Avaya Solution & Interoperability Test Lab

Application Notes for P&W Solutions Sweet Series with Avaya Call Management System using Open Database Connectivity (ODBC) Interface – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate P&W Solutions Sweet Series with Avaya Call Management System using the Open Database Connectivity interface to capture ACD call center data from Avaya Aura™ Communication Manager. P&W Solutions Sweet Series is a work force management solution that provides forecasting and scheduling of work in call centers. The ODBC interface is used to import splits/skills and agent data into P&W Solutions Sweet Series periodically.

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 P&W Solutions Sweet Series with Avaya Call Management System (CMS) using the Open Database Connectivity (ODBC) interface to capture ACD call center data from Avaya Aura™ Communication Manager. P&W Solutions Sweet Series is a work force management solution that provides forecasting and scheduling of work in call centers. The ODBC interface is used to import splits/skills and agent data into P&W Solutions Sweet Series periodically.

P&W Solutions Sweet Series uses the ODBC interface to access the IBM Informix database in Avaya CMS to import interval-based splits/skills and agent activity data. The data may be imported on an on-demand basis or automatically at pre-defined intervals.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature testing focused on verifying the ability of P&W Solutions Sweet Series to import call center data from Avaya CMS using the ODBC interface and displaying splits/skills and agent data on the Sweet Series Client PC.

1.2. Support

For technical support on Sweet Series, contact P&W Solutions as shown below.

- **Web:** http://www.pw-s.com/index.html
- **Phone:** +81-3-5796-0207
- **Email:** support@pw-s.com

2. Reference Configuration

Figure 1 illustrates the test configuration used to verify the solution. P&W Solutions Sweet Series was installed on a Microsoft Windows 2003 Server with Service Pack 2, with the client PC using the Microsoft Internet Explorer 7.0 to access the Sweet Series Server. Calls were placed to the Vector Directory Numbers (VDNs) and were answered by the agent telephones connected to Avaya Aura™ Communication Manager. The Avaya Call Management System was used to capture the splits/skills and agent information to generate the historical data used in this testing.

