Avaya Solution & Interoperability Test Lab

Application Notes for GMT Planet™ with Avaya Call Management System – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for GMT Planet™ to interoperate with Avaya Call Management System.

GMT Planet™ is a work force management solution that provides forecasting, scheduling, and monitoring of work for contact center agents. GMT Planet™ uses the historical call measurement data from Avaya Call Management System to produce forecasts and schedules for contact center agents, and then uses the real-time call measurement data from Avaya Call Management System to check the agent adherence to the schedules.

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

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1 Introduction

GMT Planet™ (Planet) is a work force management solution that provides forecasting, scheduling, and monitoring of work for contact center agents. Planet uses the historical call measurement data from the Avaya Call Management System to produce forecasts and schedules for contact center agents, and then uses the real-time call measurement data from the Call Management System to check the agent adherence to the schedules. These interfaces are provided by Avaya Professional Services.

On Avaya Aura® Communication Manager, relevant contact center resources consisting of Vector Directory Number (VDN), Split/Skill, and Agent are configured to be "measured" by the Call Management System. When a call travels through a "measured" resource on Communication Manager, the call measurement data is sent to the Call Management System.

Contact center users such as supervisors and/or agents can access the Planet server to review any collected data and/or produced forecasts and schedules. For the compliance testing, the Planet server was used to verify the collected call measurement data from the Call Management System.

The integration of real-time Agent call measurement data with the Call Management System is a customization achieved through the Generic Real Time Agent (Generic-RTA) interface. A TCP client-server model is used for the connection, with the Call Management System server being the "client", and the Planet server being the "server". The Planet server runs a TCP "listener" process to accept the data connection from the Call Management System server. The customized Generic-RTA interface on the Call Management System is provided by the Avaya Communication Solutions and Integration (CSI) group within Avaya Global Services.

The integration of historical VDN/Split/Skill/Agent call measurement data with the Call Management System is another customization provided by the Avaya CSI group. The historical data includes data from the agent performance daily, split/skill intra-hour interval, VDN hourly interval, and the agent daily login/logout database tables. The historical data is generated on the Call Management System and transferred to a designated FTP server.

The Planet application pulled the historical data from the FTP data repository directory on a regularly scheduled intra-hour interval. The intra-hour interval is an administrable parameter on the Call Management System, and is required to be set to 15 or 30 minutes by the Planet server.

The Avaya CSI group installs and configures the customized interfaces on the Call Management System, and provides the TCP port number associated with the Generic-RTA interface to Planet for configuring the Planet server. These Application Notes assume the configuration and connectivity between Communication Manager and the Call Management System is already in place and will not be described in full detail.

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2 General Test Approach and Test Results

The focus of the compliance test was to confirm the data used by the GMT Planet™ application matched the data supplied by the Call Management System.

2.1 Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying Planet parsing and displaying of VDN, Split/Skill, and Agent data from Call Management System.

The serviceability testing focused on verifying the ability of the Planet server to recover from adverse conditions, such as stopping the Generic-RTA interface on the Call Management System server, and disconnecting the Ethernet cable to the Planet server. The serviceability testing also included recovery of historical data.

2.2 General Test Approach

The feature test cases were performed manually. Incoming calls were made to the measured VDN, Split/Skill, and Agent to enable measurement data to be sent to Call Management System. Manual call controls and work mode changes from the agent telephones were exercised to populate specific fields in the database records.

The serviceability test cases were performed manually by stopping/restarting the Generic-RTA interface, and by disconnecting/reconnecting the LAN cable to the Planet server.

The verification of all tests included checking of proper display of data at the Planet server, and comparing the displayed data with the real-time and historical reports from the Call Management System server.

2.3 Test Results

All test cases were executed successfully.

2.4 Support

Technical support for GMT Planet™ can be obtained through the following:

- **Phone:** (770) 416-6000
- **Web:** https://support.gmt.com/GMTSupport/

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3 Reference Configuration

The compliance test configuration included a single site consisting of Avaya Aura® Communication Manager and Avaya Aura® Session Manager with several SIP, H.323 and TDM endpoints. All calls to and from the public network were routed through T1 PRI trunks.

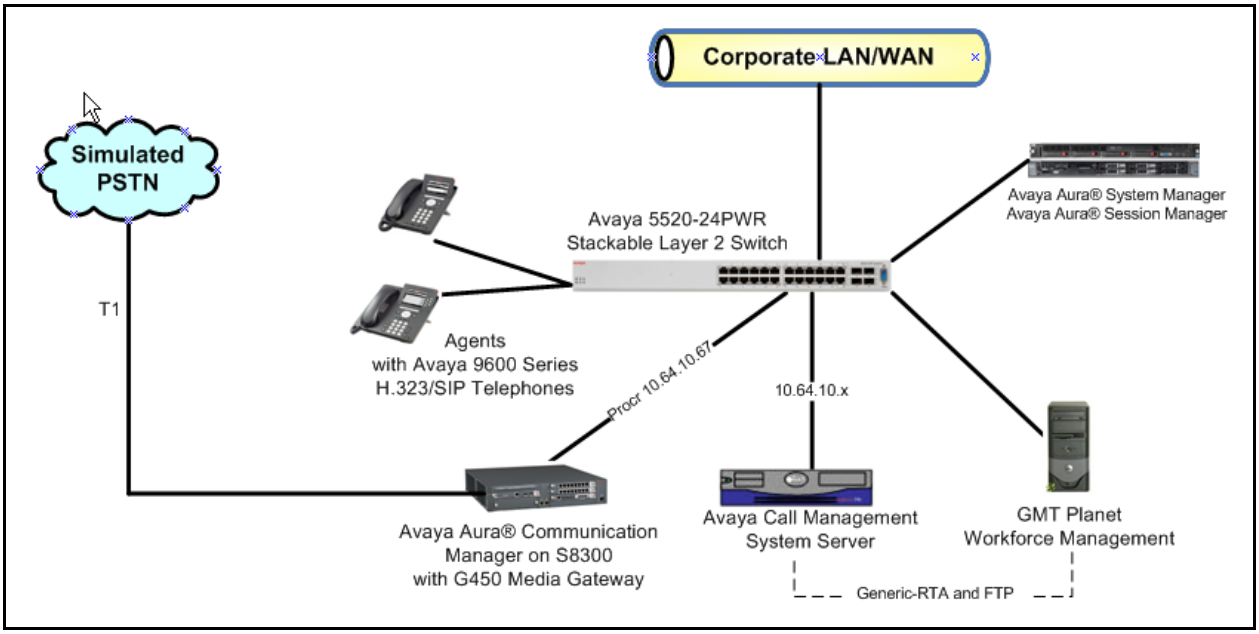

Figure 1: GMT Planet™ with Avaya Call Management System

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4 Equipment and Software Validated

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

Equipment	Version
Avaya Aura® System Manager On Dell™ PowerEdge™ R610 Server	6.1 (6.1.6.1.1087) Avaya System Platform 6.0.3.1.3
Avaya Aura® Session Manager On HP ProLiant DL360 G7 Server	6.1 (6.1.3.0.613006)
Avaya Aura® Communication Manager On Avaya S8300D Server	R016x.00.1.510.1, Update 19009 (SP3) (Avaya Aura® System Platform: 6.0.3.1.3)
Avaya Call Management System on Sun T5120 Server	R16.2
Avaya G450 Media Gateway	31.11.1/1
Avaya 9600 Series SIP Phones	SIP 2.6
Avaya 9600 Series H.323 Phones	H.323 3.11
GMT Planet™ on Windows 2008R2	9.95

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5 Configure Avaya Aura® Communication Manager

The detailed administration of contact center resources and connectivity between Avaya Aura® Communication Manager and Avaya Call Management System are not the focus of these Application Notes and will not be described. For administration of contact center resources and connectivity to the Call Management System, refer to the appropriate documentation listed in **Section 10**.

This section provides the procedures for how to enable Vector Directory Number (VDN), Split/Skill, and Agent measurement data to be sent to the Call Management System. The procedures include the following areas:

- Administer measured VDN
- Administer measured Split/Skill and Agent

For the compliance testing, the following contact center devices were used.

VDN	Split/Skill	Logical Agents
6000	1	6301, 6302
6500	5	6301, 6302

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5.1 Administer Measured VDN

Use the ***change vdn n*** command, where ***n*** is the extension of the VDN to be measured by the Call Management System. Set the **Measured** field to ***external*** or ***both*** to enable measurement data on the VDN to be sent to the Call Management System. External measurement will send data to configured Call Management System servers, ***both*** allows data to be sent to the "internal" BCMS system as well as the external Call Management System.

