS.
```

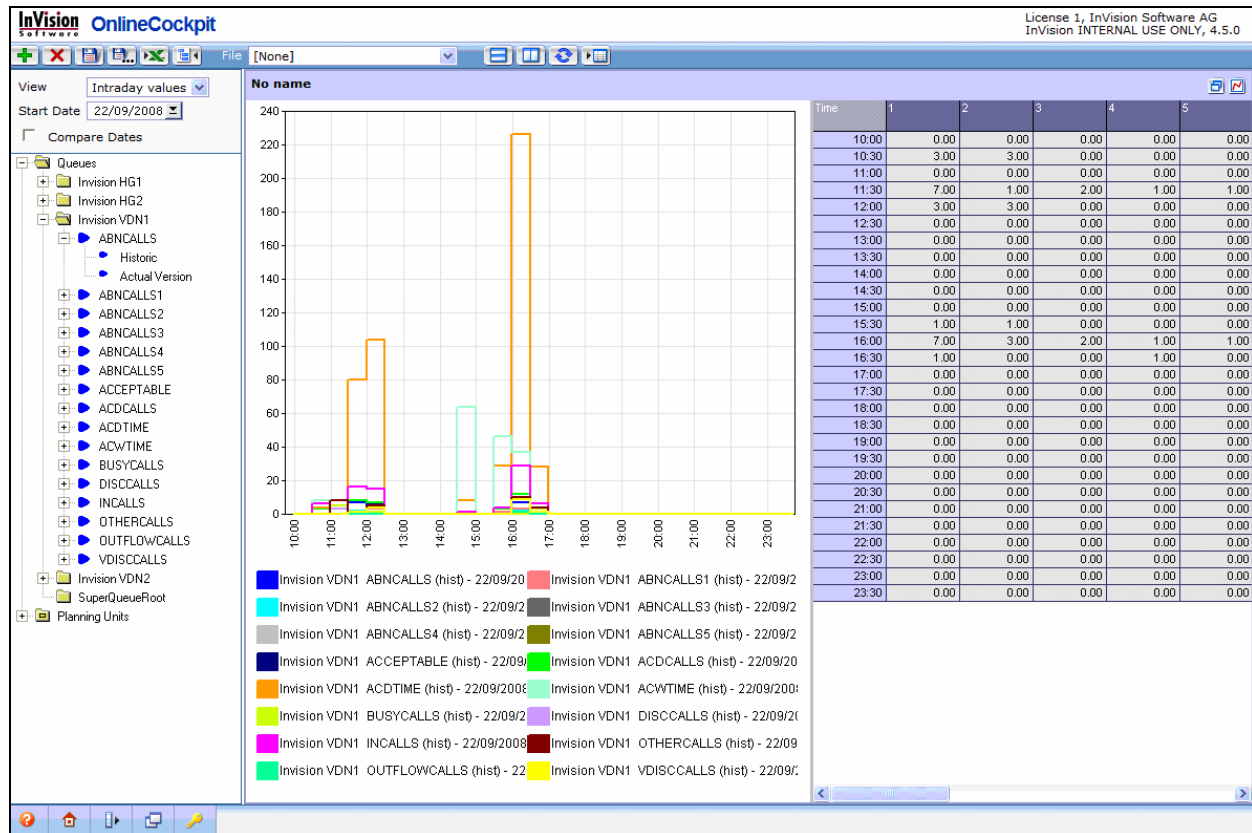
The log file below shows the data imported for the VDN report.

```
09/22/08 22:07:50 > SELECT ROW_DATE, STARTTIME,
INTRVL,ACDCALLS,ABNCALLS,DISCCALLS,BUSYCALLS,ACDTIME,ACWTIME,OUTFLOWCALLS,VDISCCALLS,OT
HERCALLS,INCALLS,ABNCALLS1,ABNCALLS2,ABNCALLS3,ABNCALLS4,ABNCALLS5,ACCEPTABLE FROM
hvdn WHERE ( ROW_DATE BETWEEN {d '2008-09-22'} AND {d '2008-09-22'} ) AND VDN='38000'
AND ACD = 3
09/22/08 22:07:50 > 900;30;2;1;0;0;174;28800;0;0;0;3;1;0;0;0;0;2
09/22/08 22:07:50 > 1030;30;3;3;0;0;4;8;0;0;0;6;3;0;0;0;0;3
09/22/08 22:07:50 > 1100;30;0;0;0;0;5;0;0;0;0;5;5;0;0;0;0;0;0
09/22/08 22:07:50 > 1100;30;0;0;3;0;0;0;0;0;3;3;0;0;0;0;0;0
09/22/08 22:07:50 > 1130;30;8;7;1;0;80;0;0;0;1;1;16;1;2;1;1;1;8
09/22/08 22:07:50 > 1200;30;5;2;0;0;24;0;0;0;0;7;2;0;0;0;0;5
09/22/08 22:07:50 > 1200;30;0;0;0;1;0;0;0;0;1;1;0;0;0;0;0;0
09/22/08 22:07:50 > 1200;30;2;1;4;0;80;0;0;4;4;7;1;0;0;0;0;1
09/22/08 22:07:50 > 1430;30;1;0;0;0;8;64;0;0;0;1;0;0;0;0;0;1
09/22/08 22:07:50 > 1530;30;3;1;0;0;29;46;0;0;0;4;1;0;0;0;0;3
09/22/08 22:07:50 > 1600;30;1;0;0;0;1;0;1;0;1;2;0;0;0;0;0;1
09/22/08 22:07:50 > 1600;30;0;0;3;0;0;0;0;3;3;3;0;0;0;0;0;0
09/22/08 22:07:50 > 1600;30;11;7;6;0;225;37;0;6;6;24;3;2;1;1;0;11
09/22/08 22:07:50 > 1630;30;1;1;1;3;28;0;0;1;4;6;0;0;1;0;0;1
09/22/08 22:07:51 > END AFTER 14 ROWS.