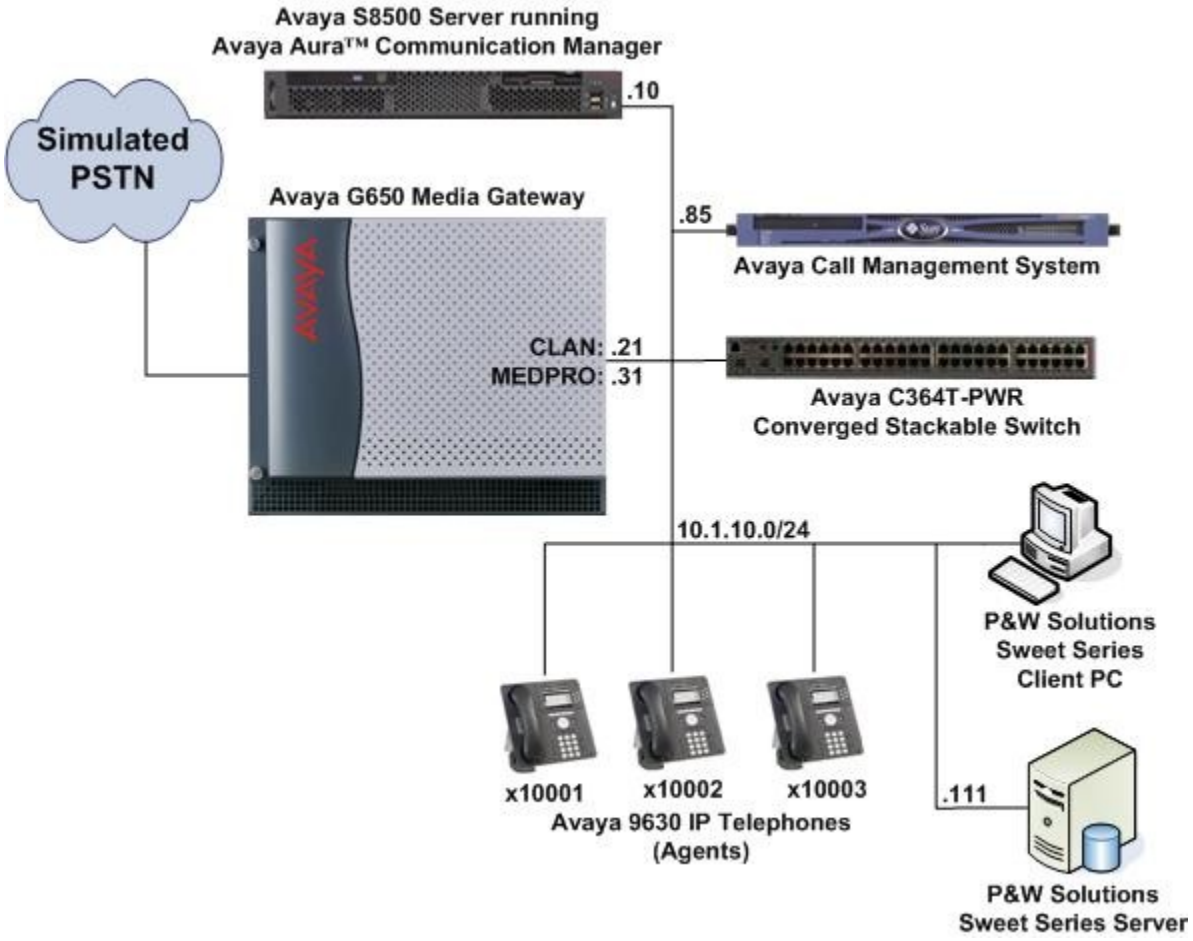


Figure 1: P&W Solutions Sweet Series with Avaya Call Management System

3. Equipment and Software Validated

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

Equipment	Software
Avaya Call Management System	R16 (r16aa.m)
Avaya S8500 Server	Avaya Aura™ Communication Manager 5.2.1 (R015x.02.1.016.4) with Service Pack (02.1.016.4-17959)
Avaya G650 Media Gateway • TN2312BP IP Server Interface • TN799DP C-LAN Interface • TN2302AP IP Media Processor	- HW07, FW049 HW01, FW034 HW20, FW120
Avaya 9630 IP Telephones	3.1 (H.323)
Avaya C364T-PWR Converged Stackable Switch	4.5.18
Microsoft Windows Server 2003 Standard Edition	Service Pack 2
P&W Solutions Sweet Series • Sweet Mbo • Sweet Seat Manager	 S0003_004001688_JPN S0004_004001688_JPN

4. Configure Avaya Aura™ Communication Manager

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

- Verify Communication Manager software options
- Administer adjunct CMS release
- Administer IP node name for CMS
- Administer processor interface channel
- Administer measured Skilled Hunt Group

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

4.1. Verify Communication Manager Software Options

Log into the System Access Terminal (SAT) to verify that the 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 **V15** on Page 1, as shown below.

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

     G3 Version: V15                              Software Package: Standard
       Location: 2                             RFA System ID (SID): 1
       Platform: 12                            RFA Module ID (MID): 1

                                                         USED
                                 Platform Maximum Ports: 44000 245
                                       Maximum Stations: 36000 143
                                Maximum XMOBILE Stations: 0     0
                    Maximum Off-PBX Telephones - EC500: 100   0
                    Maximum Off-PBX Telephones -   OPS: 100   0
                    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 **5.0**, as shown below.

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

                          Call Center Release: 5.0

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

4.2. Administer Adjunct CMS Release

Use the **change system-parameters features** command and navigate to **Page 12**. Set the **CMS (appl mis)** field to the software release of the Avaya CMS. In this case, **R15/R16** is used to correspond to Avaya CMS software release R16.

```
change system-parameters features                              Page  12 of  18
                        FEATURE-RELATED SYSTEM PARAMETERS

  AGENT AND CALL SELECTION
                          MIA Across Splits or Skills? n
                           ACW Agents Considered Idle? y
                           Call Selection Measurement: current-wait-time
    Service Level Supervisor Call Selection Override? n
                                Auto Reserve Agents: none


  CALL MANAGEMENT SYSTEM
                            REPORTING ADJUNCT RELEASE
                                      CMS (appl mis): R15/R16
                                      IQ  (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
```

4.3. Administer IP Node Name for CMS

Use the **change node-names ip** command, to add an entry for Avaya CMS. In this case, **cms1** and **10.1.10.85** are entered as **Name** and **IP Address** for the Avaya CMS server. The actual node names and IP addresses may vary. Submit these changes.

```
change node-names ip                                           Page   1 of   2
                                  IP NODE NAMES
    Name                 IP Address
Gateway001             10.1.10.1
cms1                   10.1.10.85
default                0.0.0.0
msgserver              10.1.10.20
procr                  10.1.10.10
```

