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**Avaya Solution & Interoperability Test Lab**

# Application Notes for Configuring DATEL Software Solutions Call SWEET! With Avaya IP Office Delta Server - Issue 1.0

## Abstract

These Application Notes describe the procedures for configuring Avaya IP Office Delta Server to work with DATEL Software Solutions Call SWEET!. Call SWEET! collects and reports on the Station Message Detail Reporting (SMDR) information written to comma-separated files by Avaya IP Office Delta Server. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

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# 1. Introduction

These Application Notes focus on the steps required for configuring Avaya IP Office Delta Server to work with DATEL Software Solutions Call SWEET!. Call SWEET! collects and reports on with the Station Message Detail Reporting (SMDR) information written to comma-separated values (CSV) files by Avaya IP Office Delta Server.

Call SWEET! is a web-based application that collects, monitors, audits, reports, and analyses call records for one or more locations. The Call SWEET! functionality includes: personalized dynamic dashboard displaying key business metrics, automatic report creation and distribution through the report scheduler, alarming and alerting with user defined system thresholds, and state of the art data protection through an unlimited set of definable security roles.

The configuration in **Figure 1** shows the network configuration at the Main Site consisting of an Avaya IP Office 406v2 with Avaya IP400 Phone Expansion Module, an Avaya IP Office Manager / Voicemail Pro / Delta Server PC[1], DATEL Software Solutions Call SWEET! PC, and Avaya 4600-series IP telephones connected to an Avaya C363T-PWR Stackable Switch. Avaya IP Office has T1/PRI and analog trunks to the central office. The network configuration at Branch Site A was only used to generate SMDR records for IP trunk calls. Avaya IP Office Delta Server may only be used to report SMDR data from a single Avaya IP Office at a time.

The Avaya IP Office Delta Server is configured to connect to the Avaya IP Office 406v2 in order to generate SMDR data for all inbound and outbound calls as well as internal calls. The Delta Server can be configured to send the SMDR data it receives from the Avaya IP Office to a number of destinations. These methods available include: SMDR log file, IP polling or sending to a specified IP address and port. The required destination depends on which methods of data transfer are supported by the third-party call accounting application being used. For this solution, the Delta Server is configured to write SMDR records to a CSV file.

In order for Call SWEET! to be able to access the CSV file(s), the folder to which the CSV files are written on the Delta Server PC must be shared on the network. Call SWEET! can be configured to automatically retrieve SMDR records every few minutes. Upon SMDR record retrieval, the software parses and processes the SMDR data, then stores the parsed SMDR data into a database for later record retrieval and/or reporting by the end user.

The tested configuration is shown in **Figure 1**.

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[1] Avaya IP Office Voicemail Pro and Avaya IP Office Delta Server were installed on the same computer in the test lab configuration; it is recommended that they be installed on separate computers in a production environment.
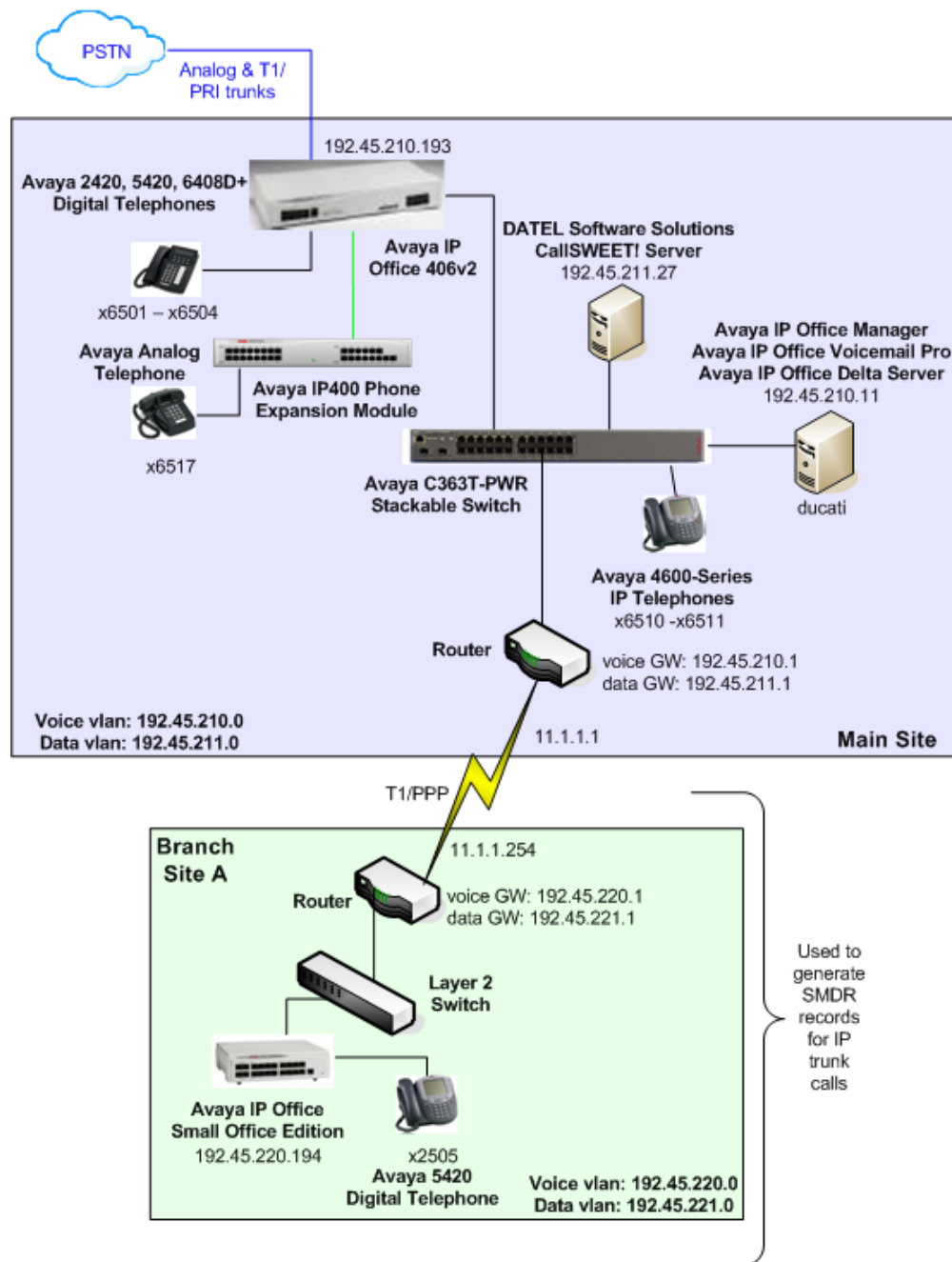
**Figure 1 – Network Configuration Diagram**