Repeat this step for all VDNs that will be measured by the Call Management System.

```
change vdn 6000                                              Page   1 of   3
                          VECTOR DIRECTORY NUMBER

                            Extension: 6000
                                Name*: ACD
                           Destination: Vector Number        2
                   Attendant Vectoring? n
                  Meet-me Conferencing? n
                    Allow VDN Override? n
                                  COR: 1
                                  TN*: 1
                             Measured: both
        Acceptable Service Level (sec): 20

        VDN of Origin Annc. Extension*:
                            1st Skill*:
                            2nd Skill*:
                            3rd Skill*:



* Follows VDN Override Rules
```

For the compliance testing, two VDNs with extensions **6000** and **6500** were configured to be measured, as shown below.

```
 list vdn

                        VECTOR DIRECTORY NUMBERS

                                                                      Evnt
                                  VDN          Vec           Orig     Noti
Name (22 characters)   Ext/Skills Ovr COR TN   PRT Num  Meas Annc     Adj

ACD                    6000        n  1   1     V  2    both

From PSTN Gateway      6500        n  1   1     V  7    both
```


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5.2 Administer Measured Split/Skill and Agent

Use the "**change hunt-group *n***" command, where "***n***" is the number of the Split/Skill group to be measured by the Call Management System. Navigate to **Page 2**, and set the **Measured** field to "***external***" or "***both***" to enable measurement data on the Split/Skill group and the associated Agents to be sent to the Call Management System. Repeat this step for all Split/Skill groups that will be measured by the Call Management System.

```
change hunt-group 1                                          Page   2 of   4
                                  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:

   Multiple Call Handling: none


 Timed ACW Interval (sec): 30       After Xfer or Held Call Drops? n
```

For the compliance testing, two Split/Skill groups were configured to be measured, as shown below.

```
list hunt-group

                                  HUNT GROUPS
Grp  Grp
No.  Name/           Grp     ACD/              No. Cov  Notif/  Dom   Message
     Ext             Type    MEAS Vec MCH  Que Mem Path Ctg Adj Ctrl  Center

1    EAS Hunt Group
     6501            ucd-mia y/E  SK  none y   0        n        1    n
5    EAS Skill 5
     6503            ucd-mia y/E  SK  none y   0        n             n
```

In the compliance testing, two agents with physical extensions 6001 and 6002 and logical extensions 6301 and 6302 were used as available agents for the above Split/Skill groups.

```
list agent-loginID

                               AGENT LOGINID
Login ID     Name           Extension     Dir Agt  AAS/AUD        COR Ag Pr SO
               Skil/Lv Skil/Lv Skil/Lv Skil/Lv Skil/Lv Skil/Lv Skil/Lv Skil/Lv

6301         Agt1            6001                                  2   lvl
                  1/01    5/01     /       /       /       /       /       /
6302         Agt2            6002                                  2   lvl
                  1/01    5/01     /       /       /       /       /       /
```


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6 Configure Avaya Call Management System

The connectivity between Avaya Call Management System and Avaya Aura® Communication Manager is assumed to be in place and will not be described. In addition, these Application Notes assume the intra-hour interval is already administered.

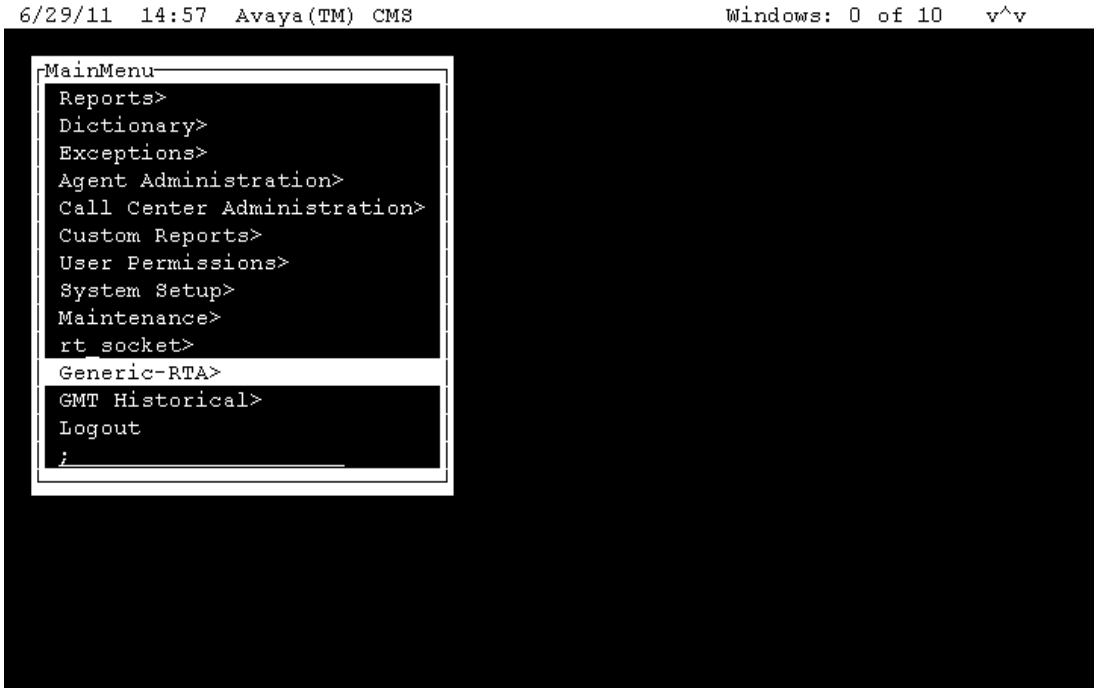
This section provides procedures for the following:

- Enable Generic-RTA interface
- Check intra-hour interval
- Enable Historical Data

Note that no special procedure is required to enable the customized historical data interface.

6.1 Enable Generic-RTA Interface

Use a terminal emulator to connect to the Call Management System 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 the customized real-time agent interface created by Avaya CSI for GMT, in this case the option is **Generic-RTA** (Note that the actual option name may vary). Press the **Enter** key.



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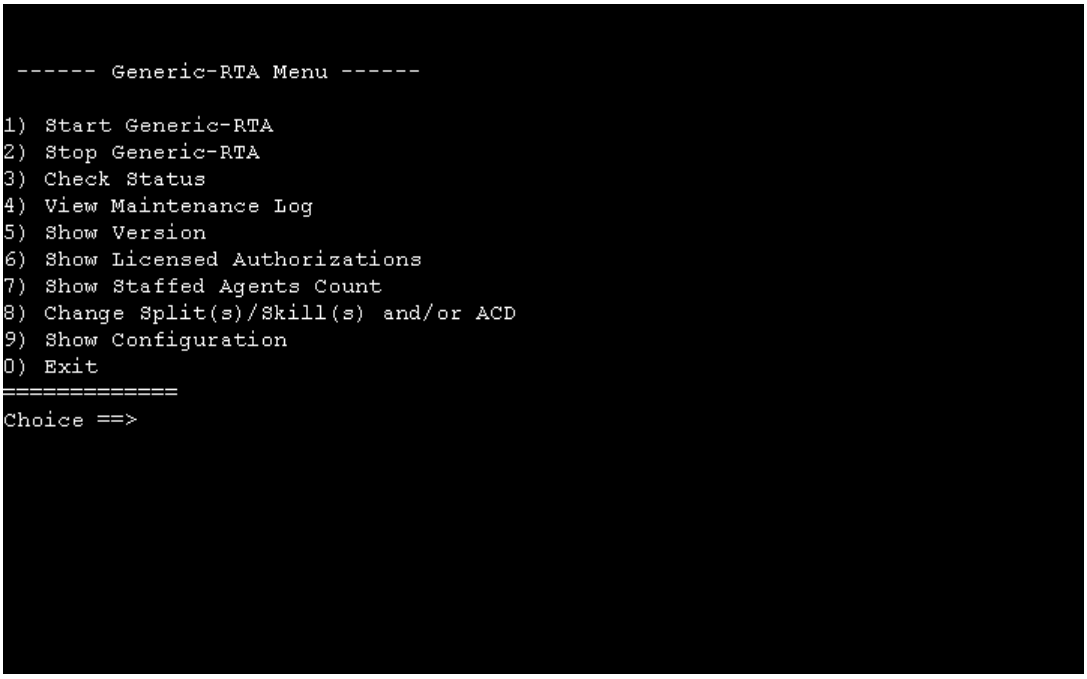
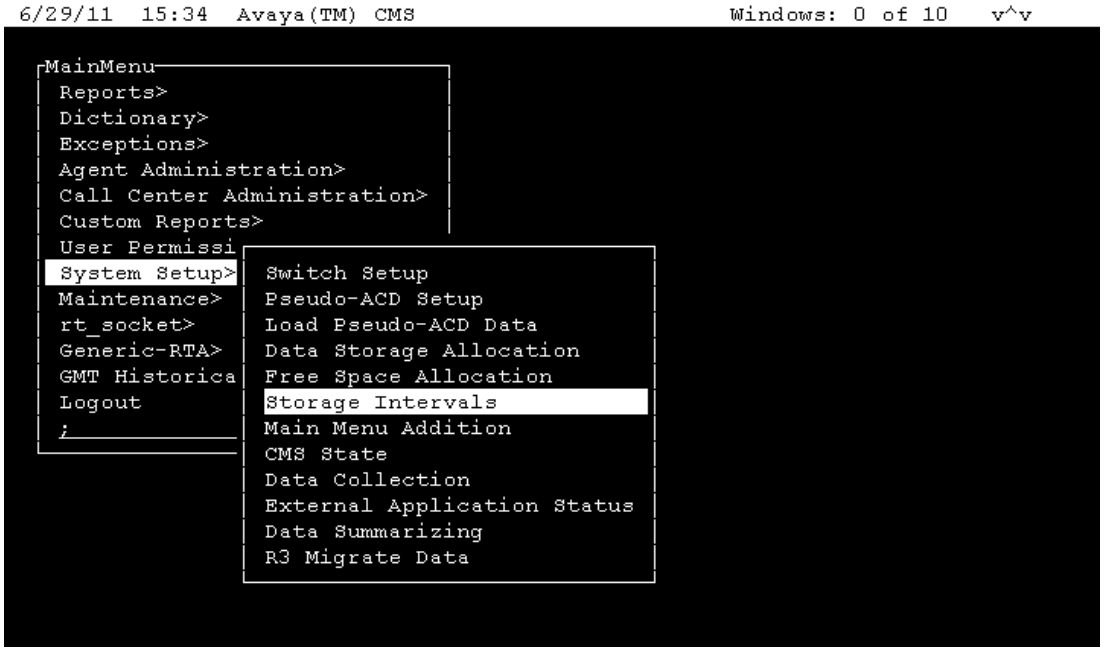
The **Generic-RTA Menu** is displayed. Enter "***2***" followed by the **Enter** key, to stop the interface. Enter "***1***" followed by the **Enter** key, to restart the interface. Enter "***0***" followed by the **Enter** key, to exit and return to the main menu.