4.4. 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:** "p" for processor ethernet.
- **Interface Chan:** TCP channel number for Avaya CMS. In this case "5001".
- **Destination Node:** Avaya CMS server node name from **Section 4.3**.
- **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               Page   1 of  24
                       PROCESSOR CHANNEL ASSIGNMENT
Proc                  Gtwy      Interface         Destination      Session   Mach
Chan Enable   Appl.   To  Mode Link/Chan       Node       Port  Local/Remote ID
  1:   y    mis            s    p   5001  cms1            0      1     1
```

4.5. Administer Measured Skilled Hunt Group

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

```
change hunt-group 1                                             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
     Supervisor Extension:


      Controlling Adjunct: none


        VuStats Objective:
 Timed ACW Interval (sec):
   Multiple Call Handling: none


Interruptible Aux Threshold: none
                               Redirect on No Answer (rings): 3
                                           Redirect to VDN: 14002
                  Forced Entry of Stroke Counts or Call Work Codes? n
```

5. Configure Avaya Call Management System

The IBM Informix database management system (DBMS) used by CMS supports IBM Informix ODBC and JDBC clients. CMS is now delivered with this ODBC and JDBC network connectivity enabled. No further configuration is required. ODBC and JDBC clients allow for direct access to the IBM Informix database that CMS uses and all of the CMS call center data.

6. Configure P&W Solutions Sweet Series

This section provides the procedures for installing and configuring the IBM Informix ODBC Driver on the Sweet Series Server. The procedures include the following areas:

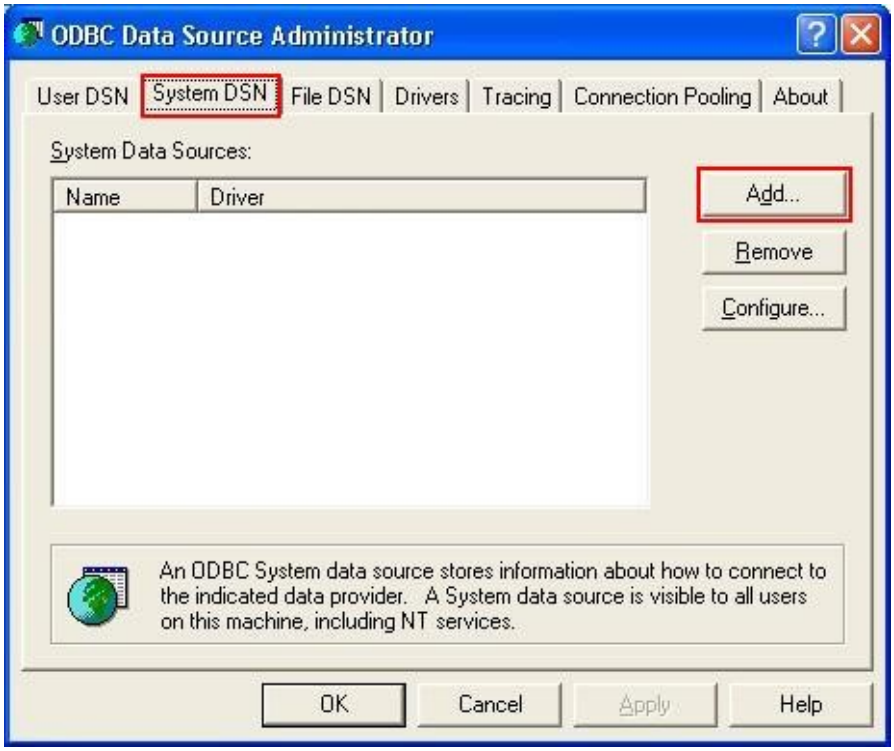
- Install IBM Informix Client-SDK3.50
- Configure IBM Informix ODBC Driver

6.1. Install IBM Informix Client-SDK 3.50

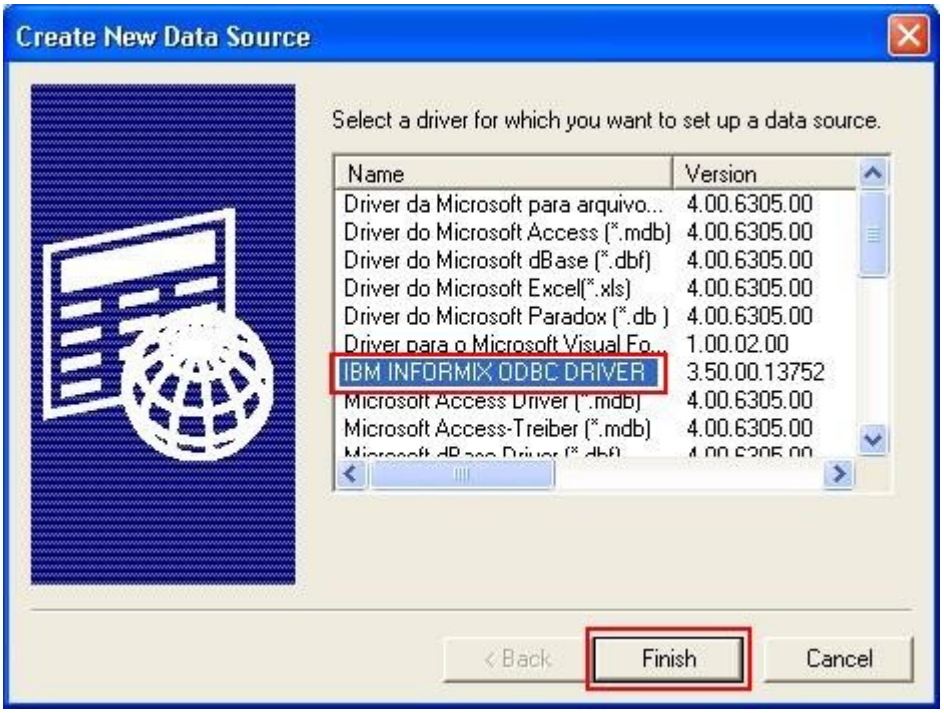
The IBM Informix ODBC Driver is included with the IBM Informix Client-SDK 3.50 software shipped together with the Avaya CMS. The normal setup process is needed to install **IBM Informix Client-SDK3.50** by using the Install Shield Wizard. For additional information, refer to [3] in **Section 10**.

