AVAYA

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 browser-based call accounting solution providing detail, summary, and graphical reporting. It is an application that enables the capture of Simple Message Detail Records (SMDR) / Call Detail Records (CDR) from Avaya IP Office. Information in these Application Notes was obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

SCR; Reviewed:
SPOC 4/13/2006

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1. Introduction

These Application Notes describe the configuration steps required for RSI Revolution Web to work with Avaya IP Office. RSI Revolution Web is a browser-based call accounting solution providing detail, summary, and graphical reporting. 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 an application that enables the capture of 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, and account code.

The configuration in **Figure 1** shows a network consisting of an Avaya IP Office 412, Avaya IP Office Manager/Voicemail Pro PC, RSI Revolution Web, and Avaya 4600 Series IP Telephones connected to an Avaya C363T-PWR Converged Stackable Switch. Avaya 6400 Series Digital Telephones are connected to an Avaya IP400 Digital Station Module that connects to Avaya IP Office.

Avaya IP Office 412 has T1, PRI and analog trunks to the central office. Avaya IP Office is configured to generate CDR data for all inbound, outbound, and internal calls.

Avaya IP Office CDR is configured to send the CDR records to a user configured IP address and port. The Revolution Web build-in data module is configured to listen on the port configured on IP Office for CDR data. Once the built-in module receives the raw CDR data from IP Office, Revolution Web translates the CDR record and stores the record for later retrieval and/or reporting by the end user.
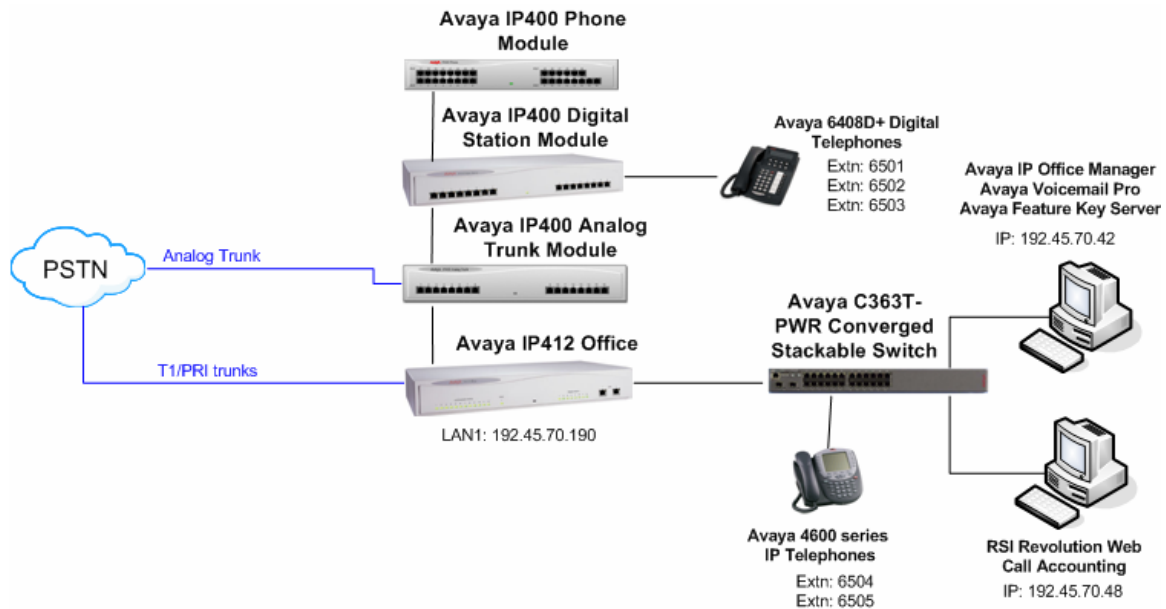
The tested configuration is shown in **Figure 1**.