6.2 Check Intra-Hour Interval

From the **MainMenu** screen, select **System Setup > Storage Intervals** and press the **Enter** key.



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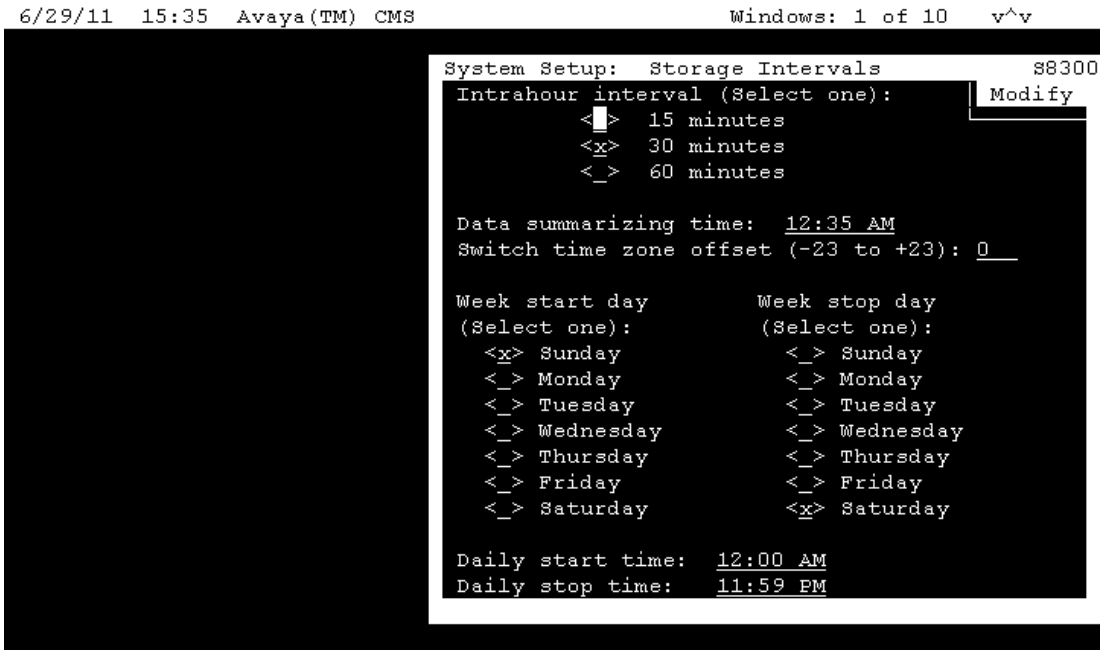
The **System Setup: Storage Intervals** screen is displayed. Make certain that the administered intra-hour interval for the historical data matches the configuration on the Planet server as described in **section 7.2** below.



6.3 Historical Data Status

Historical Data reports are preconfigured by Avaya Professional Services. A cron job is pre-configured to run on intervals and gathers VDN, Agent and Skill data and uses FTP to write files to a collection location. In turn, GMT Planet is configured to parse these files and write the data into the application database.

Configuration details, including hostname/IP Address of the ftp server that will be used for a given integration is supplied to Avaya Professional Services and is pre-configured. Therefore, these Application Notes will not cover this aspect of the configuration.

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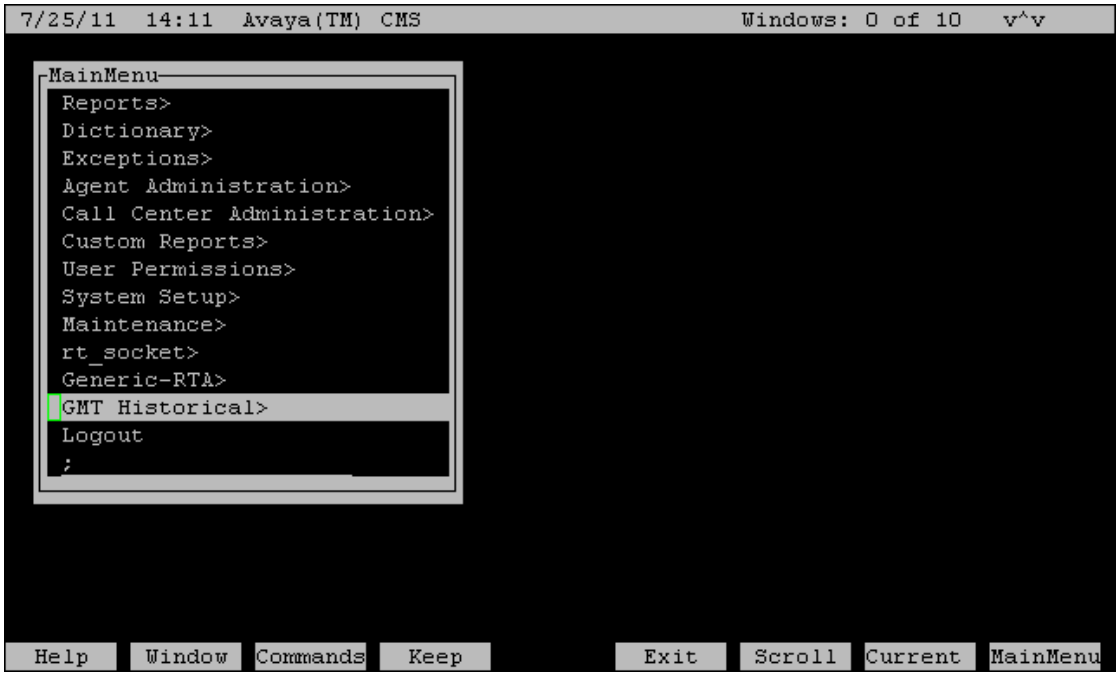
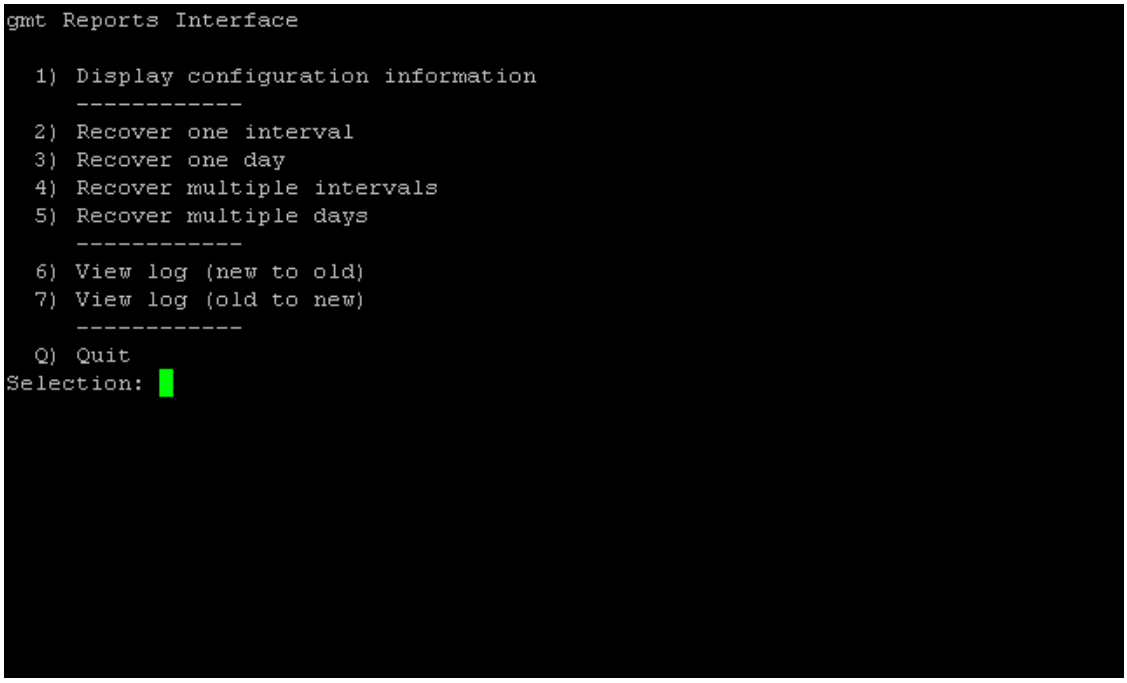
From the **MainMenu** screen, a menu item such as **GMT Historical** is created by Professional Services and is used to confirm the configuration, view logs (to verify status), and recover missed reports if network connectivity is lost for a period.



