**Avaya Solution & Interoperability Test Lab**

# Application Notes for Resource Software International Revolution Web Call Accounting with Avaya IP Office – Issue 1.0

## Abstract

These Application Notes describe the configuration steps required for Resource Software International (RSI) Revolution Web Call Accounting to work with Avaya IP Office. Revolution Web is a comprehensive, browser based call accounting solution providing detail, summary, and graphical reporting. It is a flexible, feature rich application that enables the capture of Simple Message Detail Records (SMDR) / Call Detail Records (CDR) from Avaya IP Office.

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 for Resource Software International Revolution Web to work with Avaya IP Office. Revolution Web is a comprehensive, affordable, easy to use, browser based call accounting solution providing detail, summary, and graphical reporting. This low-end solution provides high-end results with little or no training. Most environments can install this application on an existing non-dedicated computer. Revolution Web is network ready and requires no additional client licensing fees.

Revolution Web is a flexible, feature rich application that enables the capture of Station Message Detail Record/Call Record Detail (SMDR/CDR) records from Avaya IP Office. SMDR information is captured utilizing the built-in data collection module. Call activity can be reported by extension, trunk, account code, and authorization code.

The configuration in **Figure 1** shows a network mainly consisting of an Avaya IP412 Office, Avaya IP406 Office V2, Avaya IP Office Manager/Voicemail PRO Personal Computer (PC), Revolution Web Call Accounting PC, and various Avaya telephones connected to an Avaya C363T-PWR Converged Stackable Switch. The Avaya IP412 Office has PRI and Analog trunks to the central office. The Avaya IP406 Office V2 can also access the central office facilities over the Small Community Network (SCN) network, but first must pass through the Avaya IP412 Office system. Consequently, a CDR record of this transaction is created and processed.

Avaya IP412 Office is configured to generate CDR data for all inbound, outbound, and internal calls, and for calls made to and from other Avaya IP Office systems over SCN. Avaya IP412 Office is configured to send CDR records to a user configured IP address and port. The Revolution Web is configured on a built-in module to listen on the same configured port as Avaya IP412 Office for CDR data. Once the built-in module receives the raw CDR data from the Avaya IP412 Office, Revolution Web translates the CDR record then stores it into its database for later record retrieval and/or reporting by the end user.

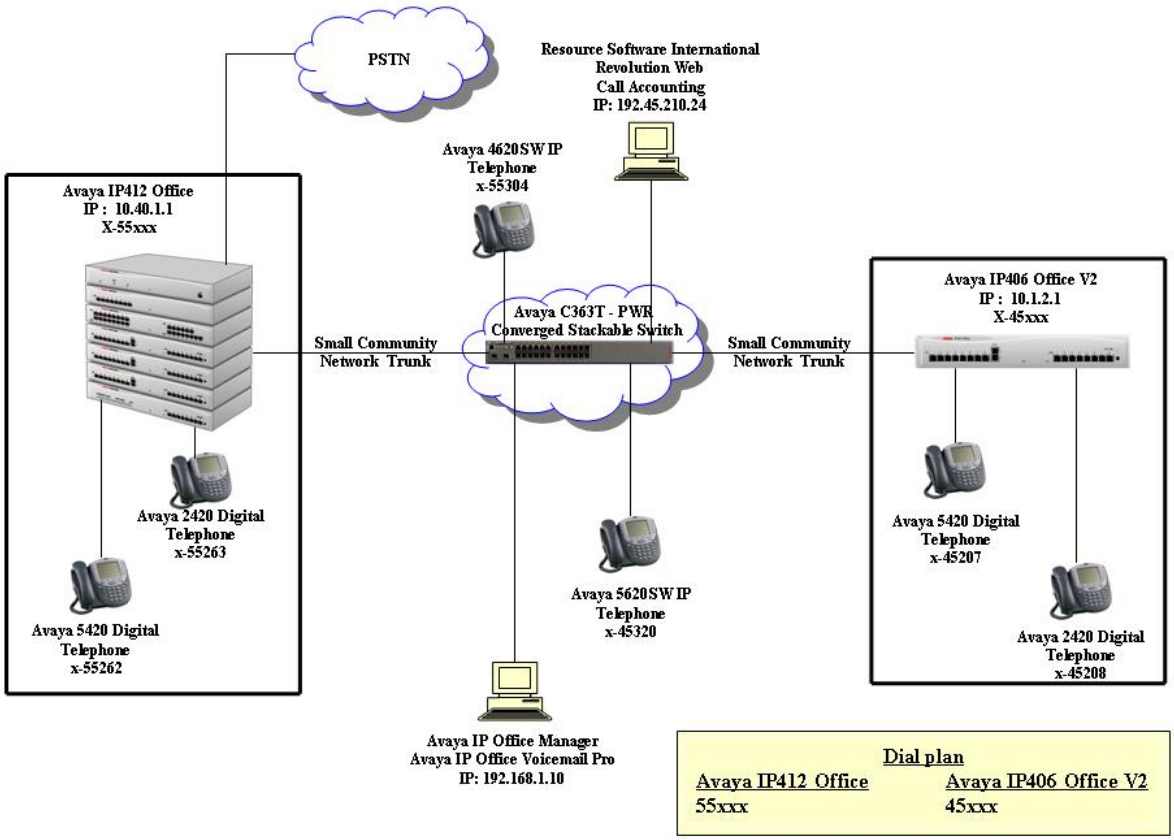



**Figure 1 – Network Configuration Diagram**

# 2. Equipment and Software Validated

The following products and software were used for the configuration in **Figure 1**:

| Product | Software/Version |
|---|---|
| Avaya IP412 Office | 4.0.10 |
| Avaya IP406 Office V2 | 4.0.10 |
| Avaya IP400 Digital Station Module | 6.0.10 |
| Avaya IP Office Manager | 6.0.10 |
| Avaya IP Office Voicemail Pro | 4.0.23 |
| Avaya 4620 IP Telephones | 2.3 |
| Avaya 5620 IP Telephones | 2.3 |
| Avaya 2420 Digital Telephones | 5.0 |
| Avaya 5420 Digital Telephones | 5.0 |
| Avaya C363T-PWR Converged Stackable Switch | 4.3.12 |
| Resource Software International Revolution Web Call Accounting | 2.6.1.97.6 |
| PCs for Avaya IP Office Manager, Avaya Voicemail Pro and Resource Software International Revolution Web | Windows XP Professional Service Pack 2 |

**Table 1 – Product and Software Version**

# 3. Configure Avaya IP412 Office

The configuration information provided in this section describes the steps required to set up Avaya IP412 Office to generate CDR data to a user-defined destination IP address and port.