## 2. Equipment and Software Validated

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

| Equipment | Software/Firmware |
|---|---|
| Avaya IP Office 406v2 | 3.2(54) |
| Avaya IP Office Small Office Edition | 3.2(54) |
| Avaya IP400 Phone Expansion Module | 5.2(54) |
| Avaya IP Office Delta Server | 5.0(33) |
| Avaya IP Office Manager | 5.2(54) |
| Avaya IP Office Voicemail Pro | 3.2(28.4) |
| Avaya IP Telephones (H.323) (4610SW, 4620SW) | 2.3 |
| Avaya 5420, 2420, and 6408D+ Digital Telephones | - |
| Avaya Analog Telephone | - |
| Avaya C363T-PWR Stackable Switch | 4.3.12 |
| DATEL Software Solutions Call SWEET! | 6.0.1 |

**Table 2 – Equipment and Software / Firmware Versions Validated**


## 3. Configure Avaya IP Office

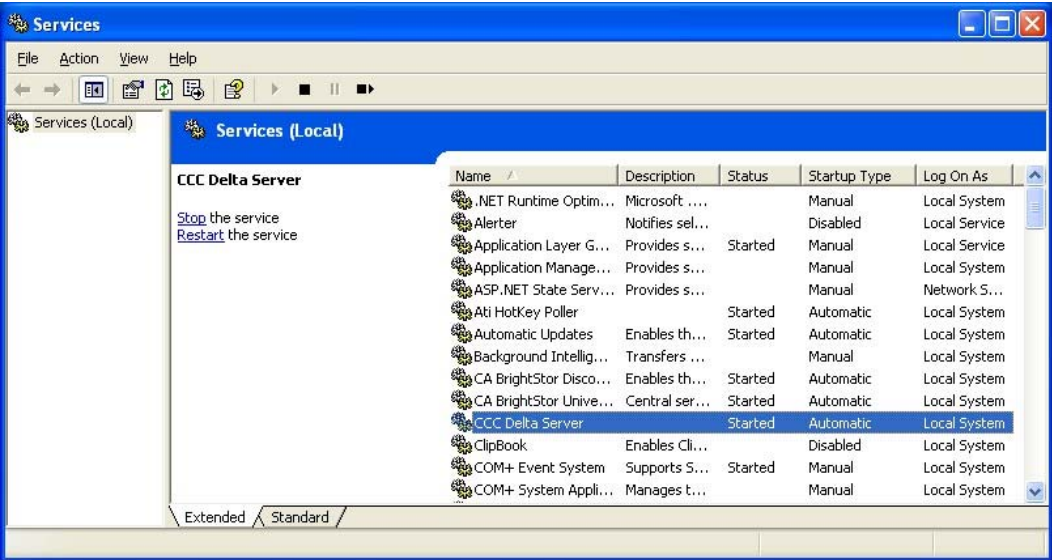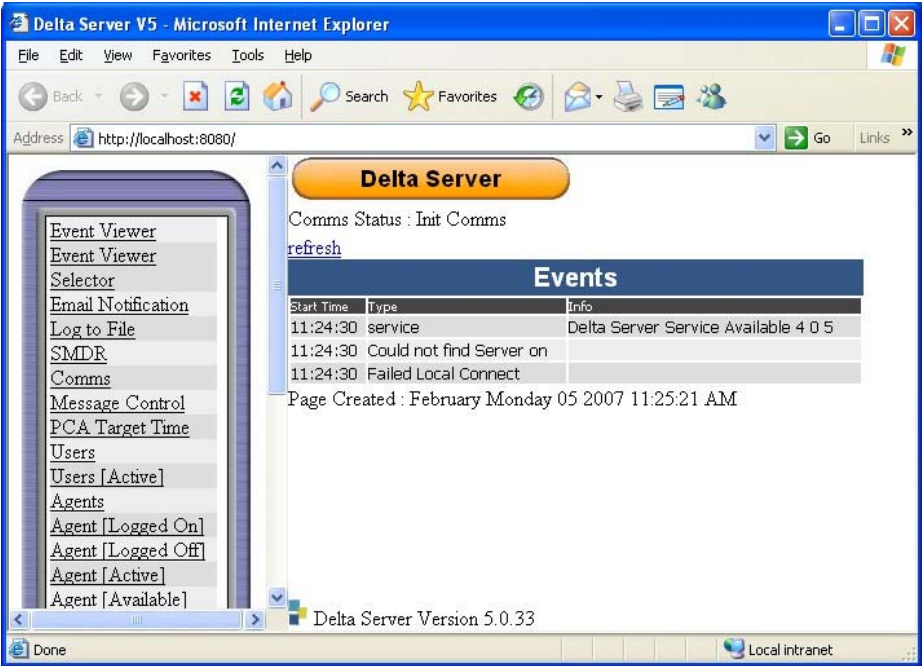No special configuration is required for Avaya IP Office to work with Avaya IP Office Delta Server.