The **GMT Historical** menu option reveals the **gmt Reports Interface** options as shown below. Details about recovery will not be covered in these Application Notes as they are described in the documentation Professional Services will leave with a customer post-installation.



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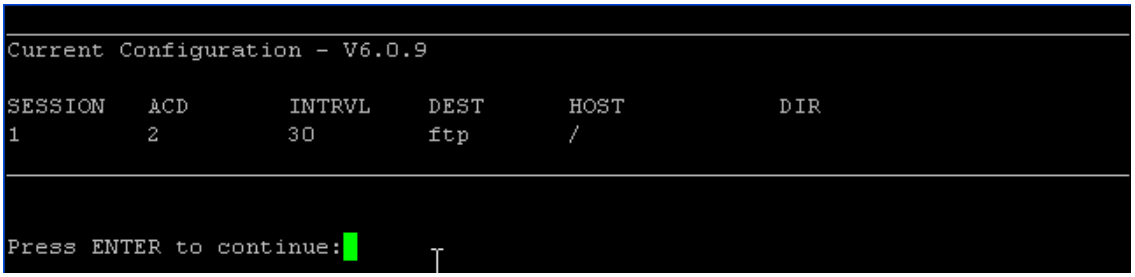
Configuration Information can be displayed by selecting option ***1*** from the **GMT Historical** menu. Details were removed from this screenshot as the information in the test was pushed to a location on the public internet and was removed for security reasons.



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7 Configure GMT Planet™

This section provides the procedures for configuring GMT Planet. The procedures fall into the following areas:

- Launch GMT Planet
- Administer Corporation
- Administer Custom Sort Fields
- Administer Employees
- Configure Queue Data
- Configure VDN Data
- Configure Data Interval

7.1 Launch GMT Planet

From the Planet server, start the application by navigating to Start→GMT→Planet 9.95. The **Log In** screen is displayed as shown below. Log in using the appropriate credentials.

The **GMT Planet** main screen is displayed as shown below.

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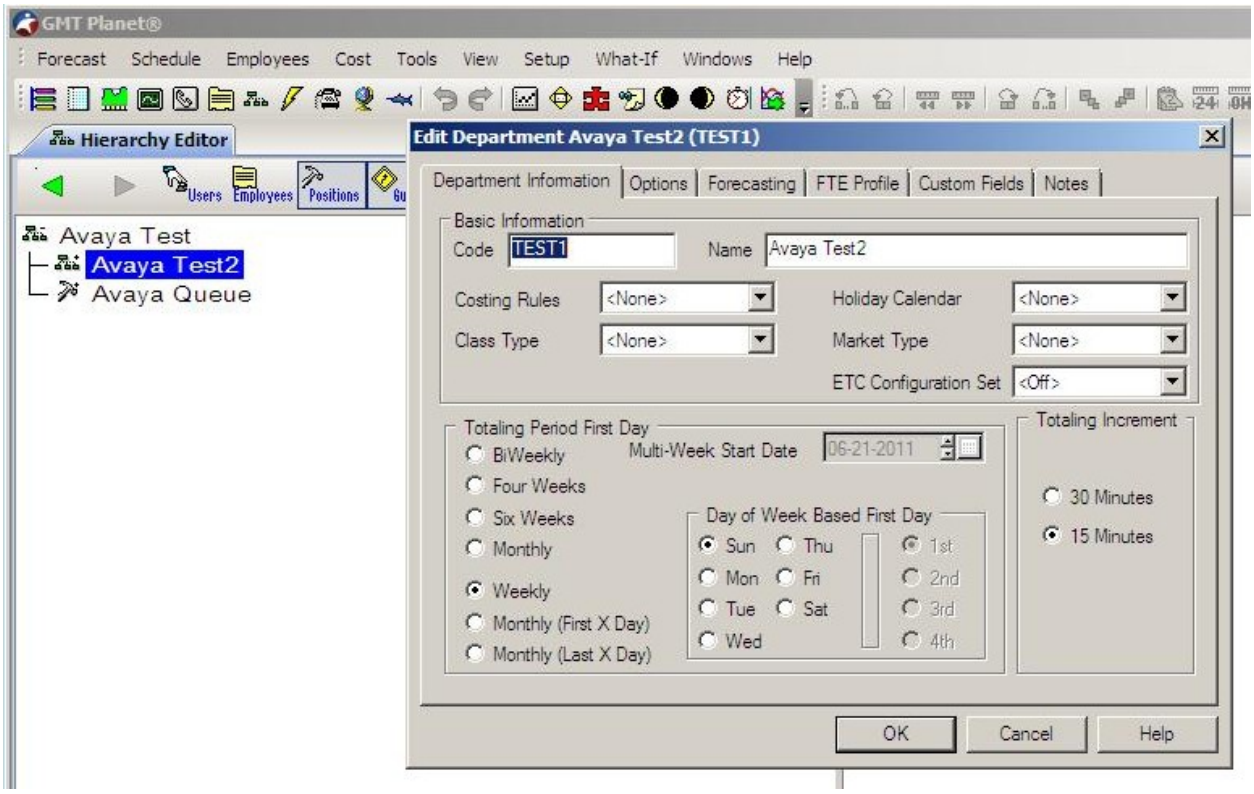
7.2 Administer Corporation

Initially, the Planet application is created with a blank database. Navigate to **View→Hierarchy** to display the **Hierarchy Editor** screen. The top **Department** is created and named ***Avaya Test 2***. The **Edit Department** window shown below provides the department configuration. To edit a department, select the department, right click on it, and select **Edit Department**. The setting for the **Code** field is important and will be used to import data during implementation for Departments, Positions, Employees, etc., which forms the hierarchy.



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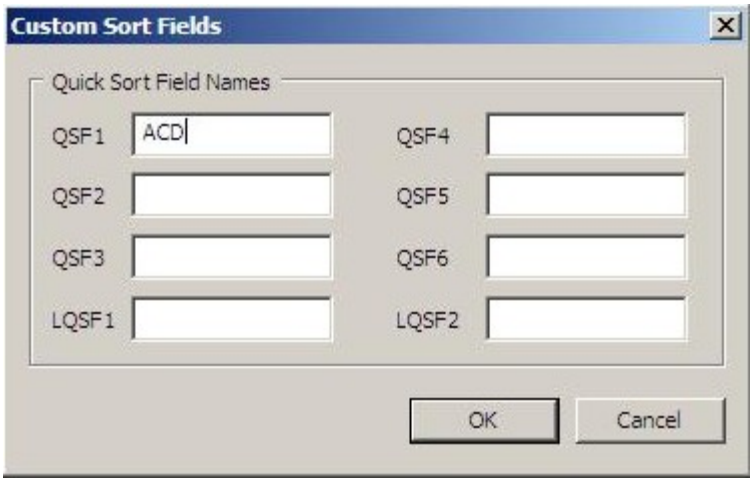
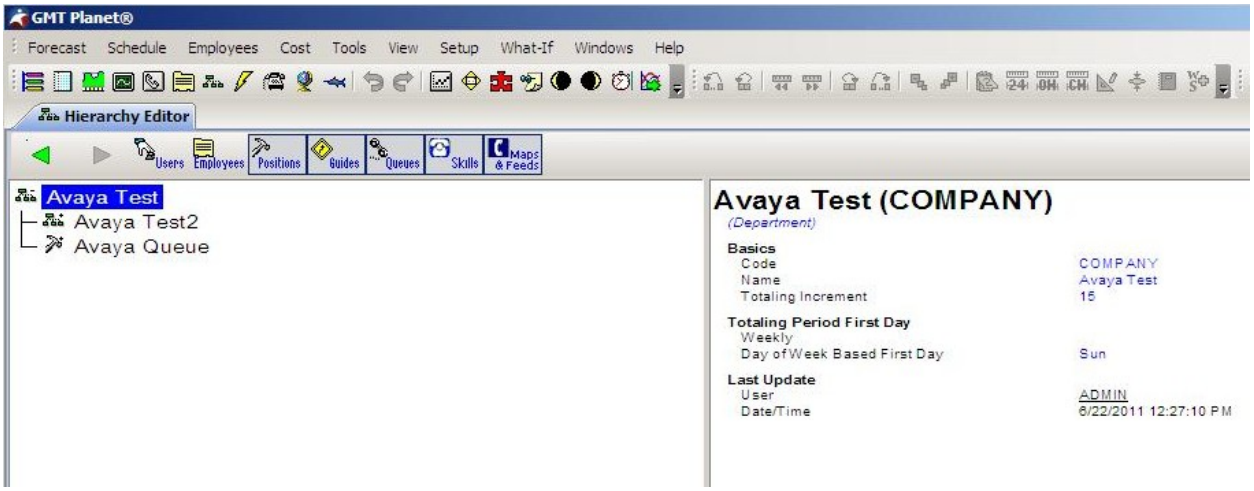
7.3 Administer Custom Sort Fields

In the Planet main screen, navigate to **Setup→Custom Sort Fields**. Set the **QSF1** field to *ACD*. The QSF1 field must be set to the ACD Login ID, which is configured for each employee. Custom sort fields are also used for sorting and are displayed in reports. Click **OK**.