**Note**: **Steps 4, 5 and 7** are also performed on the Avaya IP406 Office V2.

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

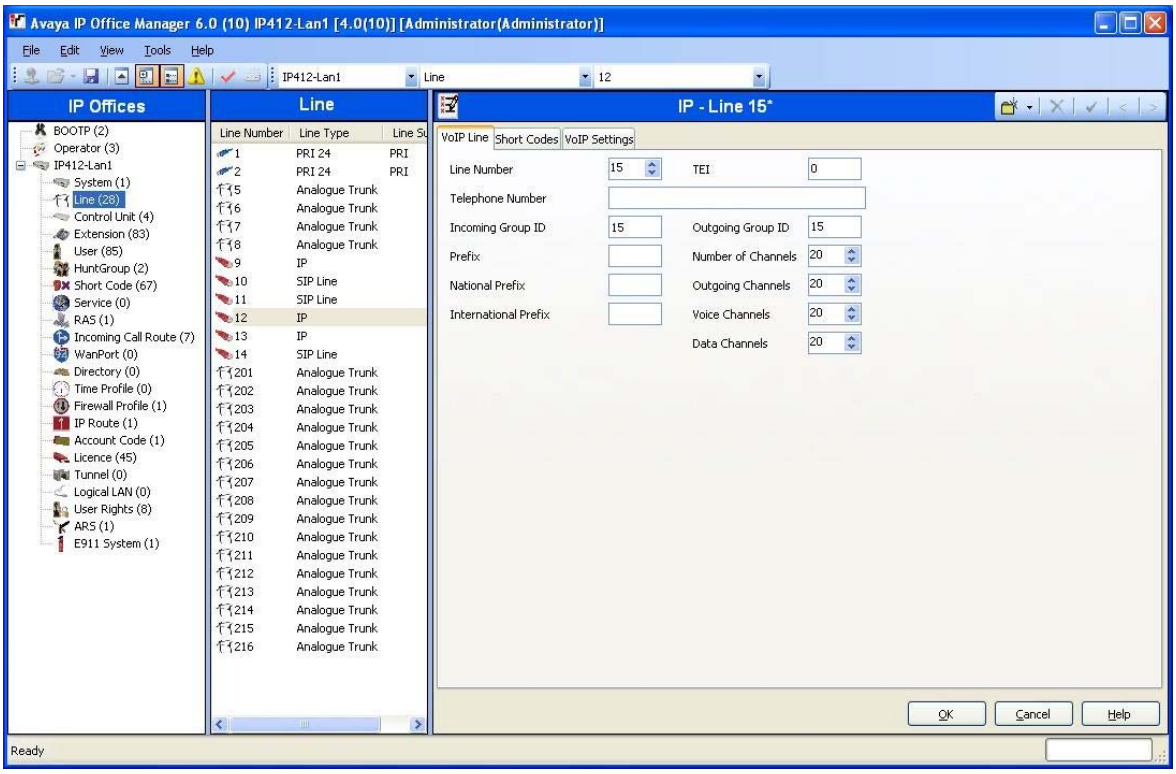
1. From the Avaya IP Office Manager PC, go to **Start → Programs → IP Office → Manager** to launch the Manager Application and log into the Manager application using the appropriate credentials.

2. On the Manager window that is displayed, select **File → Open** to search for the IP Office system in the network.

3. Log into the appropriate Avaya IP412 Office system using the appropriate login credentials to receive its configuration.

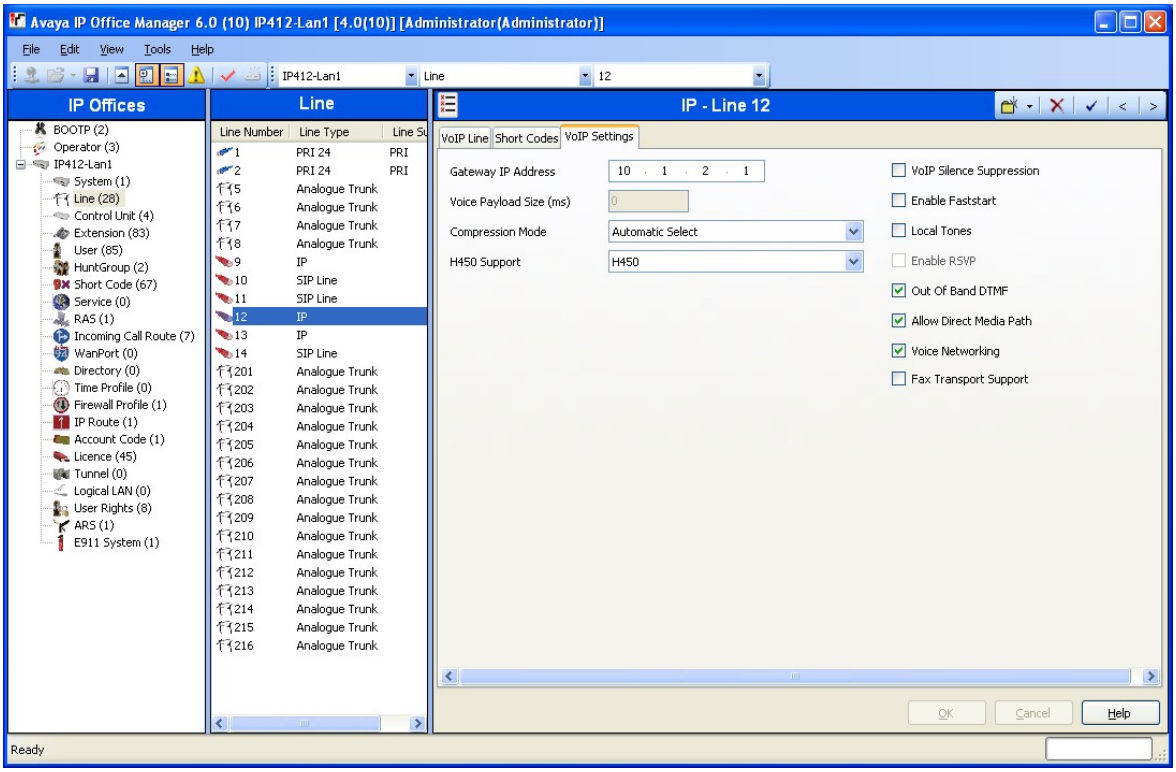
4. In the **Avaya IP Office Manager** window, go to the configuration tree in the left-hand panel and right-click **Line** and select **New → IP Line** (not shown). The screen below should display.

