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Avaya Solution & Interoperability Test Lab

Application Notes for P&W Solutions Sweet Series with Avaya Call Management System using Generic Real Time Adherence 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 Generic Real Time Adherence interface to capture real-time 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. P&W Solutions Sweet Series uses the RTA interface to capture real-time agent work-mode changes. This interface is provided by Avaya Professional Services.

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.

JC/NAS; Reviewed:
SPOC 5/25/2010
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CMS-Sweet-RTA

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 Generic Real Time Adherence (Generic-RTA) interface to capture real-time 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. Real-time agent work-mode changes are captured by P&W Solutions Sweet Series using the Generic-RTA interface. The Generic-RTA interface software on Avaya CMS connects to the Sweet Series server and sends data to the Sweet Series application every 10 seconds (configurable).

Avaya Professional Services installs and configures the Generic-RTA interface on Avaya CMS, and provides the TCP port number associated with the Generic-RTA session to P&W Solutions for configuring the Sweet Series.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The feature testing focused on verifying that a Generic-RTA connection can be established between Avaya CMS and the P&W Solutions Sweet Series server and that P&W Solutions Sweet Series can parse and display the real-time agent data via the Generic-RTA interface and view the data in Sweet Seat Manager.

The serviceability testing focused on verifying the ability of P&W Solutions Sweet Series to recover from adverse conditions, such as disrupting the network connection to the Sweet Series server and restarting the Generic-RTA interface.

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 agent work mode changes to generate the real-time data used in this testing.
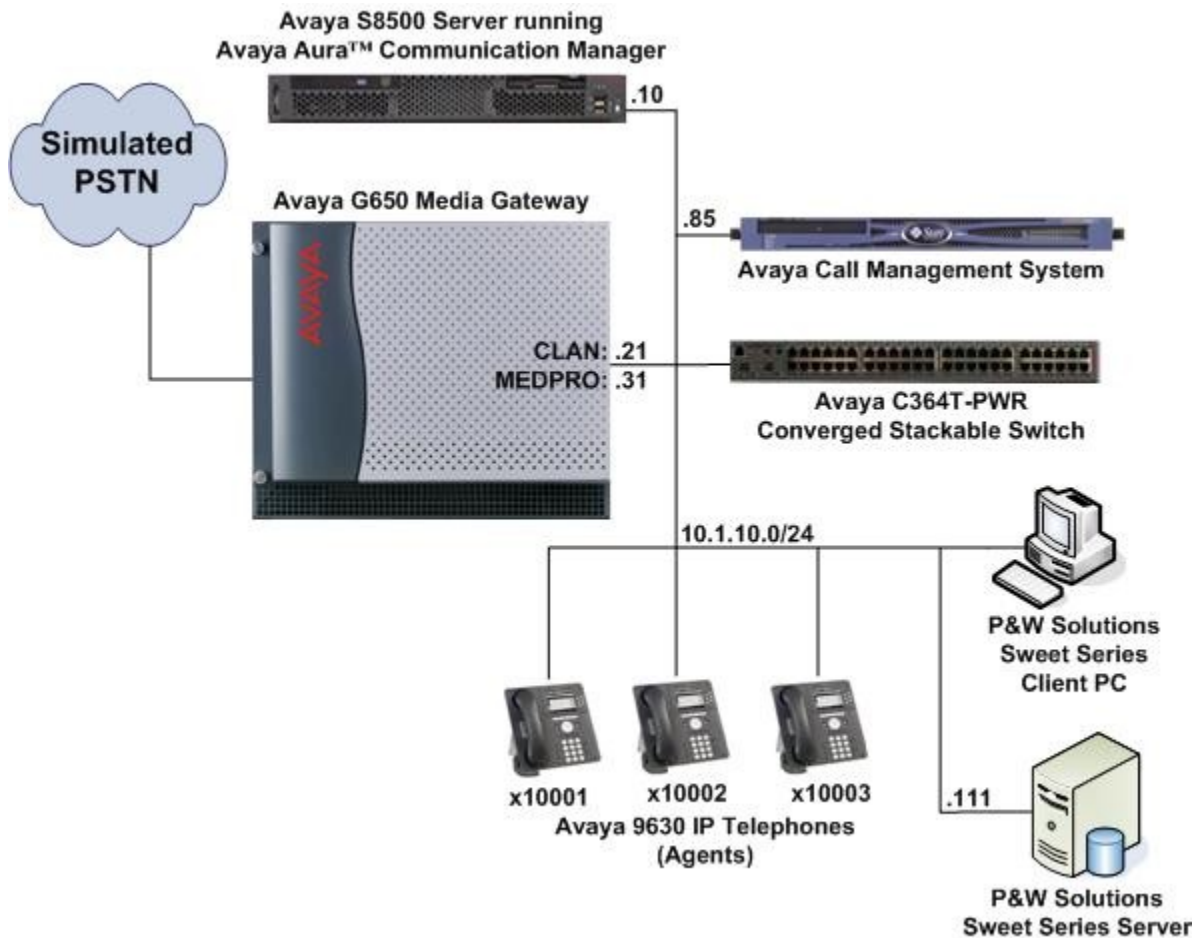