For basic provisioning information such as Avaya IP Office installation and configuration, please refer to Avaya IP Office product documentation in reference [1].
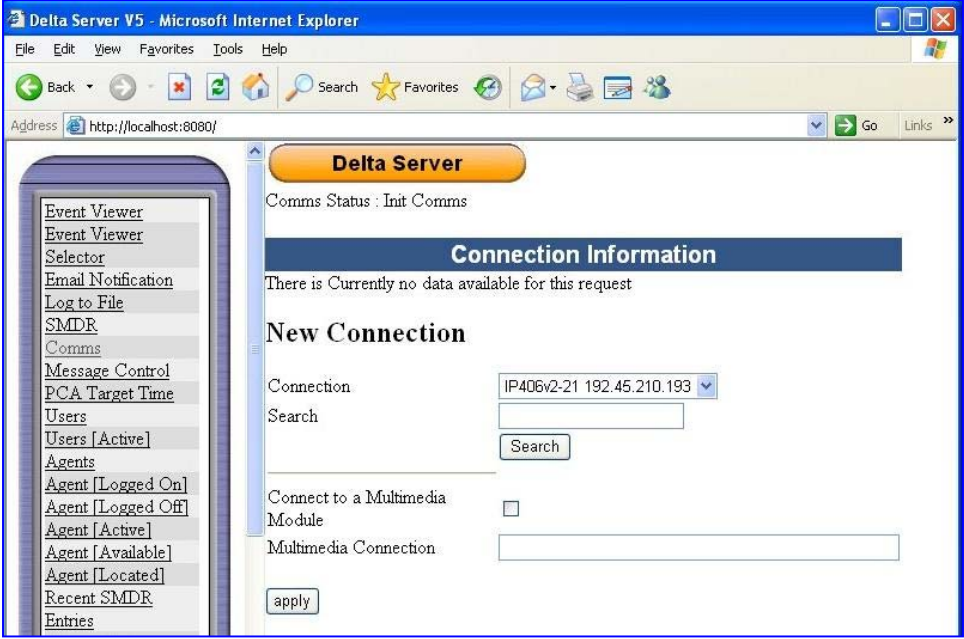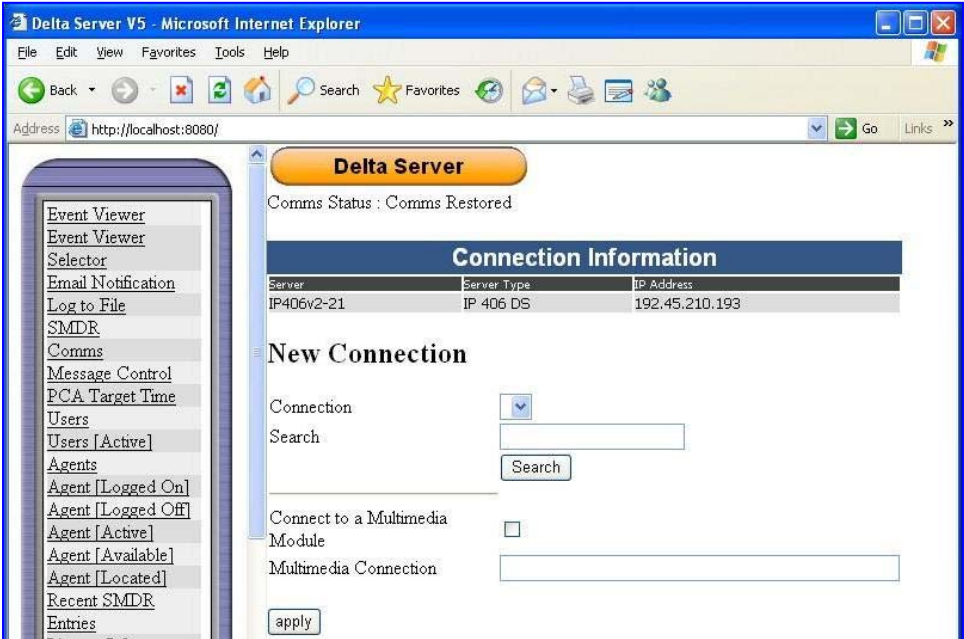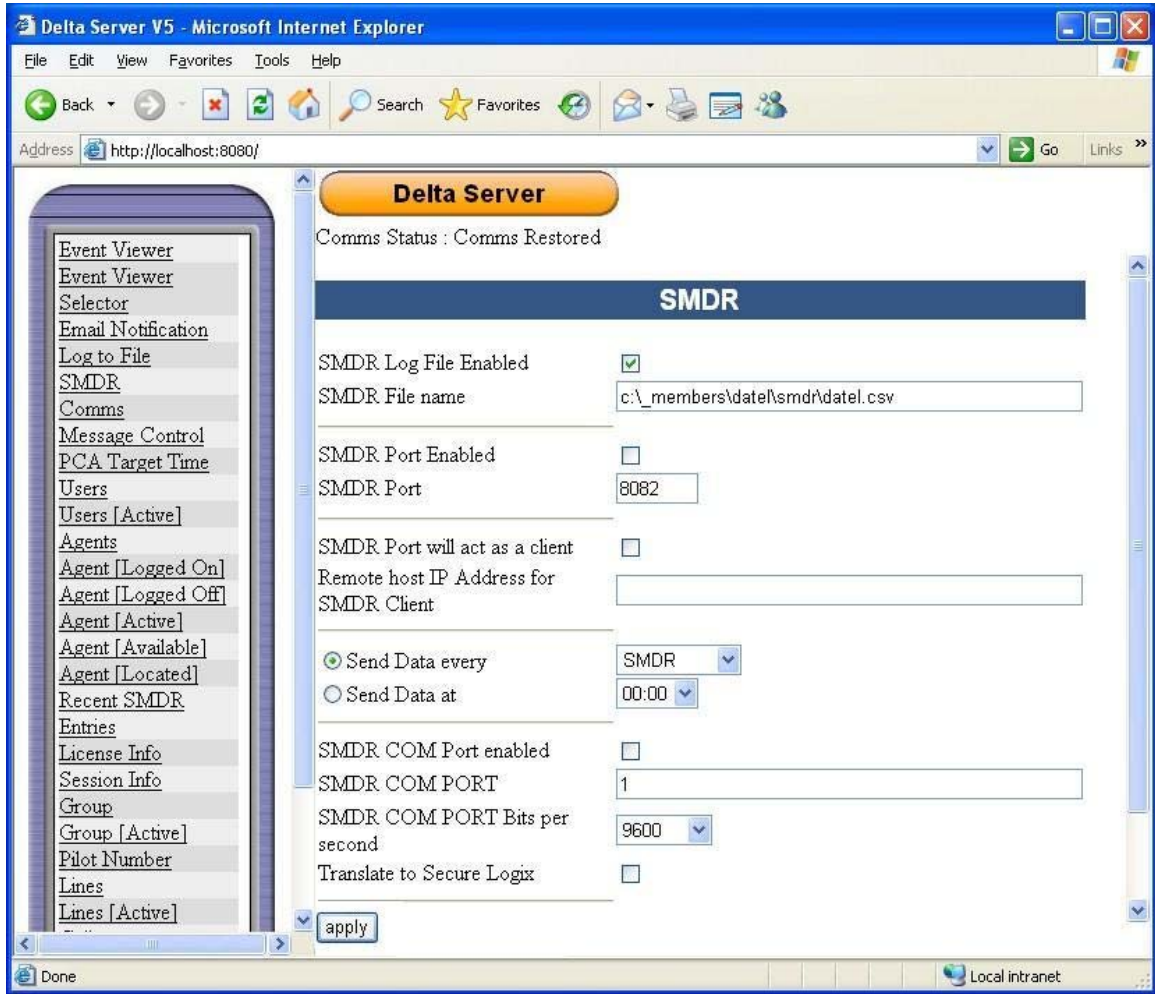