7.4 Administer Employees

From the GMT Planet main screen, navigate to **View→Hierarchy** to display the **Hierarchy Editor** shown below.



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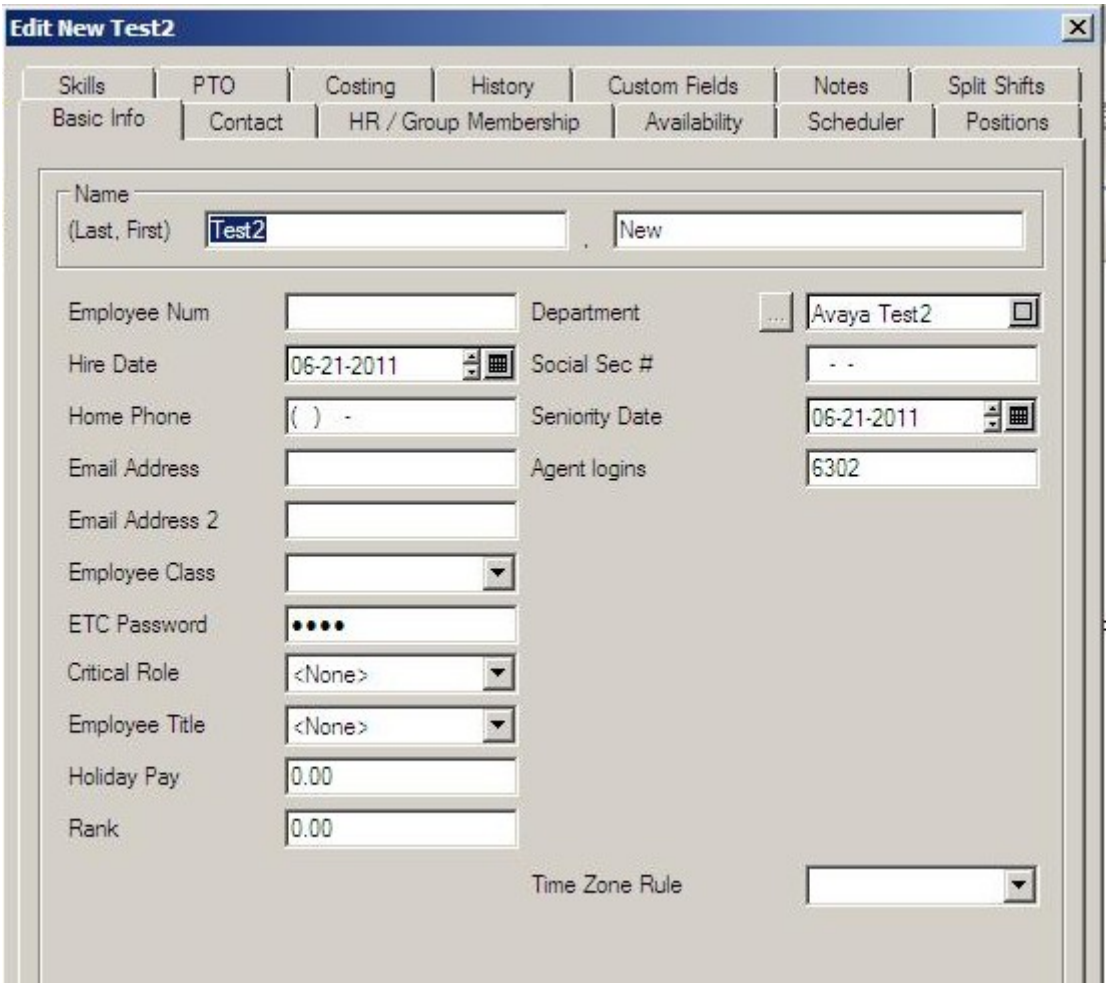
In the **Hierarchy Editor** tab, right mouse-click on **Avaya Test 2** and select **Add Employee** to display the screen below. Specify a **Name** and set the **Agent Logins** field to the agent ID configured on Communication Manager. Click **OK**. Repeat this procedure for each employee/agent.



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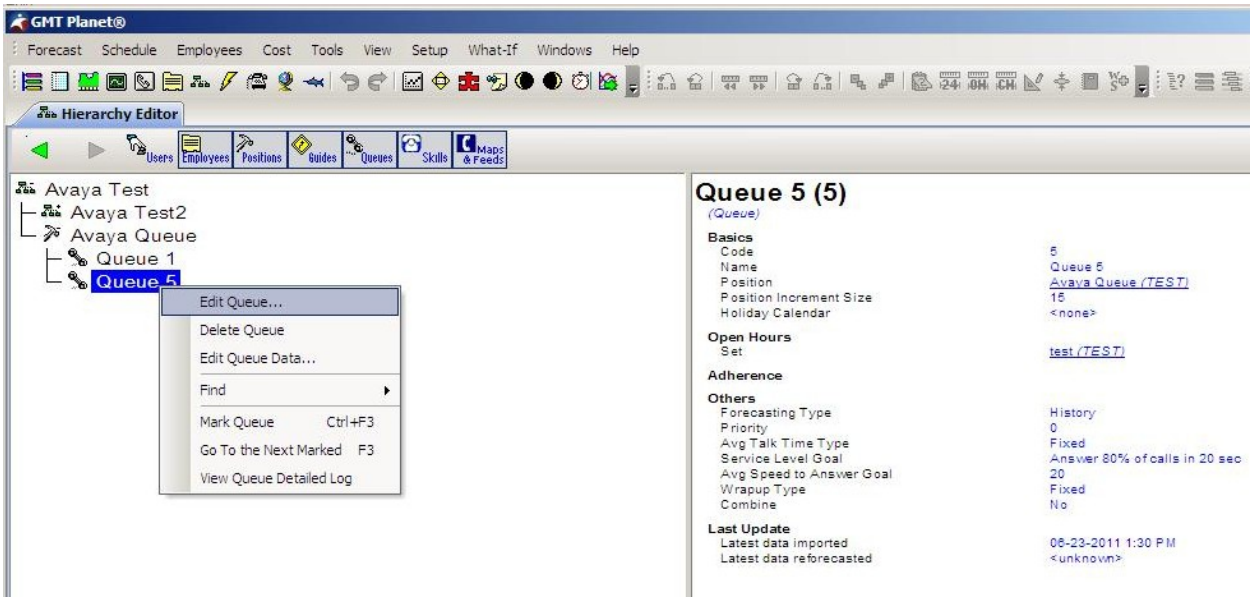
7.5 Configure Queue Data

In the **Hierarchy Editor**, expand the **Avaya Queue** options as shown below. Add the queues (split/skill) being monitored. In this example, ***Queue 1 and 5*** has been added and the **Queue** configuration can be displayed by right mouse-clicking on a queue in the left pane and selecting **Edit Queue…** from the pop-up menu as shown below.



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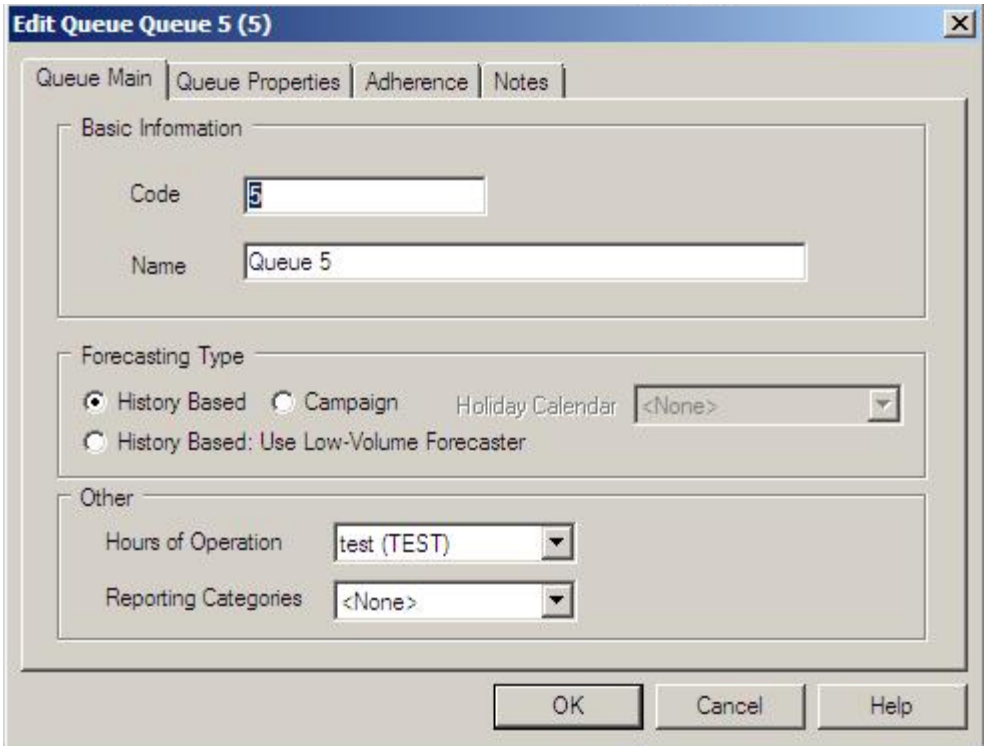
The configuration of ***Queue 5*** is shown below. The **Code** field should be set to the ACD/Skill group number configured in **Section** Error! Reference source not found.. Each queue that will be monitored must be added to Planet.