Figure 1 – Network Configuration Diagram

2. Equipment and Software Validated

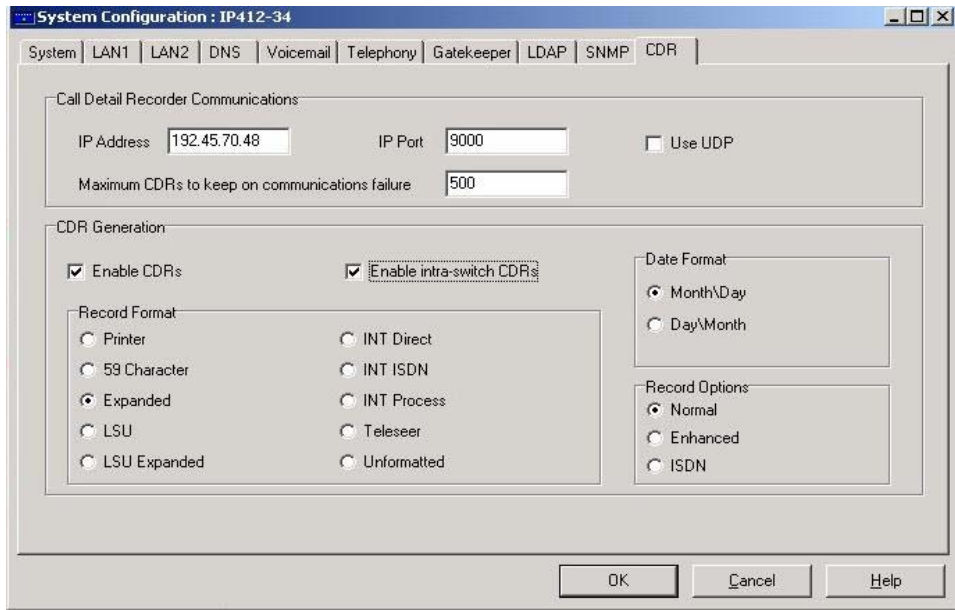The following products and software were used for the configuration in **Figure 1**:

Product	Software/Version
Avaya IP Office 412	3.1(48)
Avaya IP400 Office Analog Trunk Module	5.1(48)
Avaya IP400 Office Digital Station Module	5.1(48)
Avaya IP400 Office Phone Module	5.1(48)
Avaya IP Office Manager	5.1(48)
Avaya Voicemail Pro	3.1(16)
Avaya Feature Key Server	1.0
Avaya 4602SW IP Telephones	1.8
Avaya 4620SW IP Telephones	2.3
Avaya 6408D+ Digital Telephones	-
Avaya C363T-PWR Converged Stackable Switch	4.3.12
RSI Revolution Web Call Accounting	2.6.1.98.0
PCs for Avaya IP Office Manager, Avaya Voicemail Pro and RSI Revolution Web	Windows 2000 Professional Service Pack 4

Table 1 – Product and Software Version

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3. Configure Avaya IP Office