## 4. Configure Avaya IP Office Delta Server

The configuration information provided in this section describes the steps used to configure Avaya IP Office Delta Server for this solution.

For all other provisioning information, such as Avaya IP Office Delta Server installation, please refer to the product documentation in reference [2].
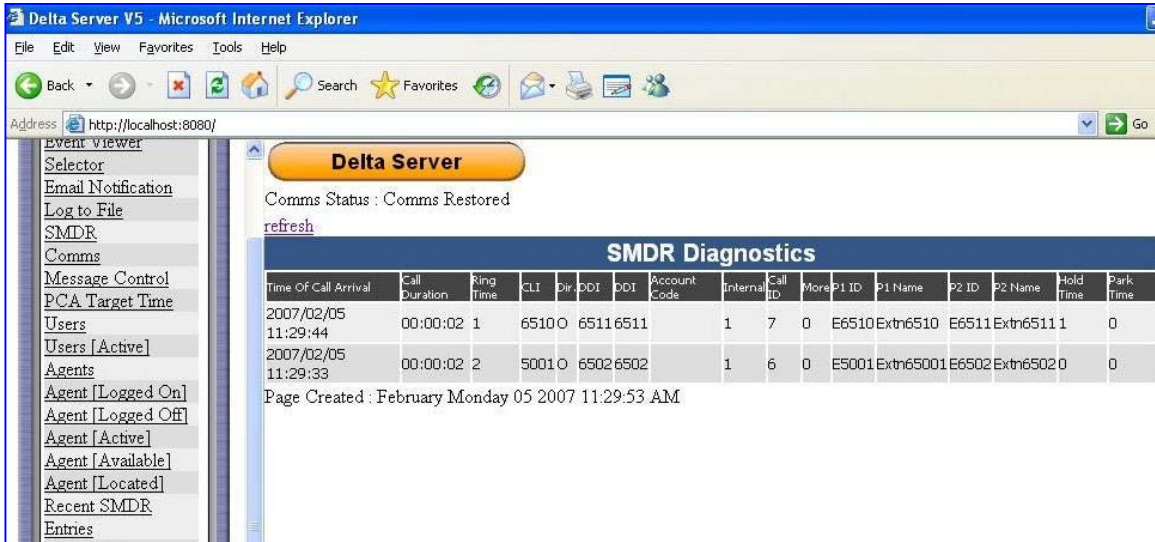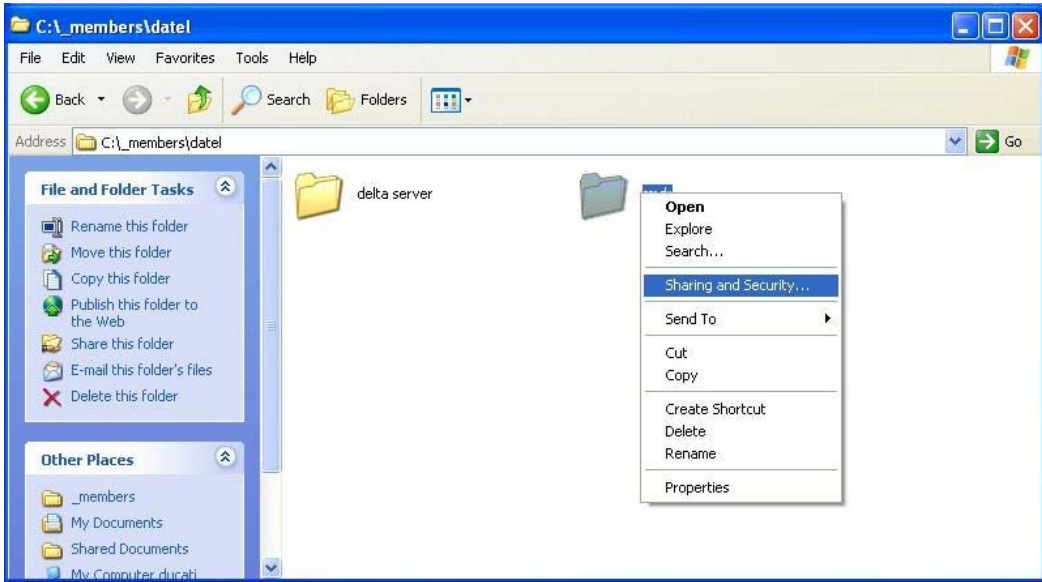
| Step | Description |
|---|---|
| 1. | Log into the Avaya IP Office Delta Server PC with the appropriate administrative credentials and navigate to **Start → Control Panel**. |
| 2. | In the Control Panel window that appears, double-click **Administrative Tools**. |
| 3. | In the Administrative Tools window that appears, double-click **Services**. |

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| Step | Description |
|------|-------------|
| **4.** | In the Services window that appears, verify **CCC Delta Server** is already started. If it is not, then start it manually. |



**NOTE**: Following initial installation, the CCC Delta Server service is not started until either the PC is restarted or the service is started manually.

| Step | Description |
|------|-------------|
| **5.** | Navigate to **Start → All Programs → CCC → Delta Server** to launch the Delta Server. In the Delta Server page that appears, click **Comms** in the left pane. |