```

To view the splits/skills report in the iWFM **OnlineCockpit**, navigate to the **OnlineCockpit** from the iWFM window displayed in **section 5.3**. From the **OnlineCockpit**, drag and drop the data items in the left pane into the right pane. The following window displays an example of a historical report for splits/skills.



The following window displays an example of a historical report for VDNs.



The screenshot displays the InVision Software SchedulePro / Shift Center application. The top right corner shows the license information: "License 1, InVision Software AG" and "InVision INTERNAL USE ONLY, 4.5.0".

The interface is divided into a sidebar on the left and a main workspace. The sidebar contains the following navigation items:

- Forecasting
- Scheduling
- ▼ SchedulePro
- Shift Center
- Desk Center
- Planning Periods
- Closing Periods
- Meeting Planner
- Insert Shift Sequences
- Employee Requirement
- Shift Requirement
- Vacation Entitlement
- Approve Exchange Requests
- Infothek Interactive Schedule
- TrainingPlanner
- Time Management

The main workspace is titled "Planning Units" and features a table with the following columns: Planning Units, Level, and a timeline from 05 to 20. The table lists agents and their schedules:

Planning Units	Level	Timeline (05 to 20)
Avaya Call Center		
Agent 29101, Avaya	1	Schedule Actual External Sy
Agent 29102, Avaya	2	Schedule Actual External Sy
Agent 29103, Avaya	3	Schedule Actual External Sy
Agent 29104, Avaya	4	Schedule Actual External Sy

The timeline shows specific events: "Invision HG1" is scheduled from 13:07 to 13:09, and "Invision HG2" is scheduled from 13:10 to 13:19. The interface also includes a search bar at the top left and a status bar at the bottom.

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Search [] Selection [All]

Forecasting

Scheduling

▼ **SchedulePro**

Shift Center

Desk Center

Planning Periods

Closing Periods

Meeting Planner

Insert Shift Sequences

Employee Requirement

Shift Requirement

Vacation Entitlement

Approve Exchange Requests

► **Infothek Interactive Schedule**

► **TrainingPlanner**

Time Management

Planning Units	Level	Schedule
Avaya Call Center		
Agent 29101, Avaya	1	Schedule
		Actual
		External Sy
Agent 29102, Avaya	2	Schedule
		Actual
		External Sy
Agent 29103, Avaya	3	Schedule
		Actual
		External Sy
Agent 29104, Avaya	4	Schedule
		Actual
		External Sy

Invision HG1 [AVAY] Invision HG1

Invision HG2

Invision HG1 13:07 - 13:08 (00:00 h)
 Invision HG1 13:09 - 13:09 (00:01 h)
 Invision HG1 13:09 - 15:52 (02:43 h)
 Invision HG1 15:53 - 15:57 (00:04 h)
 AVAIL 15:57 - 16:41 (00:43 h)
 RING 16:41 - 16:41 (00:00 h)
 DACD 16:41 - 16:41 (00:00 h)
 AVAIL 16:41 - 16:45 (00:03 h)
 OTHER 16:45 - 16:45 (00:00 h)
 Default-AUX 16:45 - 16:45 (00:00 h)
 AVAIL 16:45 - 16:46 (00:00 h)
 RING 16:46 - 16:46 (00:00 h)
 ACD 16:46 - 16:46 (00:00 h)
 ACW 16:46 - 16:47 (00:00 h)
 AVAIL 16:47 - 16:47 (00:00 h)
 Lunch 16:47 - 16:47 (00:00 h)
 AVAIL 16:47 - 16:47 (00:00 h)
 RING 16:47 - 16:47 (00:00 h)
 DACD 16:47 - 16:48 (00:00 h)
 DAW 16:48 - 16:48 (00:00 h)
 AVAIL 16:48 - 16:48 (00:00 h)
 AVAIL 16:48 - 16:52 (00:03 h)
 RING 16:52 - 16:52 (00:00 h)
 ACD 16:52 - 16:52 (00:00 h)
 OTHER 16:52 - 16:52 (00:00 h)
 ACD 16:52 - 16:52 (00:00 h)
 Invision HG1 16:52 - 20:50 (03:58 h)

8. Support

Contact InVision Software for technical support on iWFM via web or phone.

- **Web:** www.invisionwfm.com
- **Phone:** Check http://www.invisionwfm.com/uk/enguk/about_invision/offices for contact information

9. Conclusion

These Application Notes describe the configuration steps required for InVision Enterprise WFM to successfully interoperate with Avaya Communication Manager using the ODBC interface of Avaya Call Management System. All feature and serviceability test cases were completed successfully.

10. References

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

- *Administrator Guide for Avaya Communication Manager*, Document 03-300509, Issue 3.1, February 2007, available at <http://support.avaya.com>.
- *Avaya Call Management System Switch Connections, Administration, and Troubleshooting*, Document ID 07-601582, February 2006, available at <http://support.avaya.com>.
- *AdminPro User Manual for InVision Enterprise WFM*, Release 4.5.0a, Edition November 1, 2007.
- *OnlineCockpit User Manual for InVision Enterprise WFM*, Release 4.5.0a, Edition November 1, 2007.
- *SchedulePro User Manual for InVision Enterprise WFM*, Release 4.5.0a, Edition November 1, 2007.

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