6.2. Configure IBM Informix ODBC Driver

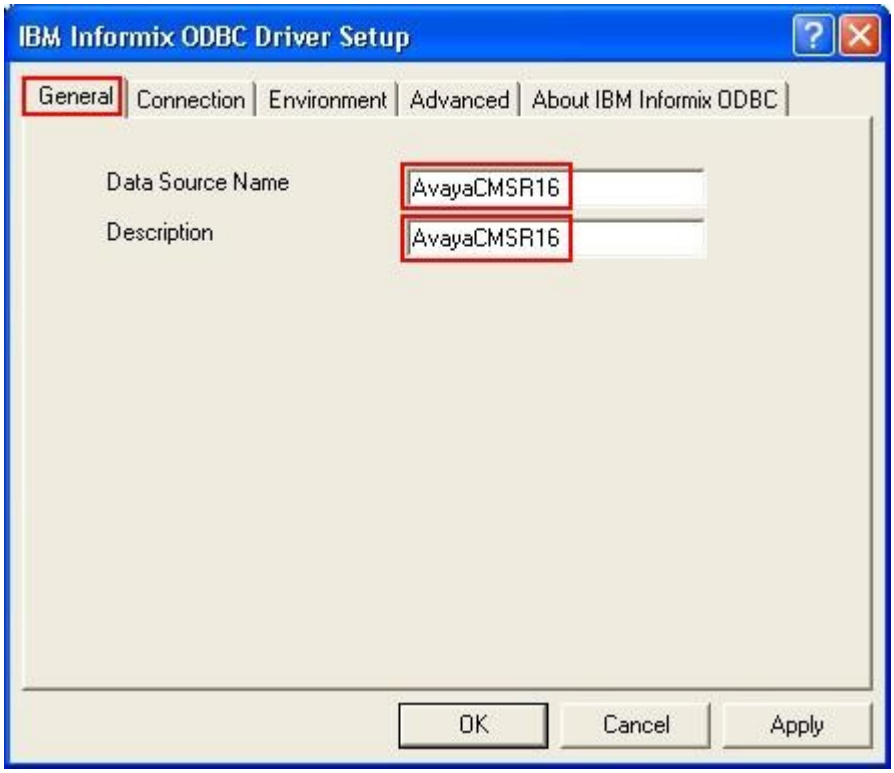
From Administrative Tools, double-click **Data Sources (ODBC)** (not shown). Select the **System DSN** tab and click **Add**.



Select **IBM INFOMIX ODBC DRIVER** and click **Finish**.



Specify the **Data Source Name** and **Description** as shown below.

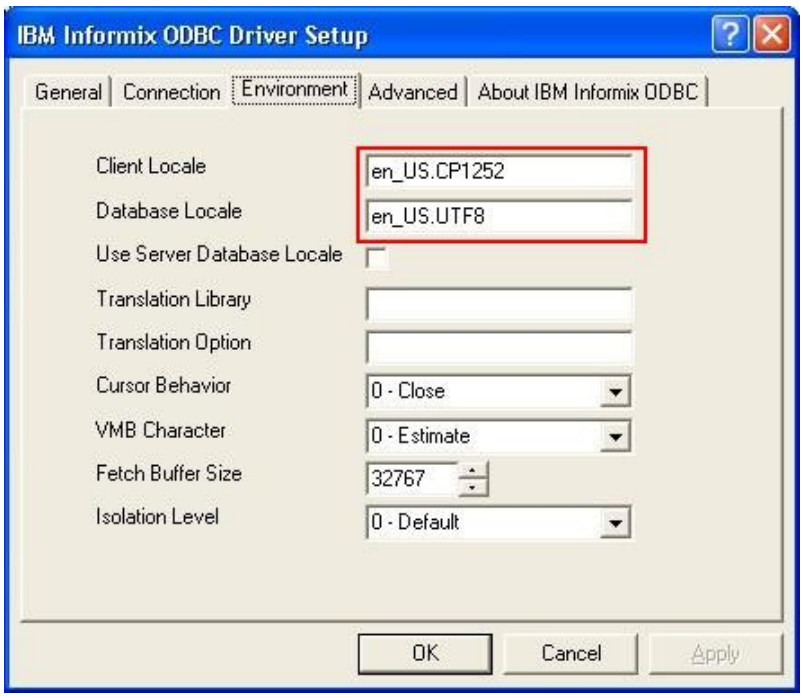


Select the **Connection** tab and configure the values as follows. Refer to [3] for the detail explanation of each field.

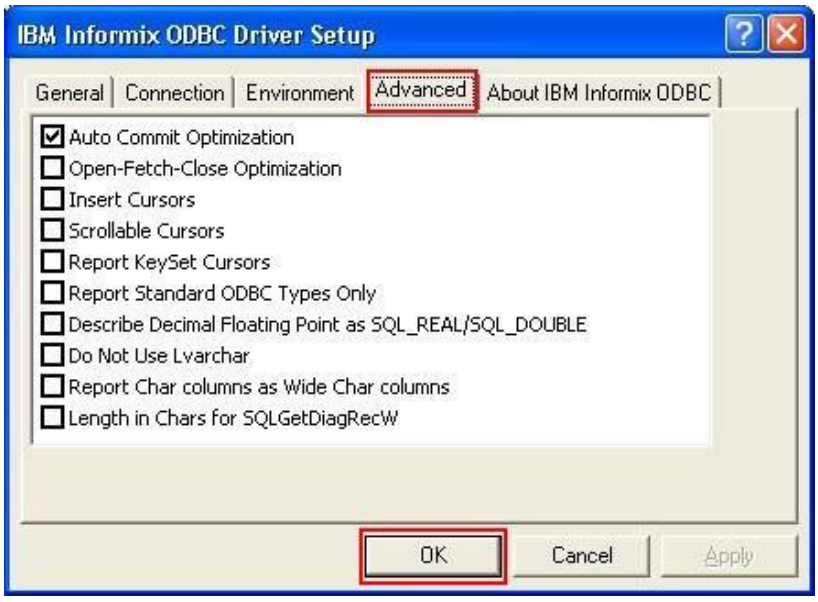
- **Server Name:** "cms_net"
- **Host Name:** IP address of Avaya CMS, in this case is "10.1.10.85".
- **Service:** "50000"
- **Protocol:** "olsoctcp"
- **Database Name:** "cms"
- **User Id:** A valid user on CMS, in this case is "cms".
- **Password:** Password of the User Id used.

Select the **Environment** tab and configure the values as shown below. Use the default values for all other fields.

- **Client Locale:** "en_US.CP1252"
- **Database Locale:** "en_US.UTF8"



Select the **Advanced** tab and verify the following default values are used. Click **OK**.