   In this case, the system automatically assigns **15** as the **Line Number** (and will vary). Place the value **15** in the **Incoming Group ID** and **Outgoing Group ID**. Click the **VoIP Settings** tab.

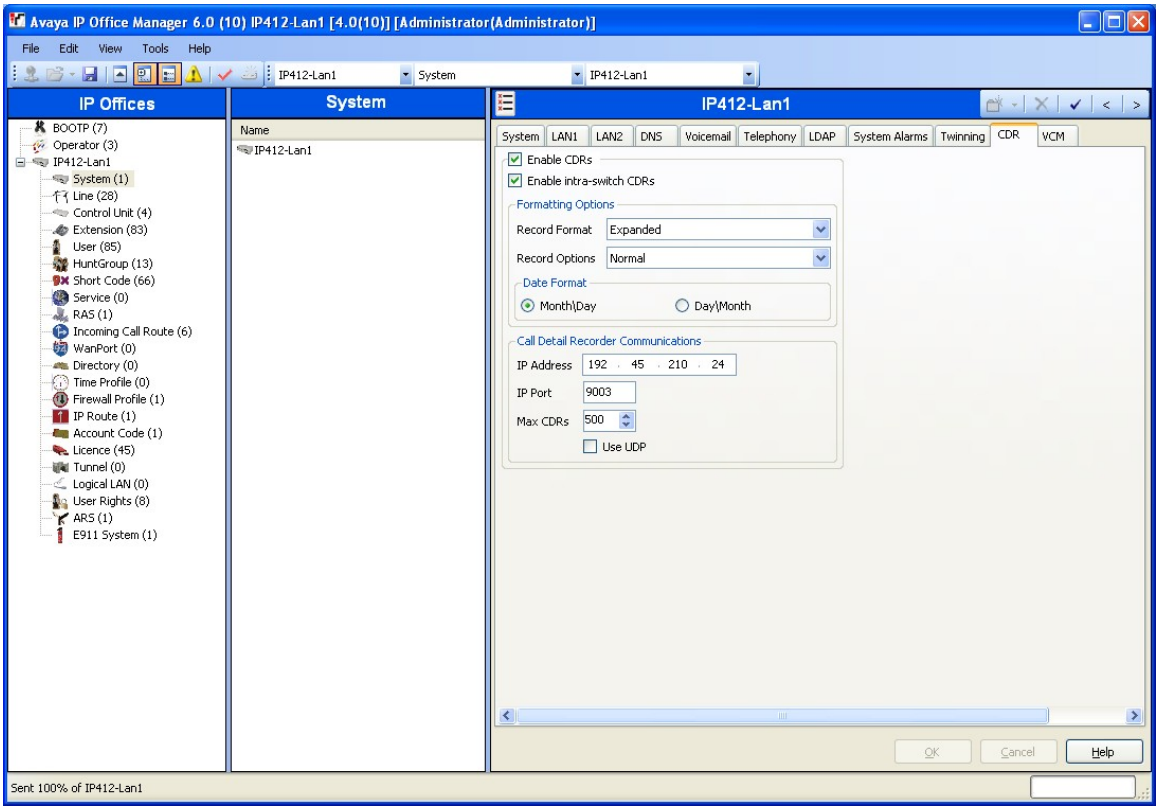


5. Set the **Gateway IP Address** to the IP address of the other Avaya IP Office System. See **Figure 1**. Check **Voice Networking**. The **Voice Networking** parameter turns on SCN capabilities. Click **OK**.

   **Note**: The IP address will be different when administering the other Avaya IP Office system.



6. On the **Avaya IP Office Manager** window, double-click on **System** from the left panel configuration tree. On the right panel, select the **CDR** tab. In the **CDR** window set the following; **Enable CDRs** is checked, **Enable intra-switch CDRs** is checked, **Record Format** select **Expanded**, **Record Options** select **Normal**, **Date Format** select **Month\Day**, **IP Address** to **192.45.210.24** the IP address of the Revolution Web PC, and **IP Port** to **9003** the port that the RSI Revolution Web will listen on. Click **OK**.




7. In the **Avaya IP Office Manager** window, select **File → Save** to push the configuration to the Avaya IP412 Office system and wait for the system to update.