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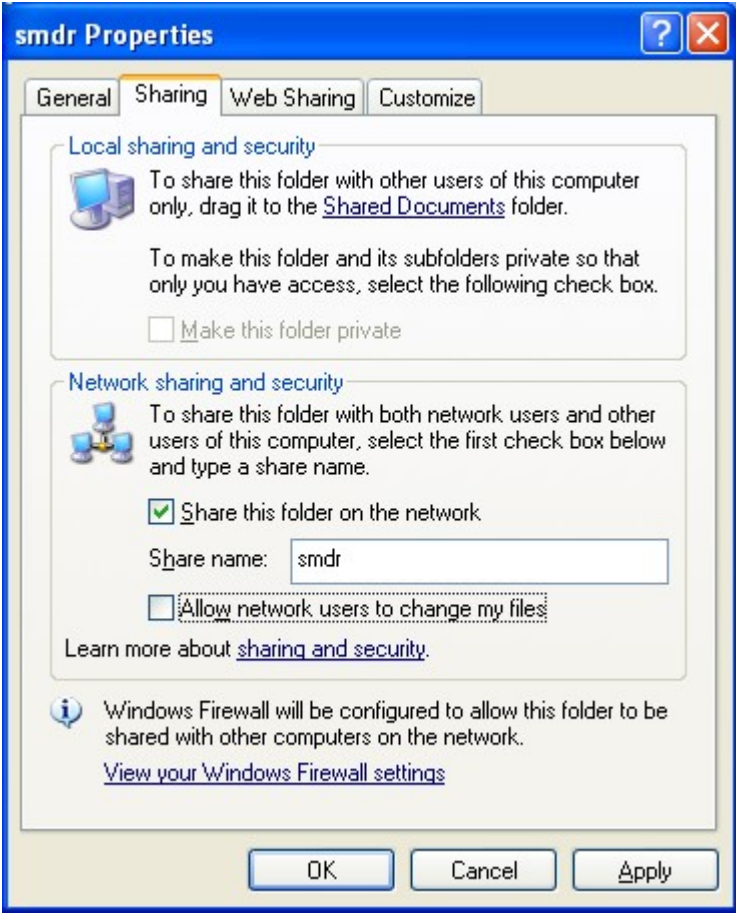
| Step | Description |
|------|-------------|
| **6.** | In the Connection Information page that appears, select the required IP Office system from the **Connection** drop-down.  If the required IP Office system is not listed, enter its IP address in the **Search** field.  Click **Search.**<br><br> |
| **7.** | Once the IP Office is listed, click **apply**.  Ensure that **Comms Status** changes from *Init Comms* to *Comms Restored*.  This may take a few minutes.<br><br><br><br>**NOTE**:  If the IP Office name or IP address is changed, this step must be repeated in order to re-establish the connection to the IP Office. |

| Step | Description |
|------|-------------|
| **8.** | Click **SMDR** in the left pane.  In the SMDR page that appears, check **SMDR Log File Enabled** and set **SMDR File name** to the absolute path name of the file the Delta Server will log the SMDR data to.  Click **apply**. |



**NOTE 1**:  Since Call SWEET! requires read-access to the share directory where the SMDR files are located; a directory *c:\_members\datel\smdr* was created and network shared in Steps 10 – 12  for this purpose in the test configuration.