The Historical Data Driver on Sweet Series Server allows for direct access to the Avaya CMS database via the ODBC client. No further configuration is required on Sweet Series.

7. General Test Approach and Test Results

The interoperability compliance test focused on verifying the ability of P&W Solutions Sweet Series to import ACD call center data from Avaya CMS using the ODBC interface and displaying split/skill and agent data in Sweet Series reports.

The feature test cases were performed manually. ACD calls were made to the measured skills and routed to agents to generate call center statistics for Sweet Series. The accuracy and proper display of the data were verified.

All test cases were executed and passed.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Avaya Call Management System and P&W Solutions Sweet Series.

8.1 Verify 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 4.4**. Verify that the **Session Layer Status** is **In Service**, and that the **Socket Status** is **TCP connected**, as shown below.

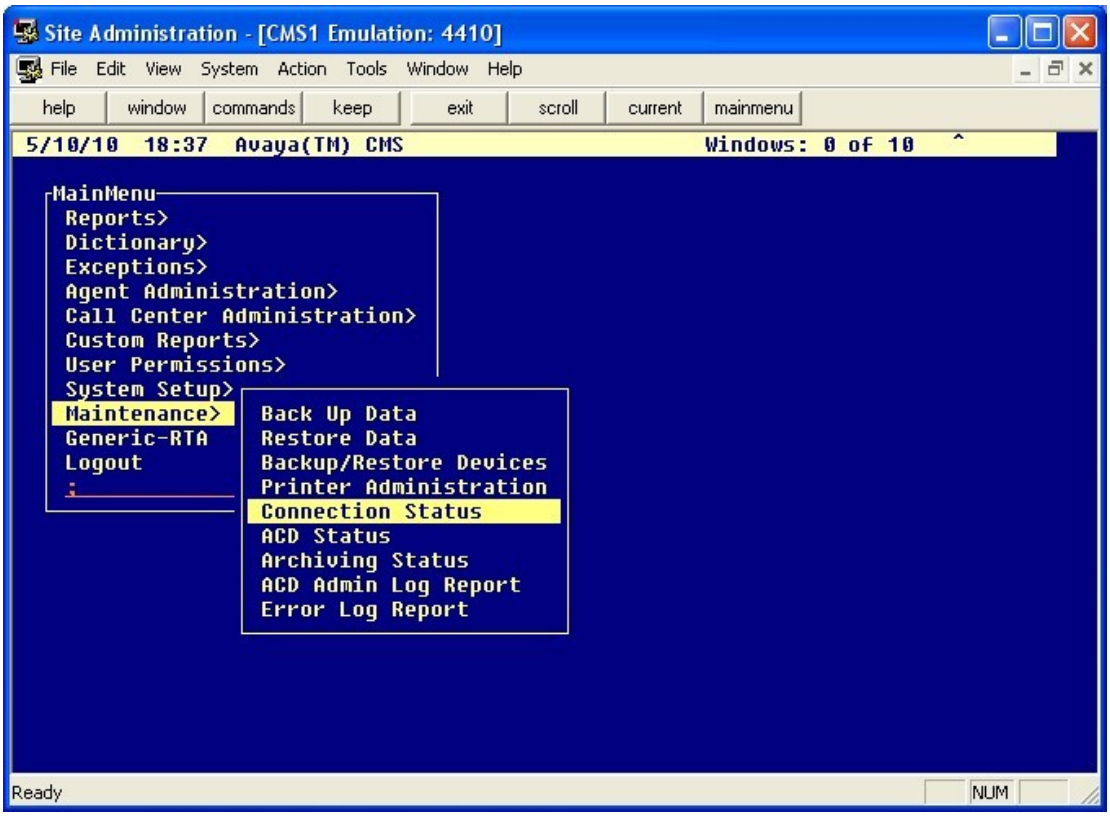
```
status processor-channels 1
                        PROCESSOR-CHANNEL STATUS