8. Log into the Avaya IP406 Office V2 system and perform **Steps 4**, **5** and **7**. Note the IP address is different.

9. This completes configuration of Avaya IP Office CDR

# 4. Configure Resource Software International Revolution Web

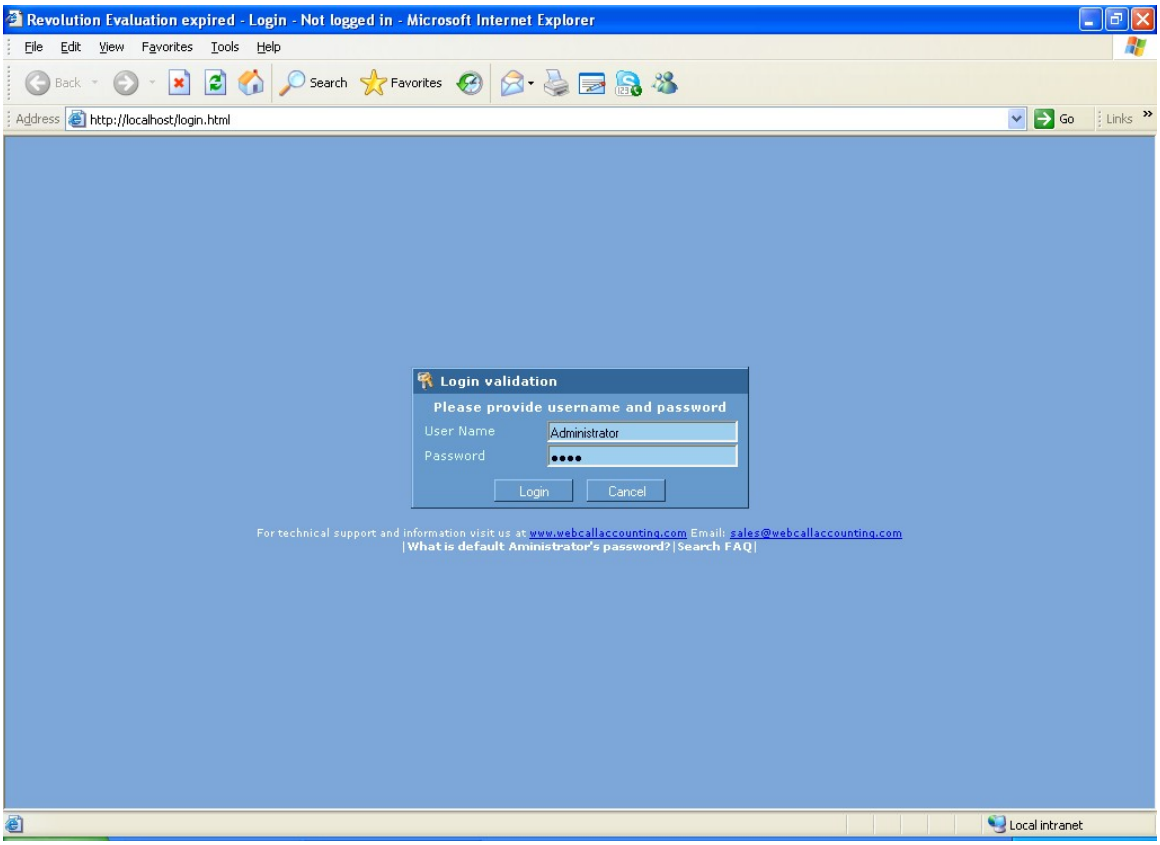
The configuration information provided in this section describes the steps required to configure Revolution Web to listen for CDR records from Avaya IP Office.

For all other provisioning information, such as software installation, installation of optional components, configuration of Revolution Web for call accounting, report generation, etc., please refer to the Revolution Web product documentation in references [2] and [3].

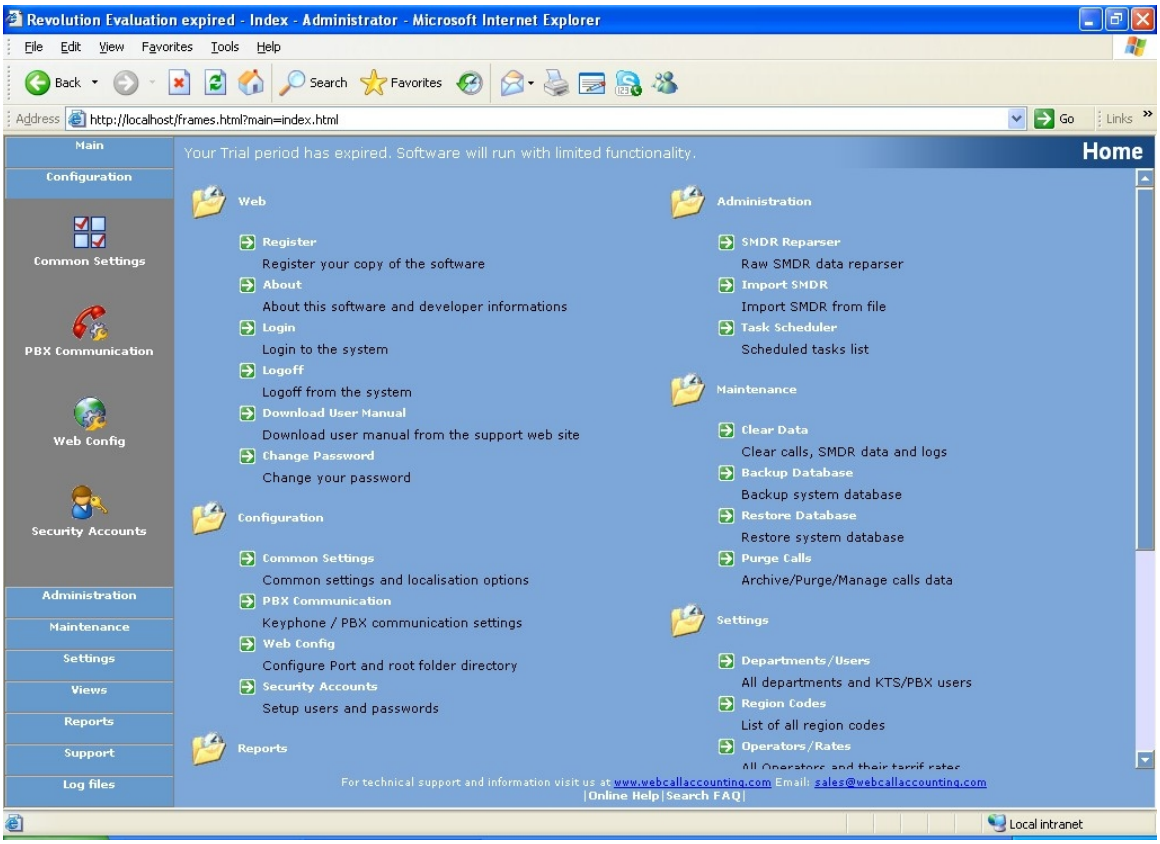
The information provided in this section assumes the Revolution Web has already been successfully installed and licensed on the PC.