Figure 1: P&W Solutions Sweet Series with Avaya Call Management System

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

Configuration of the Generic-RTA interface is performed by Avaya Professional Services and is outside the scope of these Application Notes. After the interface is configured, the user can follow the procedure below to start the interface.

5.1. Start RTA 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. Select the option that corresponds to **Generic-RTA** and press the **Enter** key.
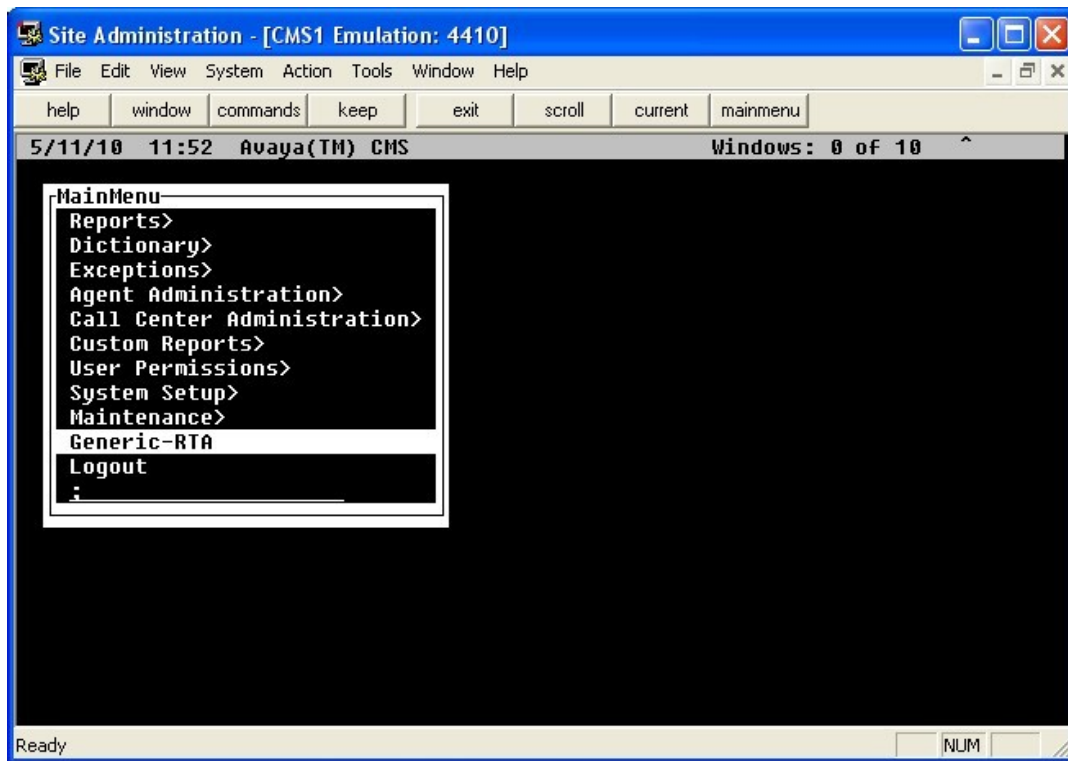
The **Generic-RTA Menu** is displayed (not shown). Enter "1" to start the interface and enter "all" for all sessions.
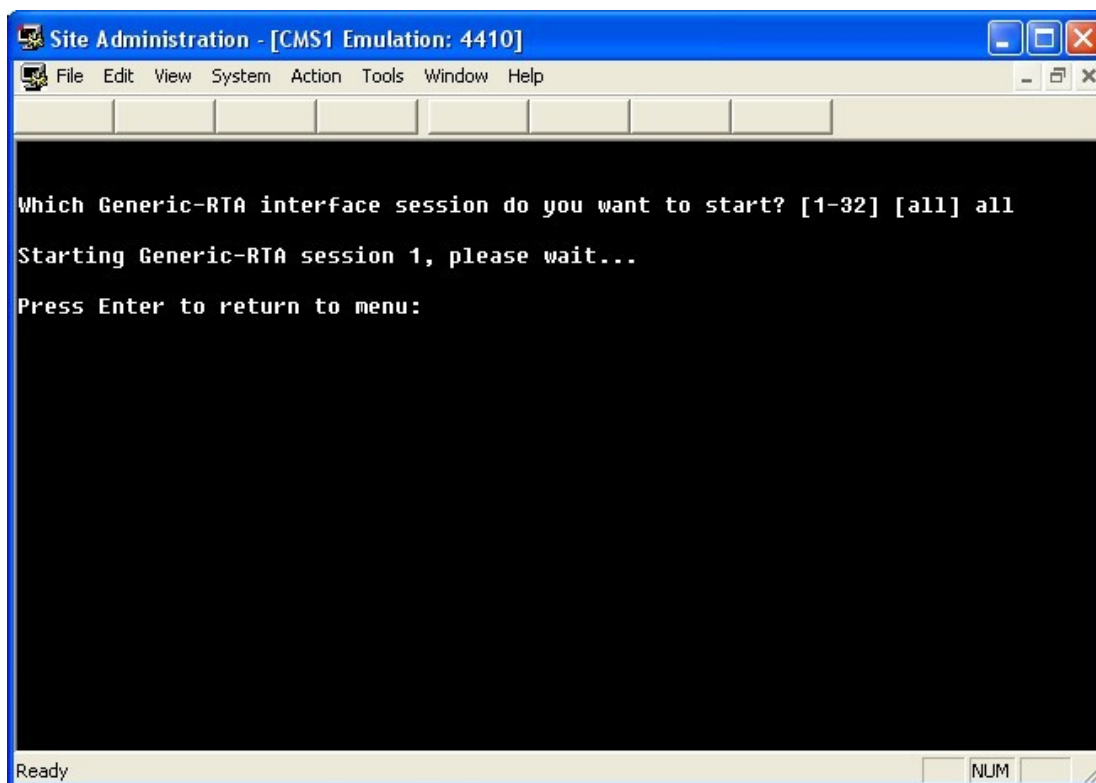
6. Configure P&W Solutions Sweet Series