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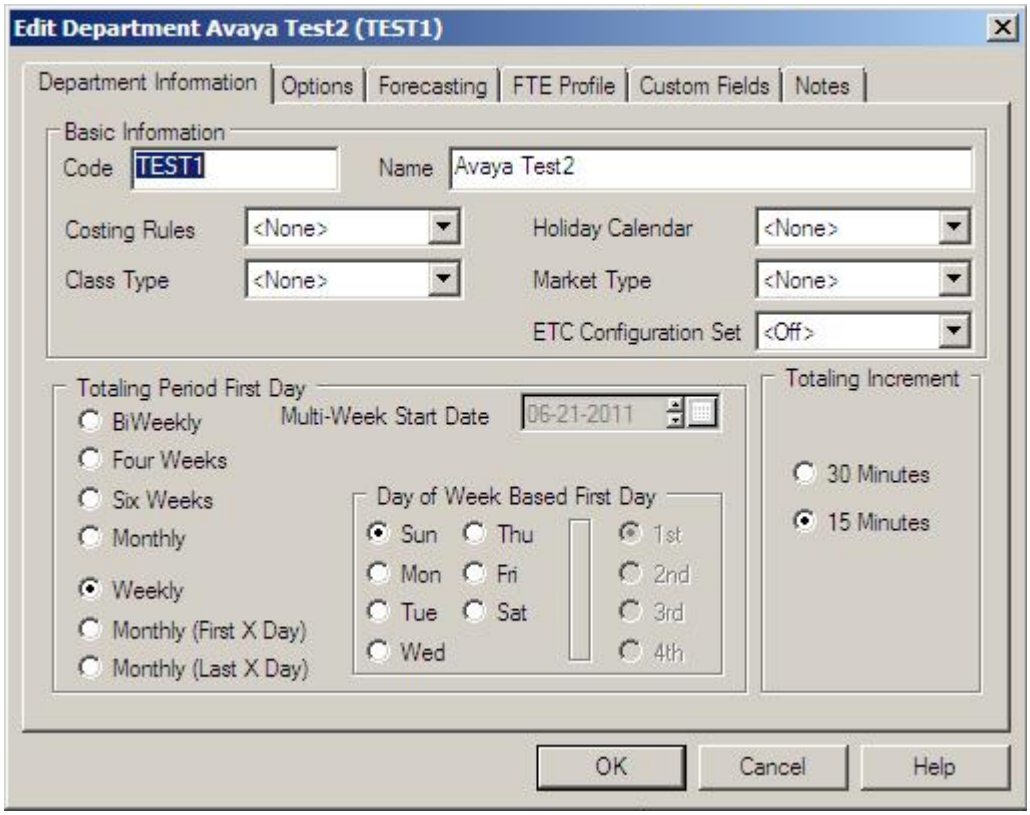
7.6 Configure Data Interval

To set the data interval on Planet to 15 minutes, right mouse-click on **Scheduling** in the **Hierarchy Editor** and select **Edit Department Scheduling** to display the screen below. Set the **Totaling Increment** field to *15 Minutes* and click **OK**.



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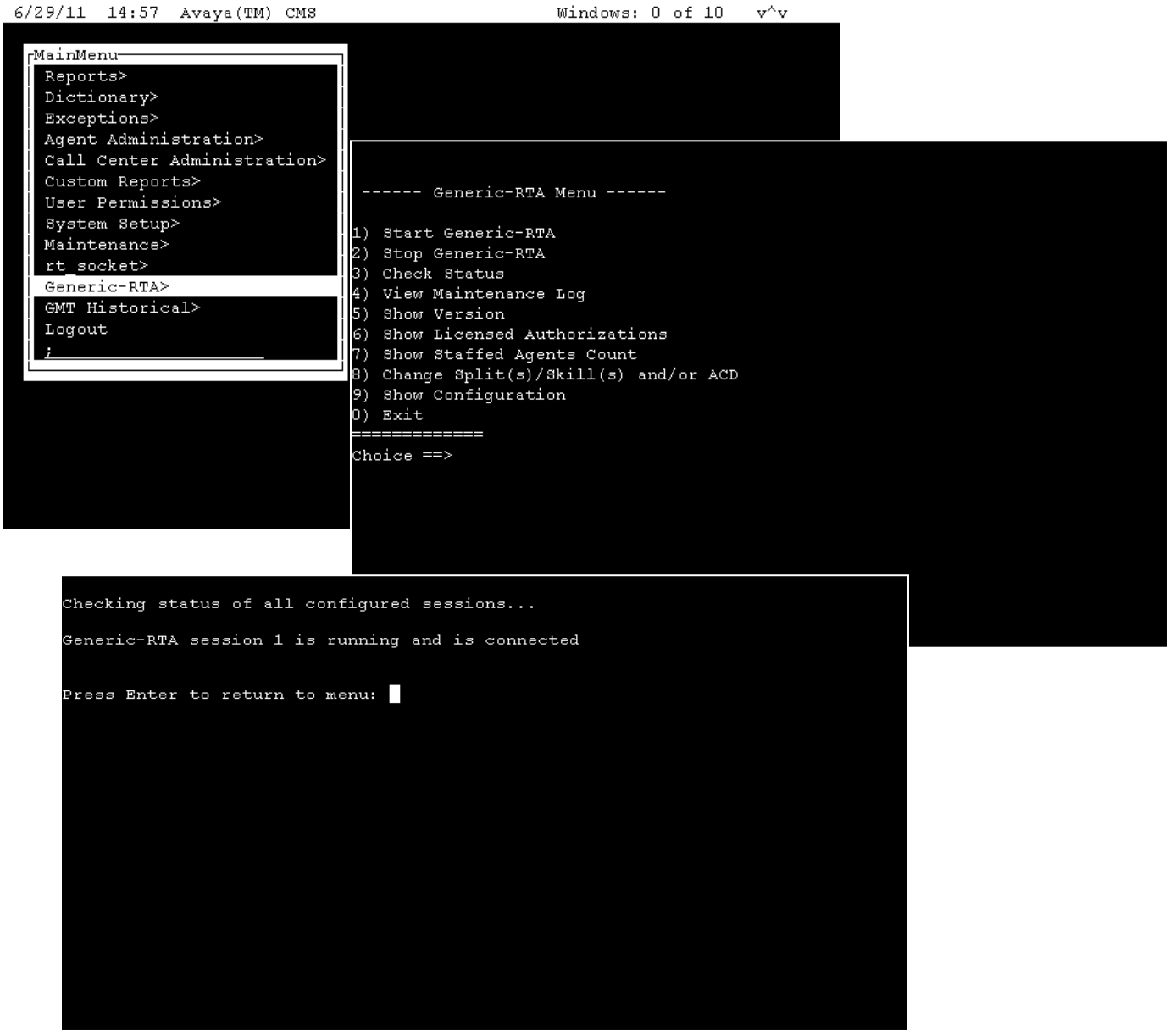
8 Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Call Management System and GMT Planet™. It is assumed the connection between Avaya Aura® Communication Manager and the Call Management System is active.

8.1 Verify Avaya Call Management System

From the Call Management System server, follow the procedures in **Section 6.1** to display the **MainMenu**. Verify the status of the connection to Planet for the Generic-RTA by selecting the ***Generic-RTA*** option from the Main Menu, and then option ***3*** from the **Generic-RTA** menu (e.g. **Check Status**). The status should confirm the session is running and connected as illustrated below:



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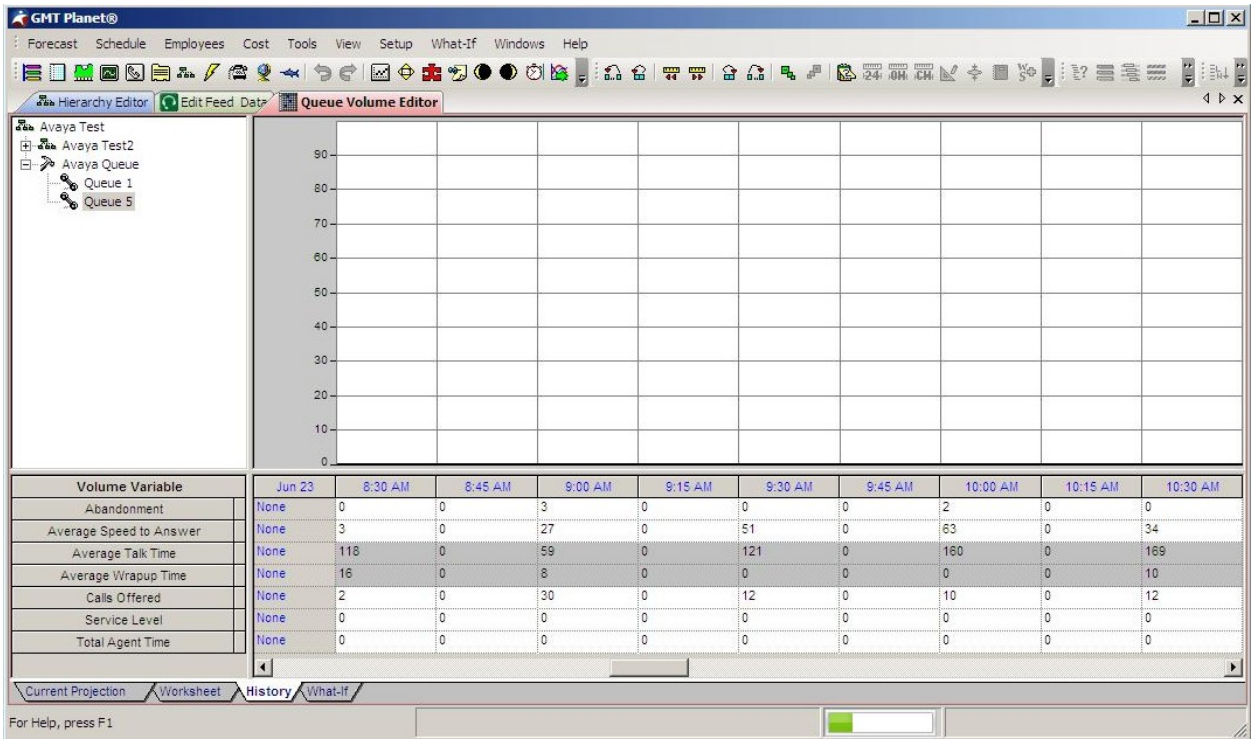
8.2 Verify GMT Planet™

Prior to verifying Planet, make calls to *measured* resources on Communication Manager to enable data to be sent to the Avaya Call Management System.

8.2.1 Verify Historical Queue Data

After collecting historical queue data from the Call Management System, the data can be displayed on Planet by navigating to **Forecast→Edit→Queue Data** and selecting the appropriate queue in the left pane. In this example, historical queue statistics for ***Queue 5*** is displayed below.



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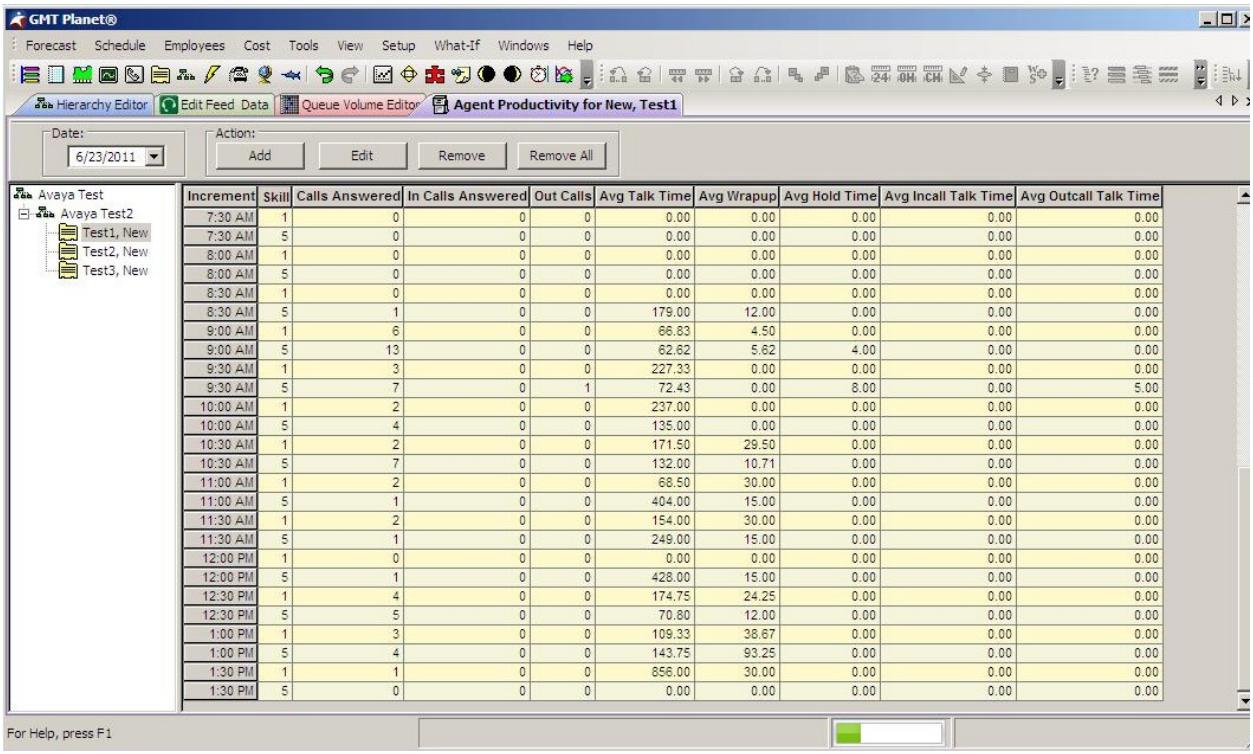
Verify Historical Agent by Queue Data

From the Planet main screen, navigate to **Employees→Edit Productivity…** Select the appropriate employee/agent in the left pane to display agent statistics associated with that agent as shown below.



Increment	Skill	Calls Answered	In Calls Answered	Out Calls	Avg Talk Time	Avg Wrapup	Avg Hold Time	Avg Incall Talk Time	Avg Outcall Talk Time
7:30 AM	1	0	0	0	0.00	0.00	0.00	0.00	0.00
7:30 AM	5	0	0	0	0.00	0.00	0.00	0.00	0.00
8:00 AM	1	0	0	0	0.00	0.00	0.00	0.00	0.00
8:00 AM	5	0	0	0	0.00	0.00	0.00	0.00	0.00
8:30 AM	1	0	0	0	0.00	0.00	0.00	0.00	0.00
8:30 AM	5	1	0	0	179.00	12.00	0.00	0.00	0.00
9:00 AM	1	6	0	0	66.83	4.50	0.00	0.00	0.00
9:00 AM	5	13	0	0	62.62	5.62	4.00	0.00	0.00
9:30 AM	1	3	0	0	227.33	0.00	0.00	0.00	0.00
9:30 AM	5	7	0	1	72.43	0.00	8.00	0.00	5.00
10:00 AM	1	2	0	0	237.00	0.00	0.00	0.00	0.00
10:00 AM	5	4	0	0	135.00	0.00	0.00	0.00	0.00
10:30 AM	1	2	0	0	171.50	29.50	0.00	0.00	0.00
10:30 AM	5	7	0	0	132.00	10.71	0.00	0.00	0.00
11:00 AM	1	2	0	0	68.50	30.00	0.00	0.00	0.00
11:00 AM	5	1	0	0	404.00	15.00	0.00	0.00	0.00
11:30 AM	1	2	0	0	154.00	30.00	0.00	0.00	0.00
11:30 AM	5	1	0	0	249.00	15.00	0.00	0.00	0.00
12:00 PM	1	0	0	0	0.00	0.00	0.00	0.00	0.00
12:00 PM	5	1	0	0	428.00	15.00	0.00	0.00	0.00
12:30 PM	1	4	0	0	174.75	24.25	0.00	0.00	0.00
12:30 PM	5	5	0	0	70.80	12.00	0.00	0.00	0.00
1:00 PM	1	3	0	0	109.33	38.67	0.00	0.00	0.00
1:00 PM	5	4	0	0	143.75	93.25	0.00	0.00	0.00
1:30 PM	1	1	0	0	856.00	30.00	0.00	0.00	0.00
1:30 PM	5	0	0	0	0.00	0.00	0.00	0.00	0.00