1. Log into the Revolution Web PC with the appropriate administrative credentials and navigate to **Start → Programs → RSI → Revolution Web**

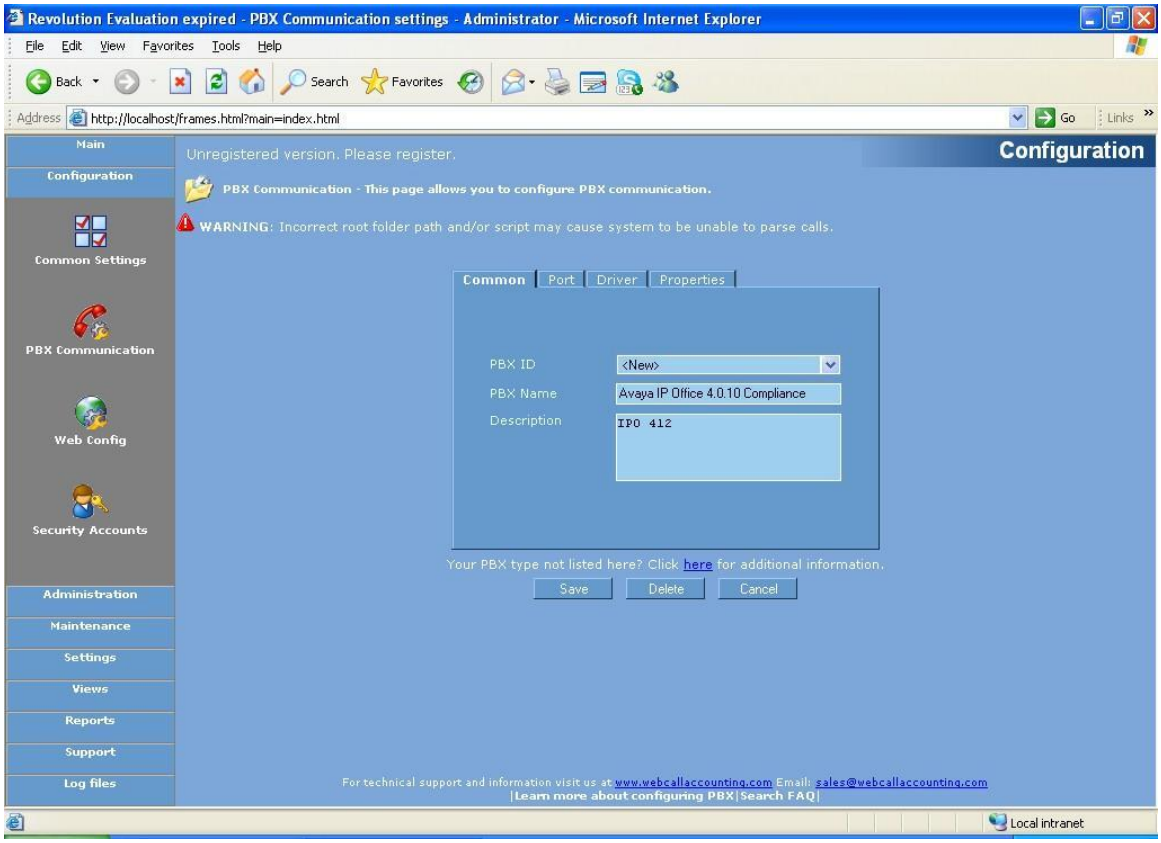
2. On the Revolution Web **Login validation** dialog box that is displayed, type in appropriate login credentials to log into Revolution Web and click **Login**



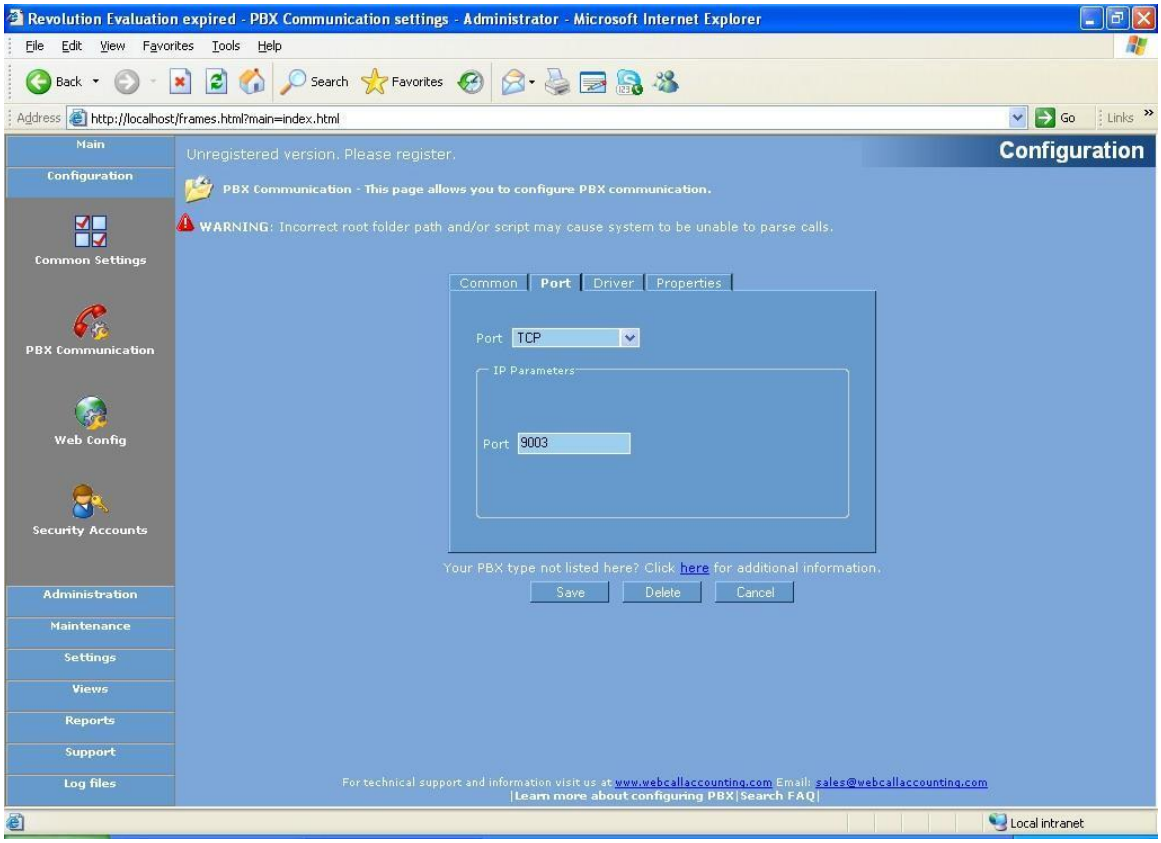
3. On the Revolution Web home page that is displayed, click **Configuration → PBX Communication** in the left-hand tree view.