On the Sweet Series Server, configure the property **RTA.ListningPort** in the file **SweetProperty.properties** as the port that Sweet Series will listen for the Generic-RTA connection from Avaya CMS. This value will be provided by Avaya Professional Services as it needs to match the configuration of the Generic-RTA interface on Avaya CMS. P&W Solutions will configure the values of **RTA.ListningPort** accordingly.

7. General Test Approach and Test Results

The feature test cases were performed manually. Incoming calls were made to the monitored split/skills to generate data streams with agent state changes to be sent to P&W Solutions Sweet Series. Manual call controls and work mode changes from agent telephones were exercised as necessary to generate the required real-time data.

The serviceability test cases were performed manually by removing the network connection to the Sweet Series server, and stopping and restarting the Generic-RTA interface.

The verification of all tests included checking the proper display and data accuracy of real-time agent data in P&W Solutions Sweet Series.

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
```
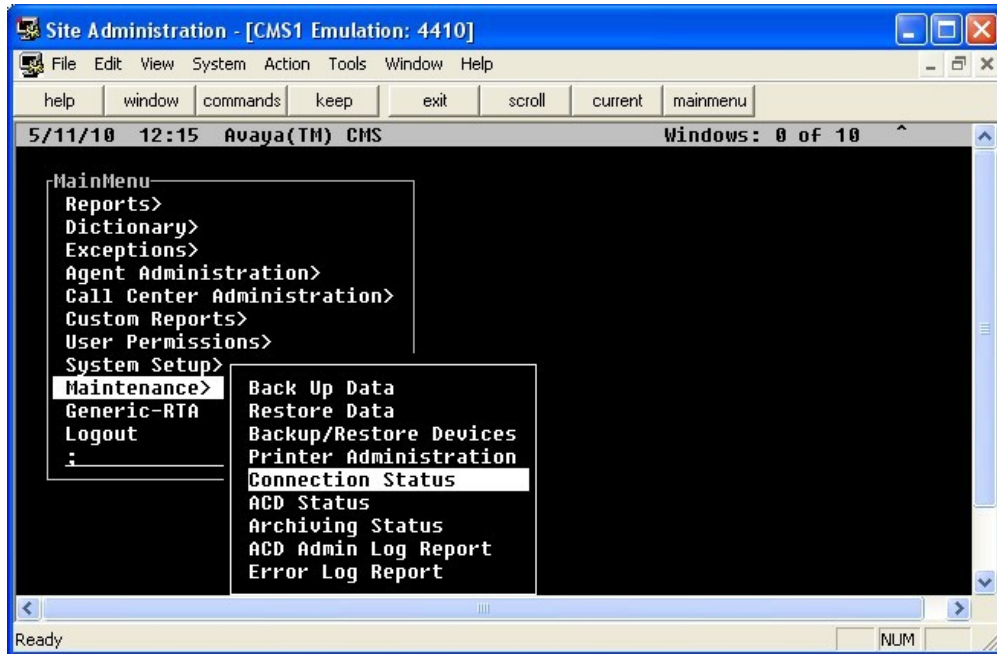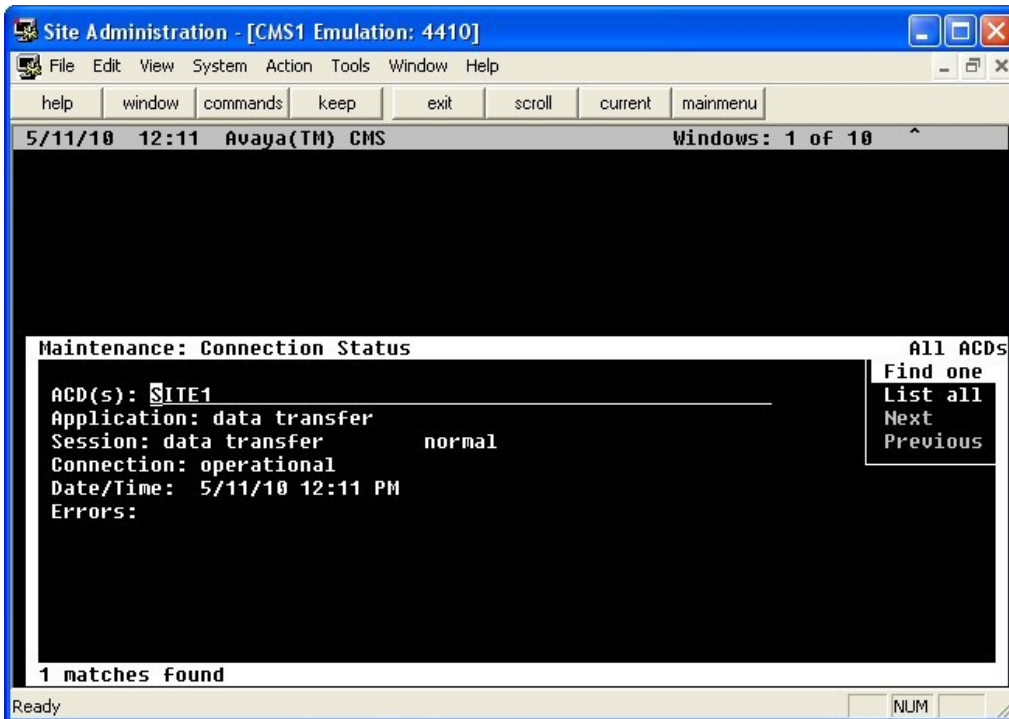
8.2 Verify Call Management System

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.