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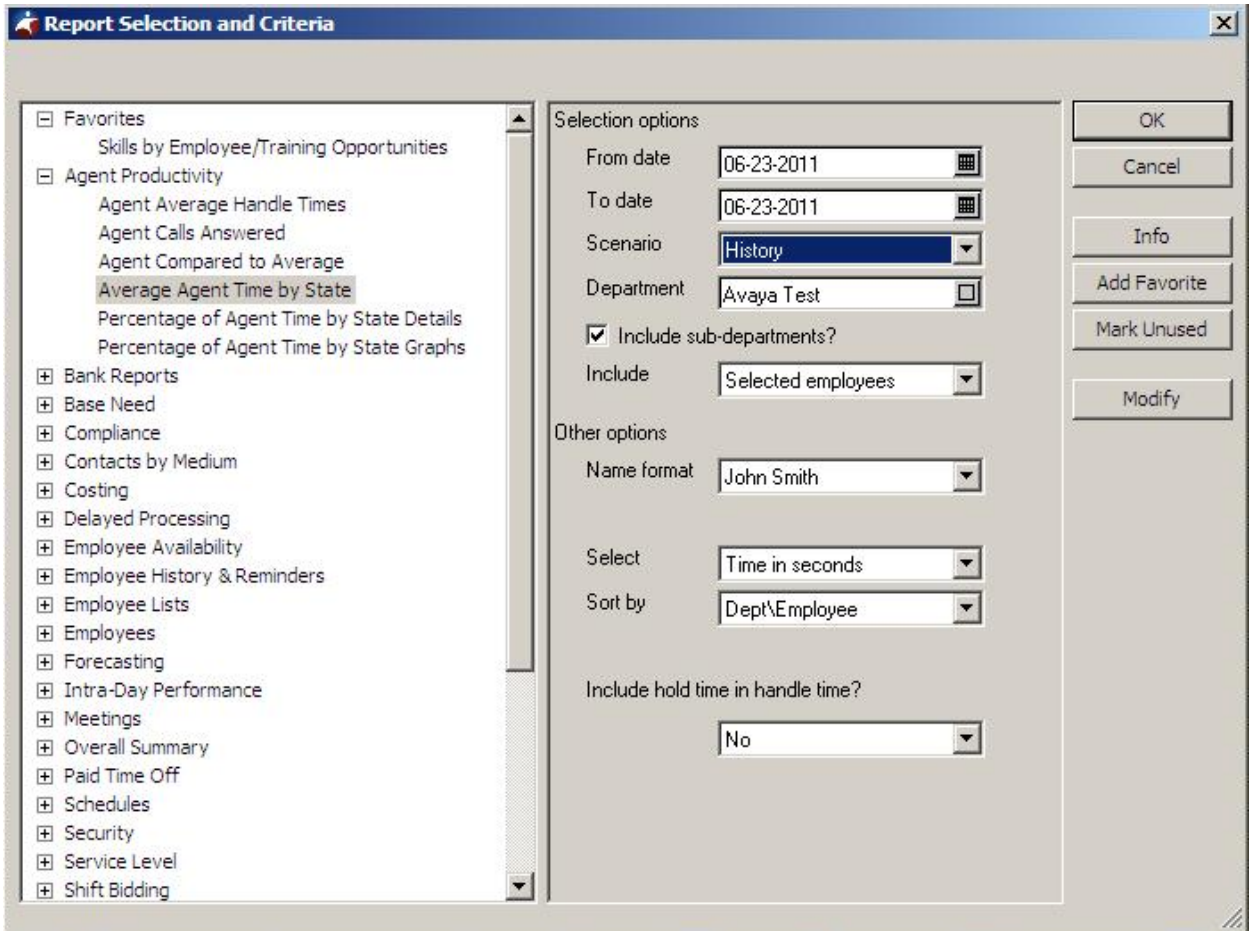
8.2.2 Verify Historical Agent Readiness Data

Historical agent readiness data is displayed via reports. From the Planet main screen, navigate to **Tools→Reports** to display the **Report Selection and Criteria** screen. In the **Report Selection and Criteria** screen, select **Average Agent Time by State** under **Agent Productivity** in the left pane. Configure the report parameters in the right pane and click **OK**.



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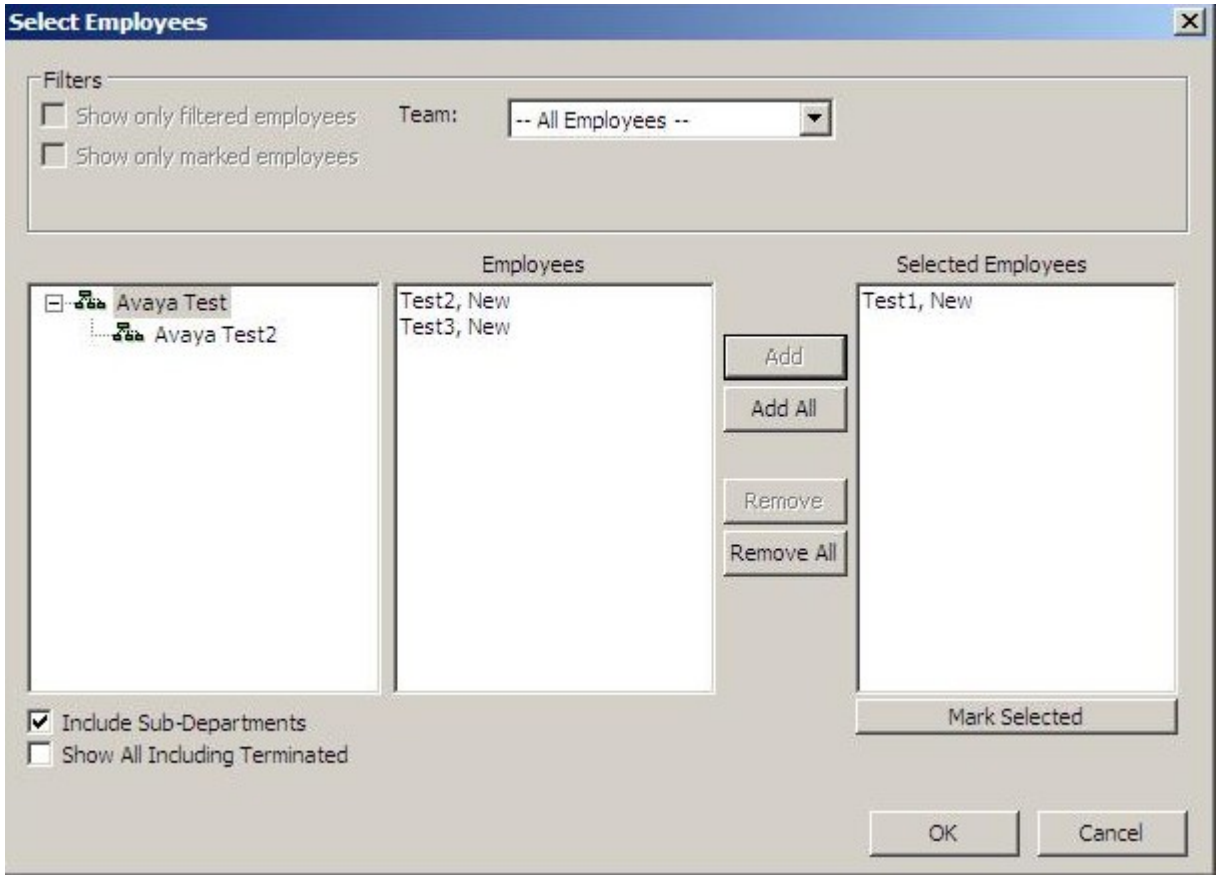
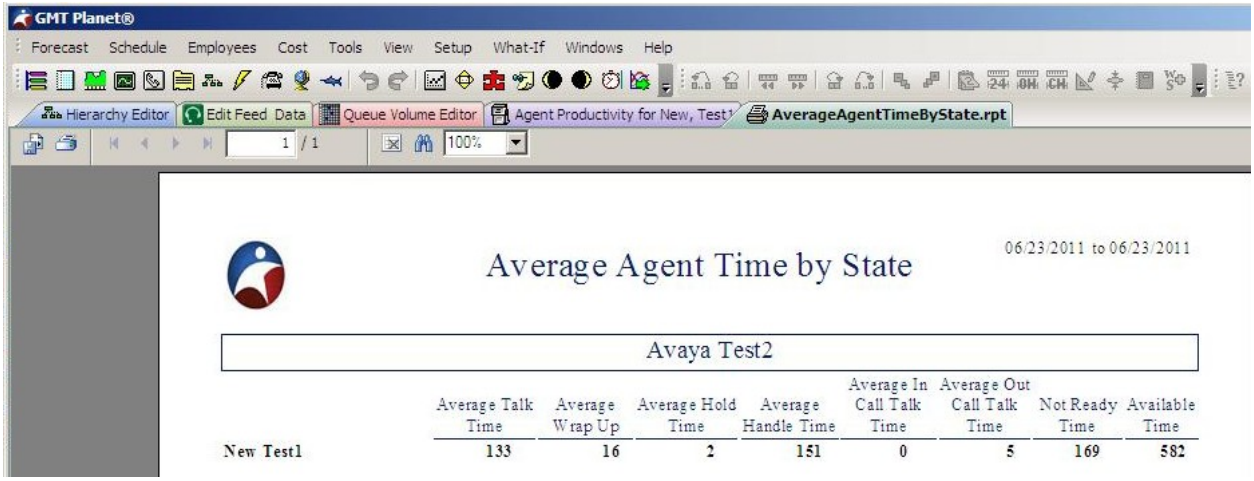
In the **Select Employees** screen, select the employees/agents to include in the agent report and click **OK**.



The agent report is displayed containing the agent statistics shown below.



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9 Conclusion

These Application Notes describe the configuration steps required for GMT Planet™ to interoperate with the Avaya Call Management System, via the customized real-time and historical call measurement data interfaces provided by Avaya CSI. All feature and serviceability test cases were completed.

10 Additional References

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

Avaya Documentation:

- *Administering Avaya Aura™ Communication Manager,* Document ID 03-300509, Issue 6.0, Release 6.0, June, 2010.
- *Avaya Call Management System Switch Connections, Administration, and Troubleshooting*, June, 2010
- *Avaya Call Management System Call History Interface*, Release 16.x, November, 2010

GMT Corporation Documentation:

- *Avaya Integration GMT Planet*, January, 2010

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