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

            Last Failure: None
                      At: 04/22/10 15:39
```

Verify the status of the processor ethernet link by using the **status link procr** command. Verify that the **Link Status** is **inservice** as shown below.

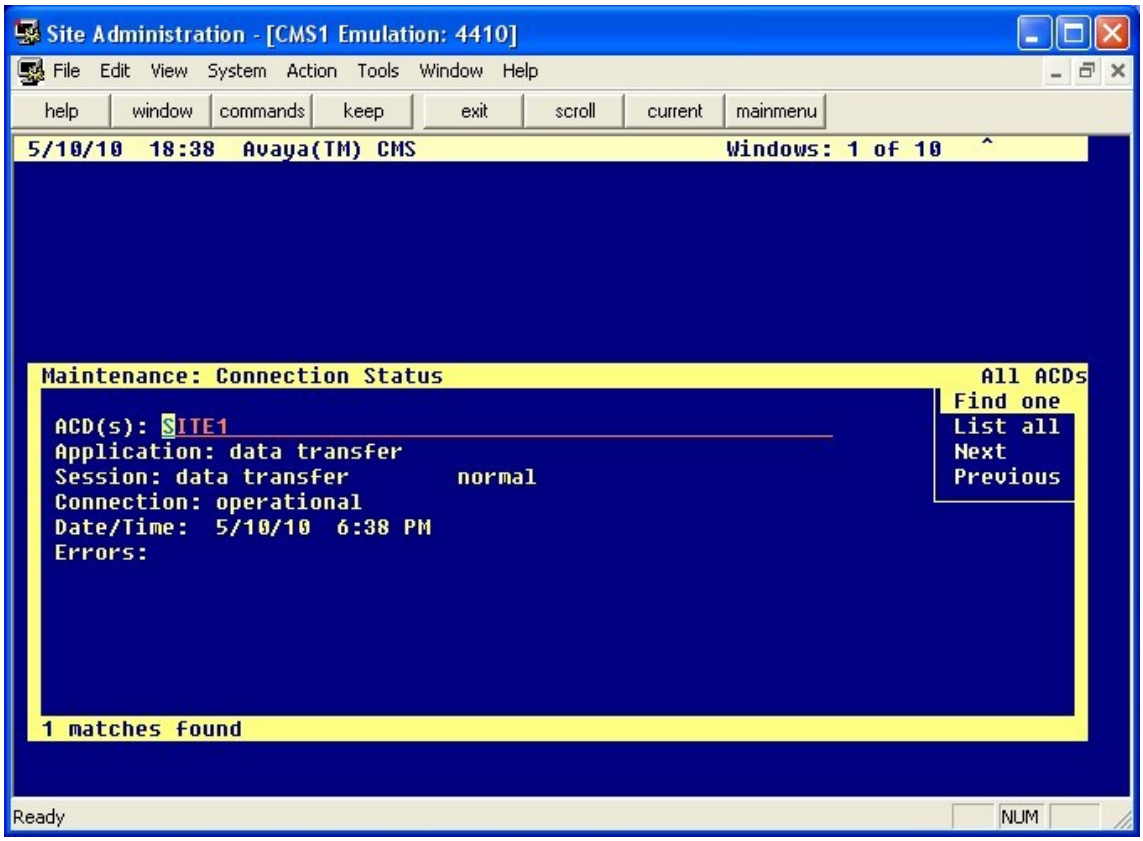
```
status link procr                                          Page   1 of   2
                              LINK/PORT STATUS

                 Link Number: 255
                 Link Status: inservice
                   Link Type: processor