**NOTE 2**:  When the apply button is clicked, the SMDR File name field is updated to reflect the local computer's name and share drive as follows:

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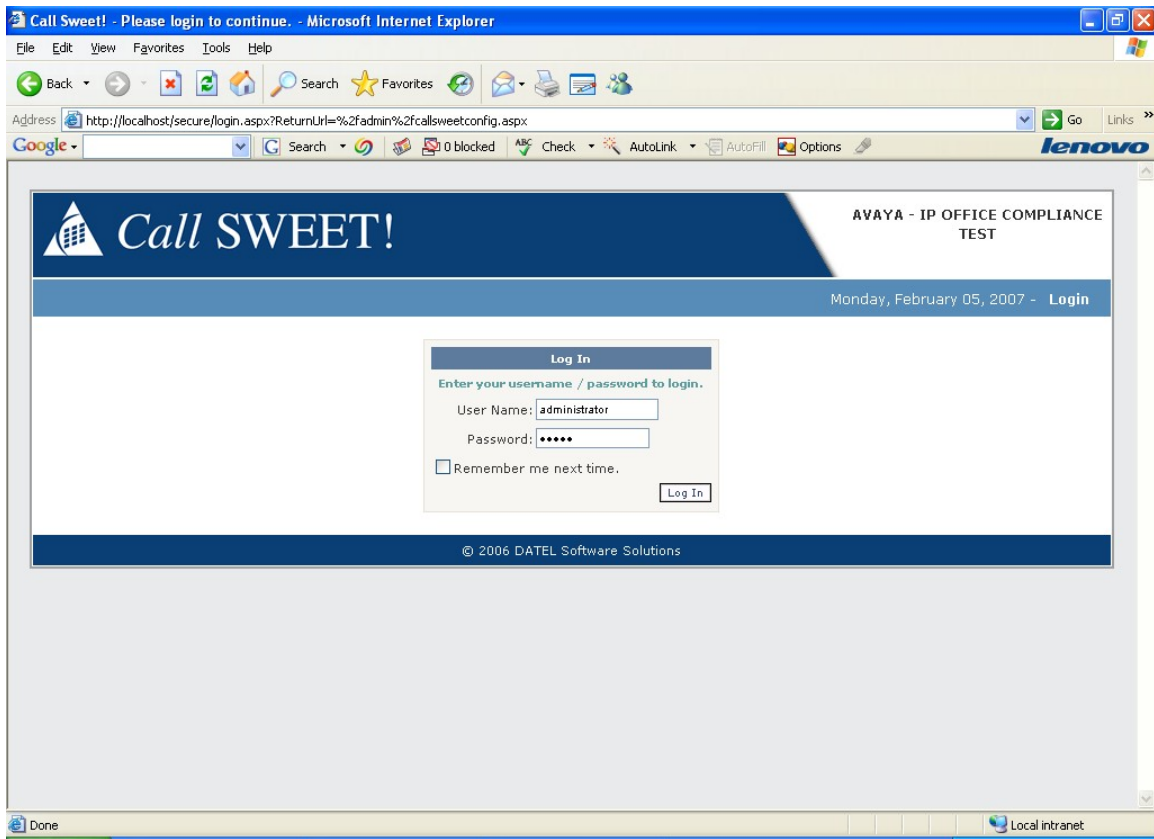| Step | Description |
|------|-------------|
| **9.** | Verify the Delta Server properly generates SMDR records by placing inbound and outbound calls on the Avaya IP Office. Then click **Recent SMDR Entries** and confirm the call activity is properly reflected. |
| |  |
| **10.** | As mentioned in Step 8, a folder *c:\_members\datel\smdr* was created in the test configuration (not shown). Navigate to **c:\_members\datel** on the Avaya IP Office Delta Server PC. Right-click the **smdr** folder and select **Sharing and Security…** in the popup menu that appears. |
| |  |