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

For all other provisioning information, such as Avaya IP Office installation and configuration, etc., please refer to Avaya IP Office product documentation in reference [1].
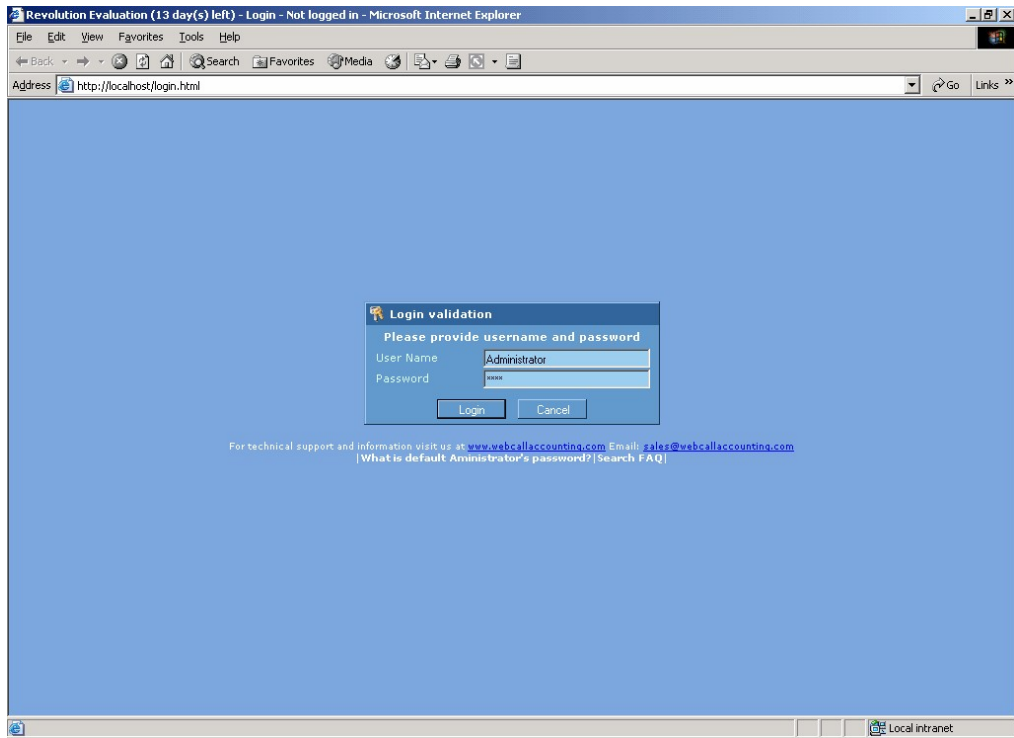
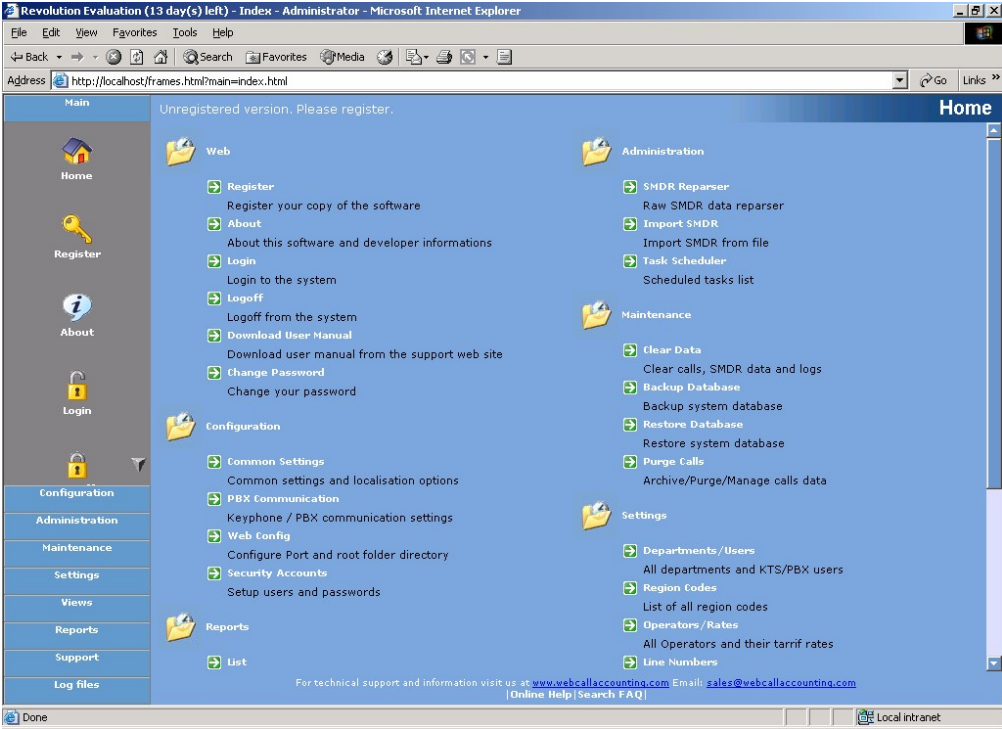| Step	Description
	Login
1.	Log into the IP Office Manager PC and go to **Start → Programs → IP Office → Manager** to launch the Manager application. Log into the Manager application using the appropriate credentials.
2.	In the Manager window that appears, select **File → Open** to search for IP Office in the network.
3.	Log into IP Office using the appropriate login credentials to receive its configuration.
	Enable CDR
4.	In the Manager window, go to the Configuration Tree and double-click **System**. In the **CDR** tab of the System Configuration window that appears, check **Enable CDRs**, set **IP Address** to the IP address of the RSI Revolution Web PC, set **IP Port** to the port that the RSI Revolution Web will listen on, check **Enable intra-switch CDRs**, select **Expanded** for Record Format, select **Month\Day** for Date Format, select **Normal** for Record Options and click **OK**.
5.	In the Manager window, select **File → Save** to push the configuration to IP Office and wait for the system to update. This completes configuration of Avaya IP Office CDR.