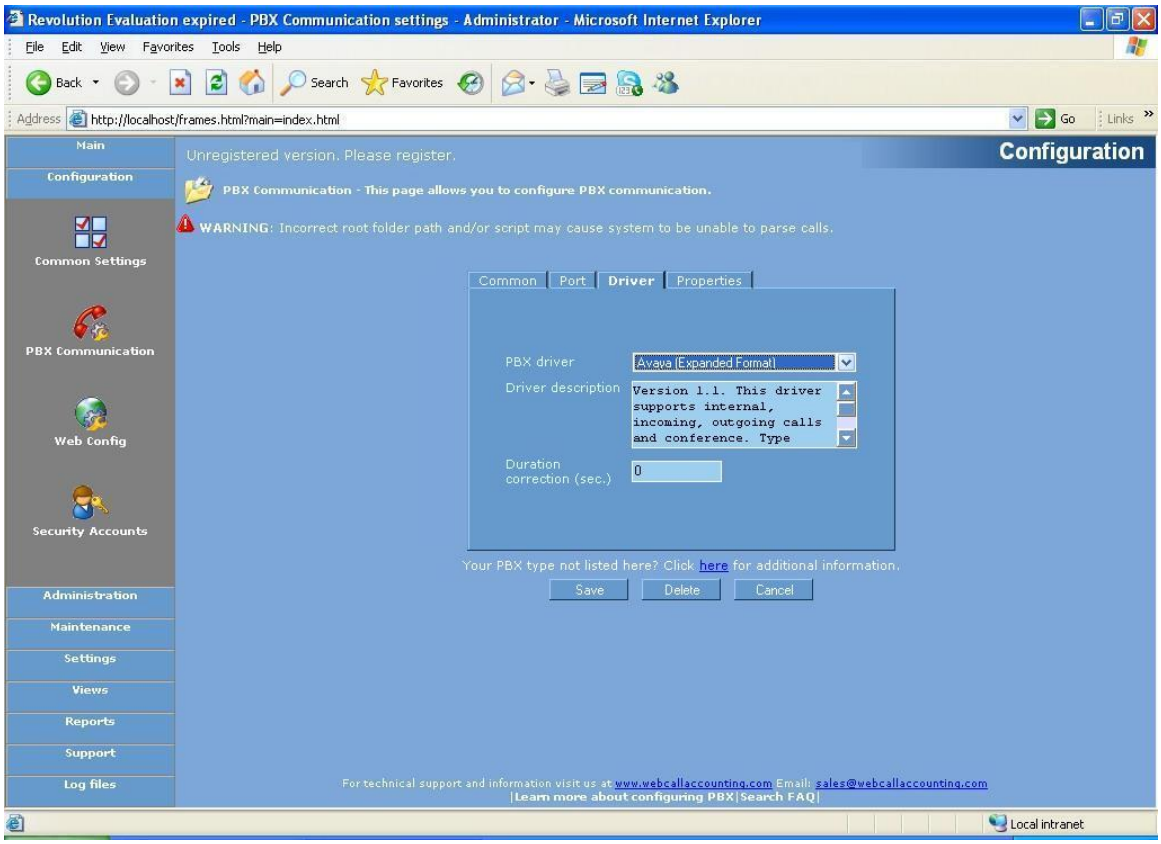
4. The **PBX Communication** page is displayed and the **Common** tab should be selected. On the **Common** tab, enter information regarding the **PBX Name** and a short **Description.** **Note:** The **PBX ID** field gets its values from the **PBX Name** and is displayed in the pull-down menu once a **Save** is performed. Click the **Port** tab.



5. On the **Port** tab page that is displayed, set **Port** to **TCP** and **IP Parameters Port** to the port number to configure Revolution Web to listen on for CDR records from Avaya IP Office. The **IP Parameters Port** number must match the port number configured for Avaya IP412 Office system in **Section 3**, **Step 6**.



6. Click the **Driver** tab. On the **Driver** tab page that is displayed, set **PBX driver** to **Avaya (Expanded Format)** and click **Save**. This completes configuration of Revolution Web.




# 5. Interoperability Compliance Testing

Interoperability compliance testing evaluated the ability of Revolution Web to collect and process CDR records for various types of calls (inbound, outbound, internal, transfer, conference, etc.).

## 5.1. General Test Approach

The general test approach was to enable Revolution Web to collect CDR records and:

- Manually place calls:
  1. Between Avaya IP Office extensions.
  2. Inbound and outbound trunk over PRI and Analog trunks.
  3. To and from telephones attached to a remote Avaya IP Office over SCN trunks.
- Verify that Revolution Web properly classified the CDR records.
- Verify that Revolution Web properly displayed the CDR records in a formatted report.
- Verify that Revolution properly resumed operation after resetting the Avaya IP412 Office, removing the network connection on Avaya IP412 Office, removing the network connection on Revolution Web Call Accounting PC, and power down/up the Revolution Web Call Accounting PC.

## 5.2. Test Results

All feature test cases passed. Revolution Web successfully captured and processed call records from Avaya IP412 Office system. For serviceability testing, Revolution Web was able to resume CDR record collection after the Avaya IP Office system was reset or lost its network link, without requiring manual intervention. In cases where the Revolution Web computer lost power or its network link, Revolution Web was able to successfully resume collecting CDR records once the computer was back online but not CDR records for calls that were placed during the outage.