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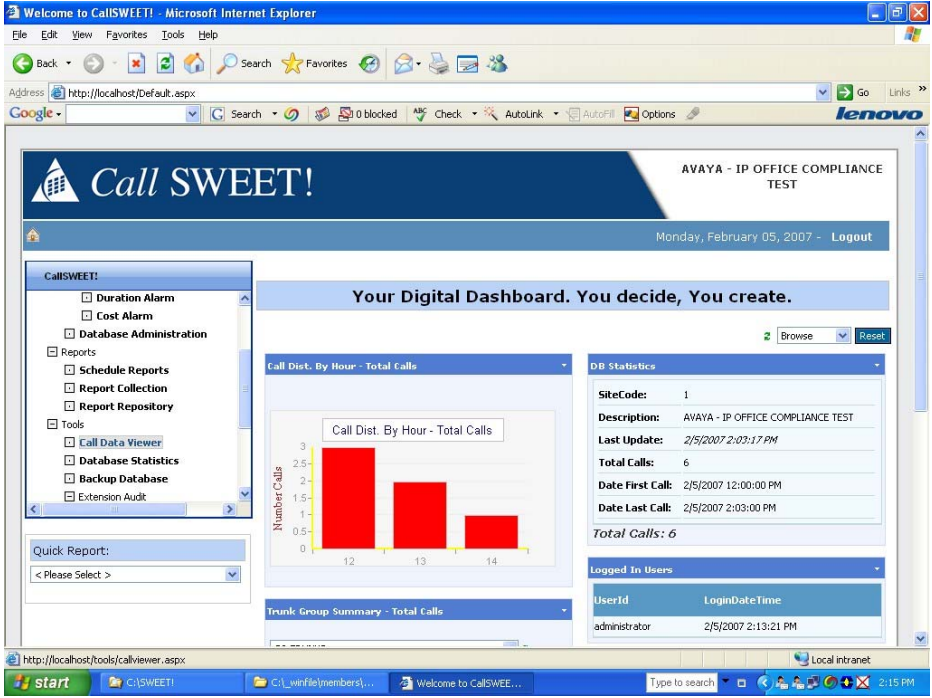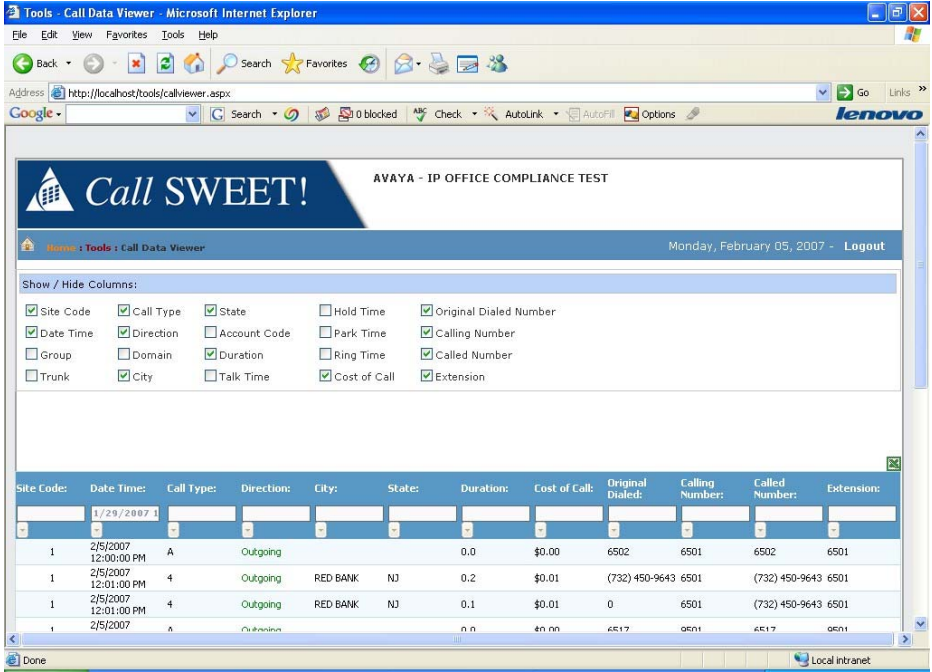| Step | Description |
|------|-------------|
| **11.** | In the Enable File Sharing popup that appears, select **Just enable file sharing** and click **OK**.<br><br>**Enable File Sharing**<br><br>⚠ If you enable sharing on this computer without using the Network Setup Wizard, the computer could be vulnerable to attacks from the Internet. We strongly recommend that you run the Network Setup Wizard to protect your computer.<br><br>○ Use the wizard to enable file sharing (Recommended)<br>◉ Just enable file sharing<br><br>[ OK ]   [ Cancel ] |
| **12.** | In the smdr Properties popup that appears, click **Share this folder on the network**, set share name to the desired name for the share and click **OK**.<br><br>**smdr Properties**  [?][X]<br><br>General | Sharing | Web Sharing | Customize<br><br>Local sharing and security<br>To share this folder with other users of this computer only, drag it to the Shared Documents folder.<br><br>To make this folder and its subfolders private so that only you have access, select the following check box.<br>☐ Make this folder private<br><br>Network sharing and security<br>To share this folder with both network users and other users of this computer, select the first check box below and type a share name.<br><br>☑ Share this folder on the network<br>Share name: smdr<br>☐ Allow network users to change my files<br><br>Learn more about sharing and security.<br><br>ⓘ Windows Firewall will be configured to allow this folder to be shared with other computers on the network.<br>View your Windows Firewall settings<br><br>[ OK ]   [ Cancel ]   [ Apply ]<br><br>**NOTE**:  The network share created was not limited to specific users or permissions in the lab-tested configuration.  However, limiting access to this share to specific network users and permissions (read-only) should be considered for security purposes. |

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| Step | Description |
|------|-------------|
| **13.** | The path to the SMDR file from the Call SWEET! PC to the Delta Server PC, called *ducati* in **Figure 1**, is \\ducati\smdr\datel.csv. This information will be required during the Call SWEET! configuration in Section 5. This completes configuration of the Avaya IP Office Delta Server. |

# 5. Configure DATEL Call SWEET!

According to DATEL Software Solutions, Call SWEET! configuration is performed and customized by DATEL support engineers for each customer. Following configuration of the system, a binder containing all relevant configuration information is provided to the customer.