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From the Generic-RTA menu, select option '3' to check the status of the Generic-RTA interface. The Generic-RTA session should be **running** and **connected** as shown below.
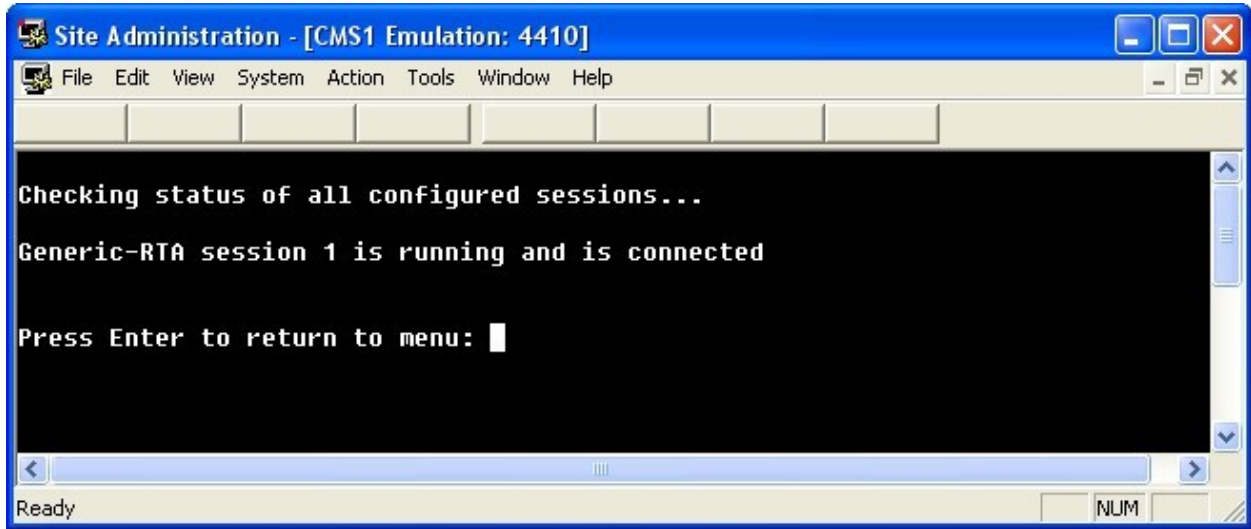
8.3 Verify P&W Solutions Sweet Series

From Sweet Seat Manager, select **State Monitor(状態監視)** tab to check the real time status of Agents. Verify that the real-time agent status matches the agent work-mode set on the agent telephone.
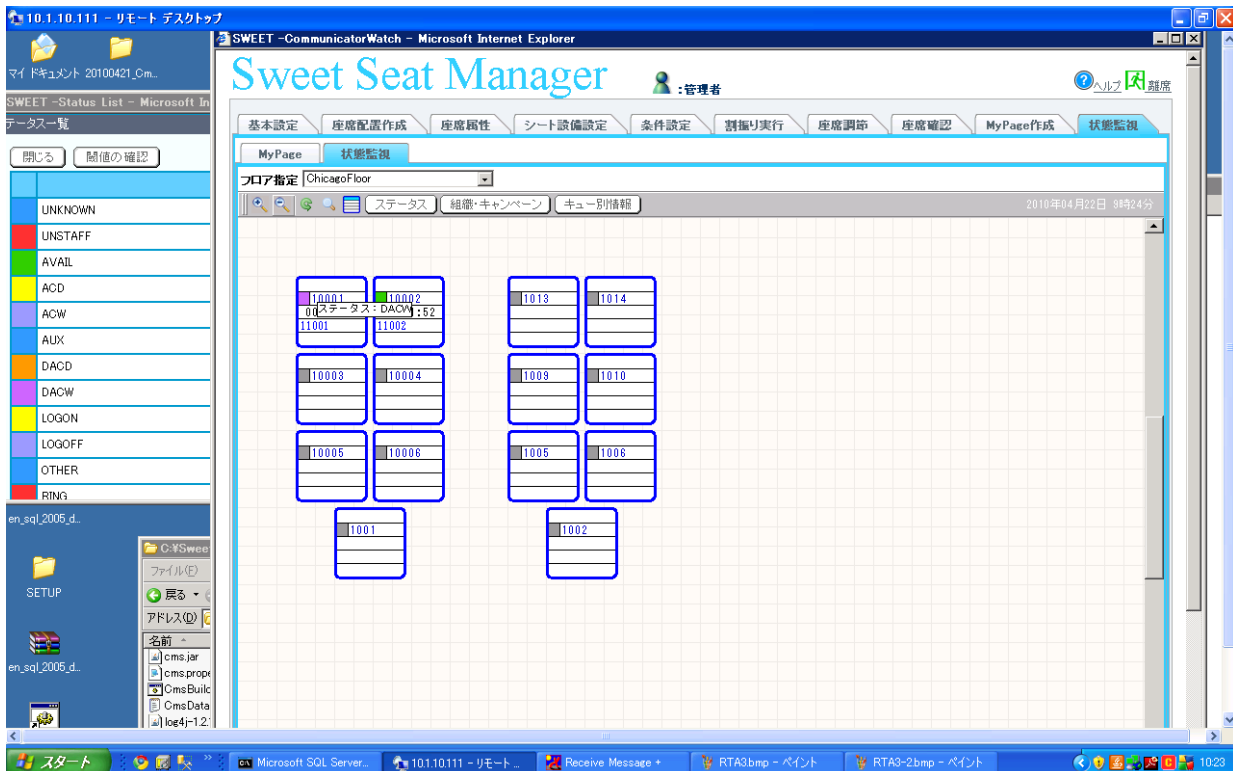
9. Conclusion

These Application Notes describe the configuration steps required for P&W Solutions Sweet Series to successfully interoperate with Avaya Call Management System using the Generic-RTA 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.