The following observations were made during testing:

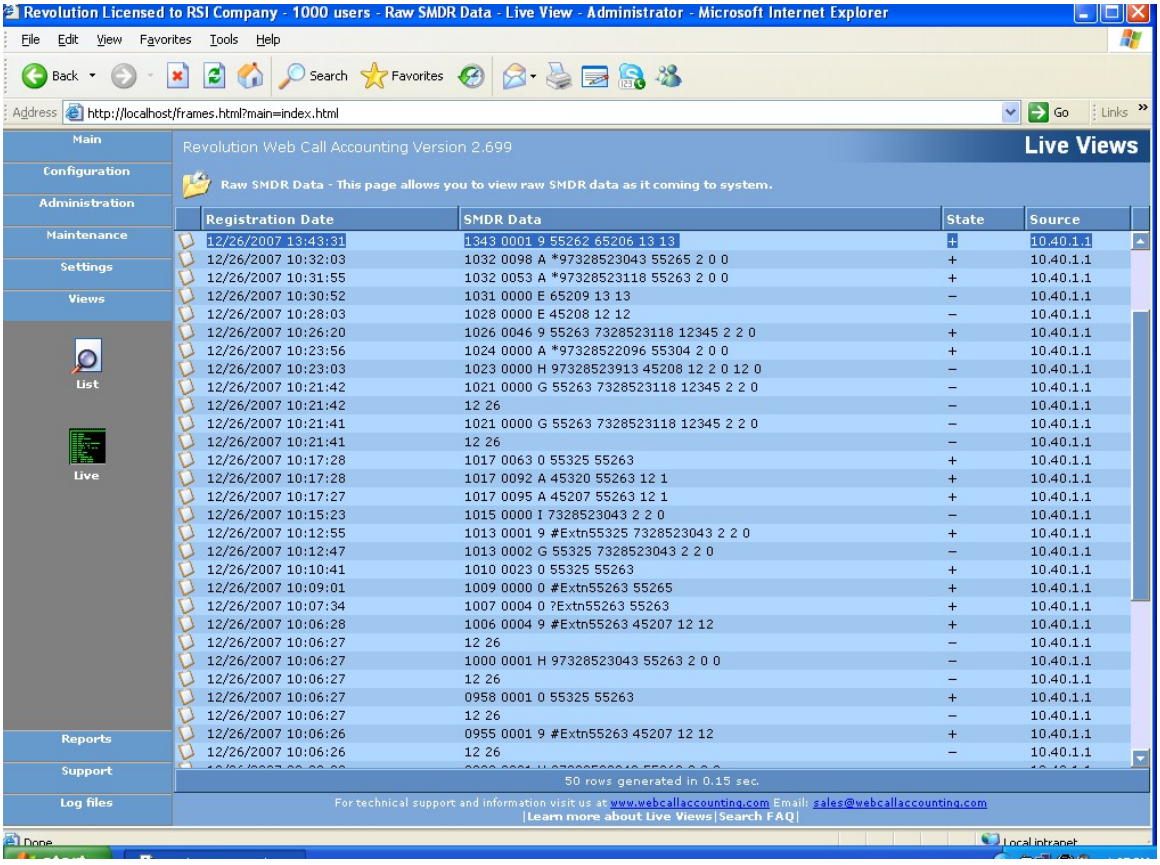
- CDR records for calls retrieving voicemail have been formatted to show a **CO** as 99999 and a **Type** as VM
- When an external call is incomplete due to a busy or out-of-service trunk, only a RAW SMDR data record is logged.
- IP Office CDR does not to provide DNIS information in CDR records generated.

# 6. Verification Steps

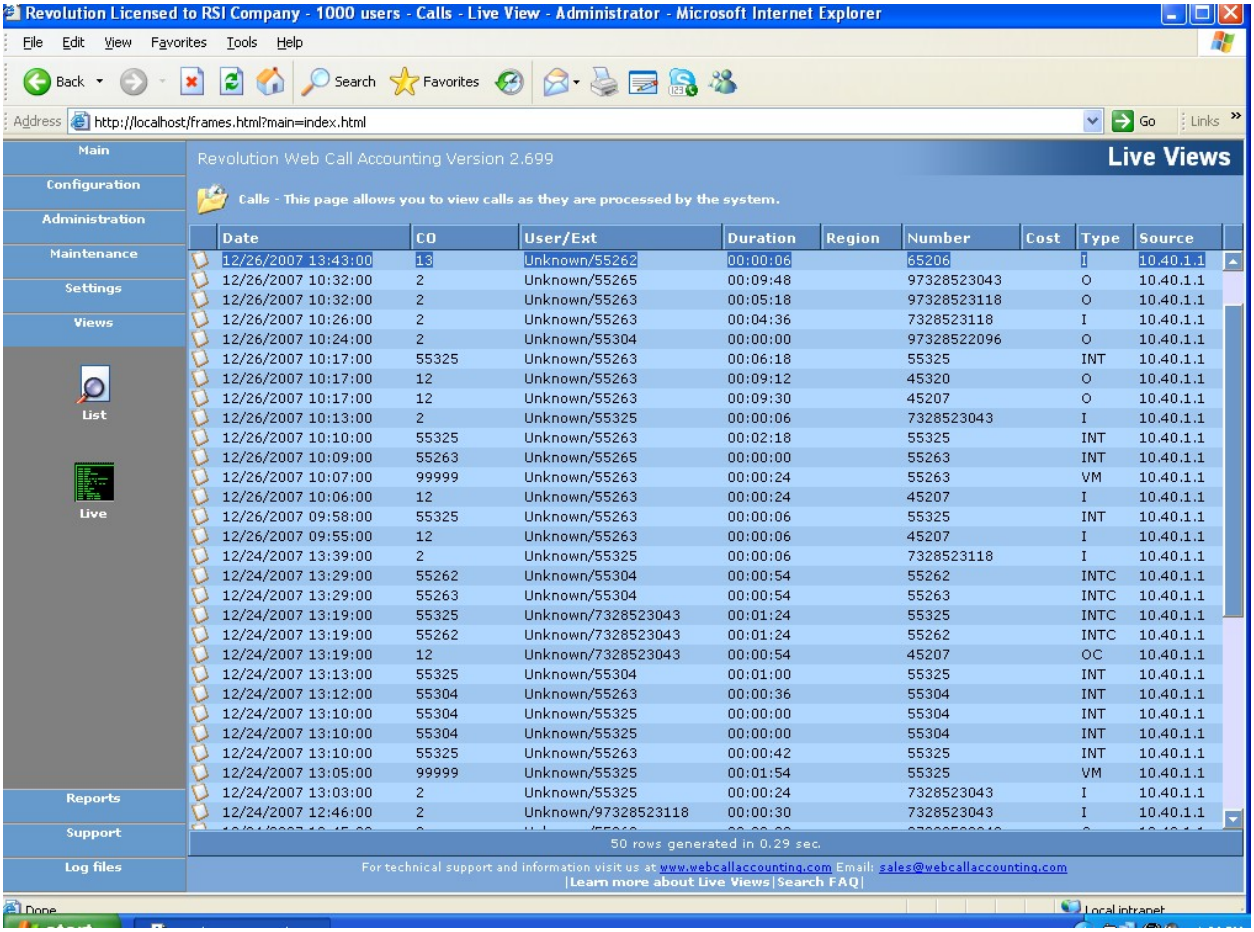
The following steps may be used to verify the configuration:

1. Place a telephone call from extension 65206 to extension 55263, answer the call, and drop the call after a few seconds.