        Service Port Location: eth0


                   Node Name: procr
            Source IP Address: 10.1.10.10/24

            Broadcast Address: 10.1.10.255

                     Enabled? yes
             Maintenance Busy? no
              Active Channels: 1
```

8.2 Verify Call Management System

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



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.



8.3 Verify P&W Solutions Sweet Series

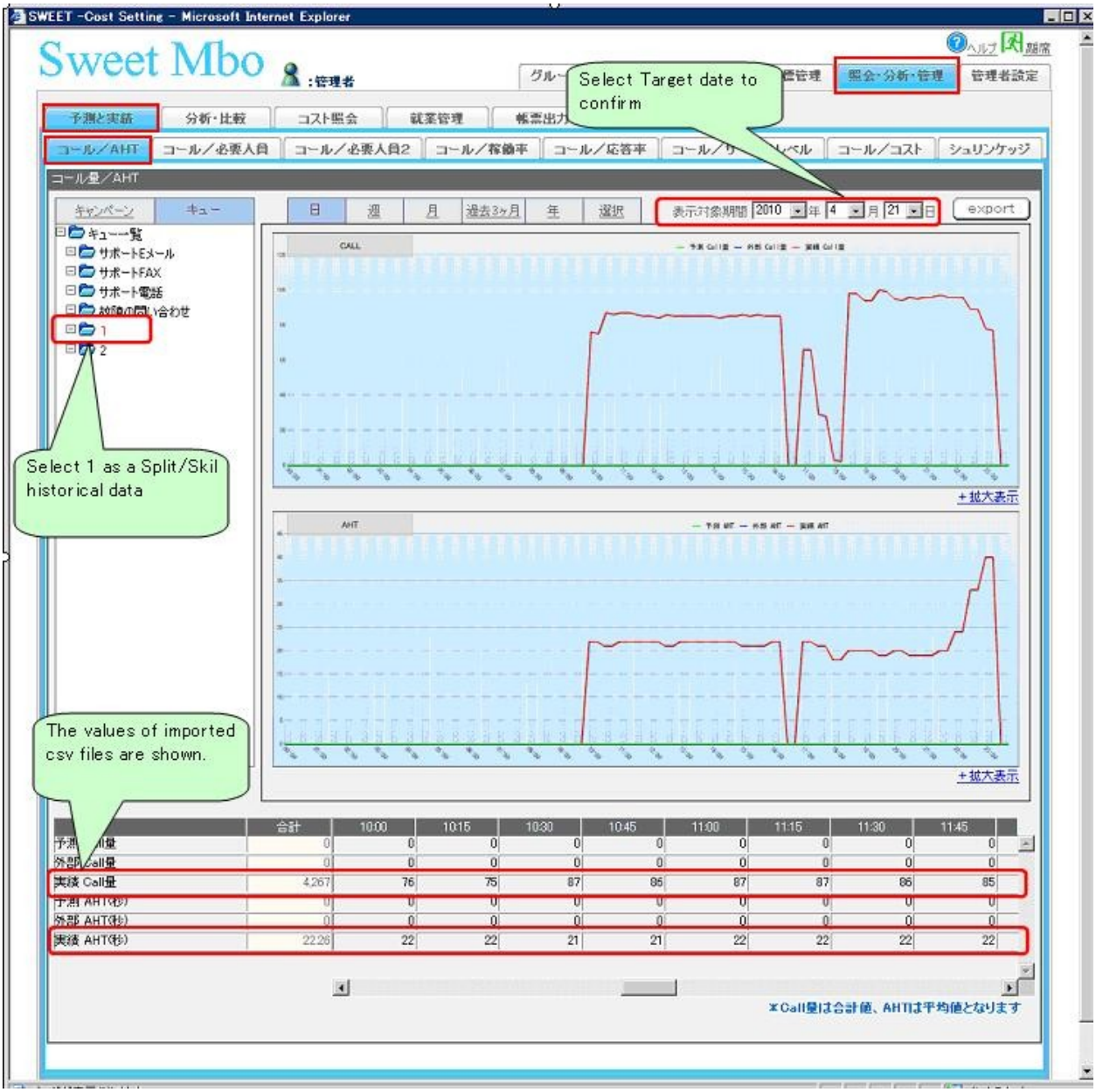
To verify the result of historical data gathering with Sweet Series, perform the following two steps from the Sweet Series Server.

- Run batch command **StartCms.cmd** to generate the csv files.
- The csv files will be imported to Sweet Series through the automatic nightly batch operation.

After running batch command, 5 csv files are generated in a specified output folder as historical data for Sweet Series.

1. YYYYMMDD_スプリット／スキルサマリーレポート
2. YYYYMMDD_ エージェントインアウトバウンド日間
3. YYYYMMDD_エージェントサマリーインターバル
4. YYYYMMDD_エージェントサマリー日間
5. YYYYMMDD_エージェント出欠日間

These csv files are imported to Sweet Series by the automatic nightly batch operation. The Historical data can be confirmed from the Sweet Mbo Screen by selecting 照会・分析・管理＞予測と実績＞コール／**AHT**.



9. Conclusion

These Application Notes describe the configuration steps required for P&W Solutions Sweet Series to successfully interoperate with Avaya Call Management System using the ODBC interface. All feature and serviceability test cases were completed successfully.

10. Additional References

The following documents are available at http://support.avaya.com.

[1] *Administering Avaya Aura™ Communication Manager*, Release 5.2, Issue 5.0, May 2009, Document Number 03-300509.

[2] *Avaya Call Management System Release 16 Switch Connections, Administration, and Troubleshooting*, November 2009.

[3] *Avaya Call Management System Release 16 ODBC and JDBC*, November 2009.

[4] *Avaya Call Management System Release 16 Database Items and Calculations*, November 2009.

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