Due to DATEL's configuration model, there are no configuration steps provided for this section.

| Step | Description |
|------|-------------|
| **1.** | Log into the Call SWEET! PC with the appropriate administrative credentials, browse to http://localhost (machine name or Call SWEET! PC IP address will also work), and log into Call SWEET! using the appropriate administrative credentials as provided by DATEL Software Solutions.<br><br> |

| Step | Description |
|---|---|
| 2. | In the Call SWEET! page that appears, click **Tools → Call Data Viewer** in the left pane.<br><br> |
| 3. | In the Tools – Call Data Viewer page that appears, the SMDR data retrieved from the IP Office Delta Server CSV files appears at the bottom of the page.<br><br> |

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# 6. Interoperability Compliance Testing

Interoperability compliance testing examined the ability of DATEL Software Solutions Call SWEET! to collect and process SMDR records for various types of calls (inbound, outbound, internal, transfer, conference, etc.) from CSV files generated by Avaya IP Office Delta Server. A load test involving a high volume of calls was executed for two hours. Call SWEET! was configured to automatically retrieve, process, and store the SMDR records for later report generation.

## 6.1. General Test Approach

The general test approach was to manually place intra-switch calls, inbound trunk and outbound trunk calls to and from telephones attached to Avaya IP Office and verify that Call SWEET! collects the SMDR records and properly reports the attributes of the call. For the load test, a call generator was used to place calls over a two-hour period with Call SWEET! configured to automatically retrieve, process and store the SMDR records for later report generation.

## 6.2. Test Results

Aside from the issues listed below, all remaining test cases were completed successfully. A load test with a call rate of ~2494 call attempts per hour using 12 PRI trunk channels and calls averaging 9.09 seconds in length was run for two hours. The call generator reported 4920 calls. Call SWEET! successfully collected and processed call records from CSV files generated by Delta Server during feature testing as well as during the load test.

The following issues were found during testing:

- **Transfer SMDR record issue** – SMDR records generated for some transfer call test cases were not as expected when compared to IP Office Delta Server documentation. **Status:** *MRDB00038707* was filed with the IP Office team to update IP Office Delta Server documentation to properly reflect these scenarios.

- **Conference SMDR record issue** – SMDR records generated for some conference call test cases were not as expected when compared to IP Office Delta Server documentation. **Status:** *MRDB00038708* and *MRDB00038709* were filed with the IP Office team to update IP Office Delta Server documentation to properly reflect these scenarios.

- **Incorrect time stamp SMDR record issue** – An intermittent time stamp "1899/12/30 00:00:00" error occurred during testing. **Status:** *MRDB00038709* reports this issue with the IP Office team.

- **Unable to get Call SWEET! to run as a service in test lab configuration** – There were issues getting Call SWEET! to behave as a service on the Windows XP professional PC used for Call SWEET!. The PC was setup as a member of workgroup, Workgroup. Due to time constraints, this issue could not be further investigated. It prevented execution of one serviceability test case.

**Status:** DATEL Software Solutions has stated that Call SWEET! can be run as a service and are investigating what may have contributed to the issues experienced in the test lab.

▪ **Load Test Issue**: During the load test, it appeared that the Delta Server did not generate SMDR records for 0.12% of the calls placed by the call generator.
**Status:** *MRDB00038710* was filed with the IP Office team regarding this issue.

The following observations were made during testing:

▪ **Call SWEET! duration field** – Call SWEET! reports call durations as the sum of call duration and hold time in the SMDR record for incoming call, divided by 60.  For outbound calls, Call SWEET! ignores the hold time reported in the SMDR record.

▪ **Call SWEET! time stamp is in *hh:mm*** – The Delta Server SMDR record time stamps are in *hh:mm:ss*, however, Call SWEET! time stamp is *hh:mm*.

▪ **Call SWEET! missing a CO Channel SMDR record** – Delta Server generated five SMDR records for a conference call between 3-parties.  Call SWEET! did not initially report one of the five records.
**Status:** DATEL provides customized parsers to each customer based on how their SMDR output is generated.  This parser, *2convert,* was updated which resolved the SMDR reporting for this scenario.  Once installed, all five SMDR records were collected and reported on by Call SWEET!

# 7. Verification Steps

The following steps may be used to verify the configuration:

▪ Verify Delta Server is configured to connect to Avaya IP Office (Section 4, Steps 6 – 7).

▪ Verify Delta Server is configured to log SMDR records to CSV files (Section 4, Step 8).

▪ Verify Delta Server is properly logging SMDR records by placing a call between two internal extensions and verifying the SMDR information for the call appears in the Delta Server Recent SMDR Entries page (Section 4, Step 9) and verifying a CSV file is created in the directory defined in the SMDR configuration page.

▪ Verify Call SWEET! read and processed the SMDR record from the previous step (Section 5, Step 3).

# 8. Support

For technical support on Call SWEET!, consult DATEL Software Solutions at www.DATEL-Group.com or contact the DATEL Software Solutions Technical Support at:

- Phone: 800-437-2213
- E-mail: support@datel-group.com

# 9. Conclusion

These Application Notes focus on the steps required for configuring Avaya IP Office Delta Server to work with DATEL Software Solutions Call SWEET!  Aside from the issues described in Section 6.2, all other test cases completed successfully.

# 10.  Additional References

Product documentation for Avaya products may be found at http://support.avaya.com.

[1] Avaya IP Office 3.2 Manager, Issue 18h, 14<sup>th</sup> December 2006

[2] Avaya IP Office Delta Server & SMDR, Issue 6c, 10<sup>th</sup> October 2005

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