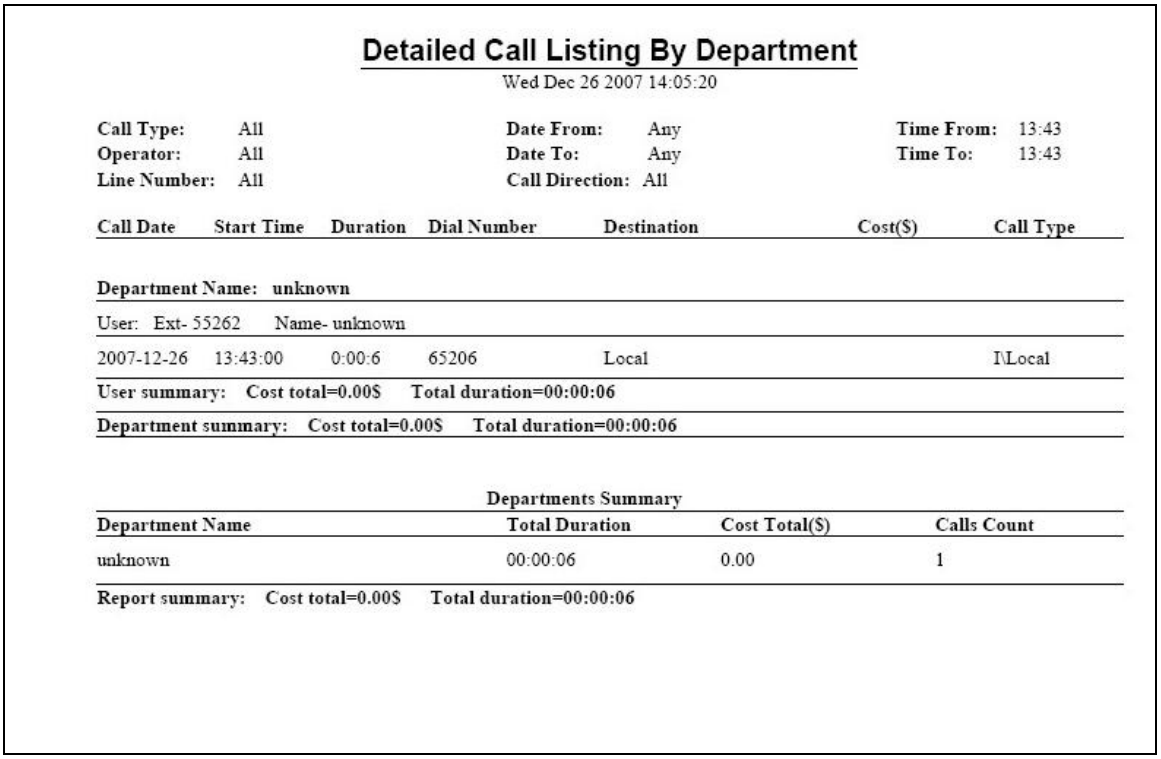
2. On the Revolution Web home page, click **Views → Live** in the left-hand tree view. Then in the **Live View** right-hand panel, click **Raw** (not shown). The highlighted row of the resulting screen below identifies the incoming call from extension 65206 to extension 55263.



3. On the Revolution Web home page, click **Views → Live** in the left-hand tree view. Then in the **Live View** right-hand panel, click **Calls** (not shown). The highlighted row of the resulting screen below displays the call from extension 65206 to extension 55263 over incoming trunk 13 for 6 seconds.



4. On the Revolution Web home page, click **Reports → List** in the left-hand tree view. The call between extension 65206 and extension 55263 (at time13:43) is displayed in the report below.



**Detailed Call Listing By Department**

Wed Dec 26 2007 14:05:20

| | | | | | |
|---|---|---|---|---|---|
| **Call Type:** | All | **Date From:** | Any | **Time From:** | 13:43 |
| **Operator:** | All | **Date To:** | Any | **Time To:** | 13:43 |
| **Line Number:** | All | **Call Direction:** | All | | |

| Call Date | Start Time | Duration | Dial Number | Destination | Cost($) | Call Type |
|---|---|---|---|---|---|---|
| **Department Name: unknown** | | | | | | |
| User: Ext- 55262 Name- unknown | | | | | | |
| 2007-12-26 | 13:43:00 | 0:00:6 | 65206 | Local | | I\Local |
| **User summary: Cost total=0.00$ Total duration=00:00:06** | | | | | | |
| **Department summary: Cost total=0.00$ Total duration=00:00:06** | | | | | | |

**Departments Summary**

| Department Name | Total Duration | Cost Total($) | Calls Count |
|---|---|---|---|
| unknown | 00:00:06 | 0.00 | 1 |
| **Report summary: Cost total=0.00$ Total duration=00:00:06** | | | |

# 7. Support

Technical support for Revolution Web can be obtained by contacting Resource Software International Systems, Ltd. at:

- Phone: 800.891.6014 / 905.576.4575
- E-mail: support@telecost.com
- Web: www.telecost.com

# 8. Conclusion

These Application Notes describe the steps for configuring the Resource Software International Revolution Web to retrieve SMDR/CDR data from the Avaya IP Office. All test cases were completed successfully.

# 9. References

The following Avaya product documentation can be found at http://support.avaya.com:

[1] Avaya IP Office 4.0 Installation Manual, Issue 15e (31st January 2007), 15-601042.

The following Resource Software International product documentation is installed during the Revolution Web installation process:

[2] Revolution Web Startup Guide.
[3] Revolution Web User Guide.

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.