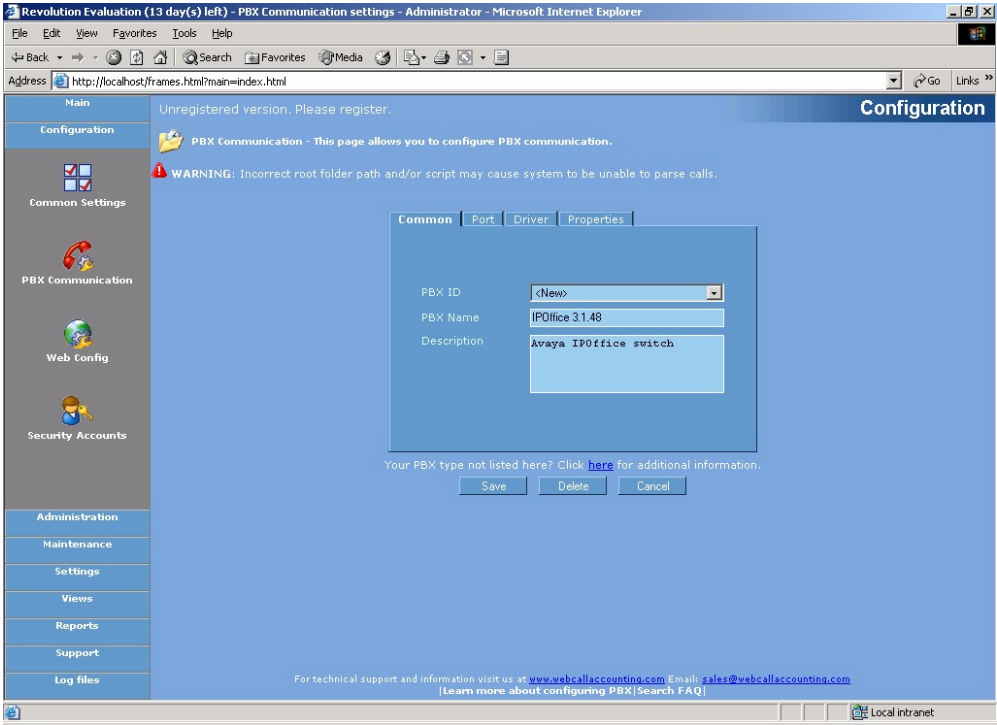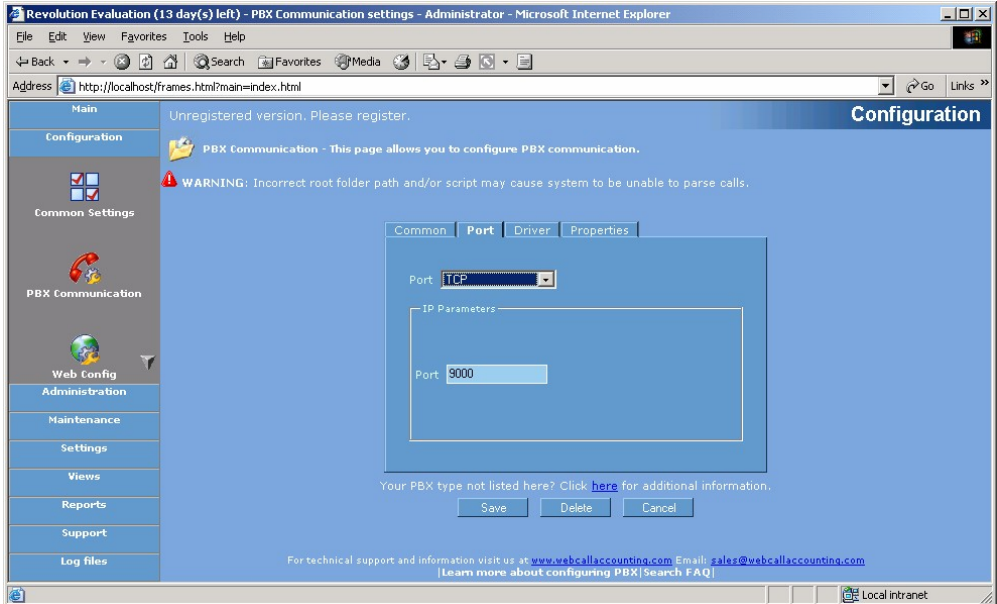# 4. Configure RSI Revolution Web

The configuration information provided in this section describes the steps required to configure RSI Revolution Web to listen for CDR records from Avaya IP Office.
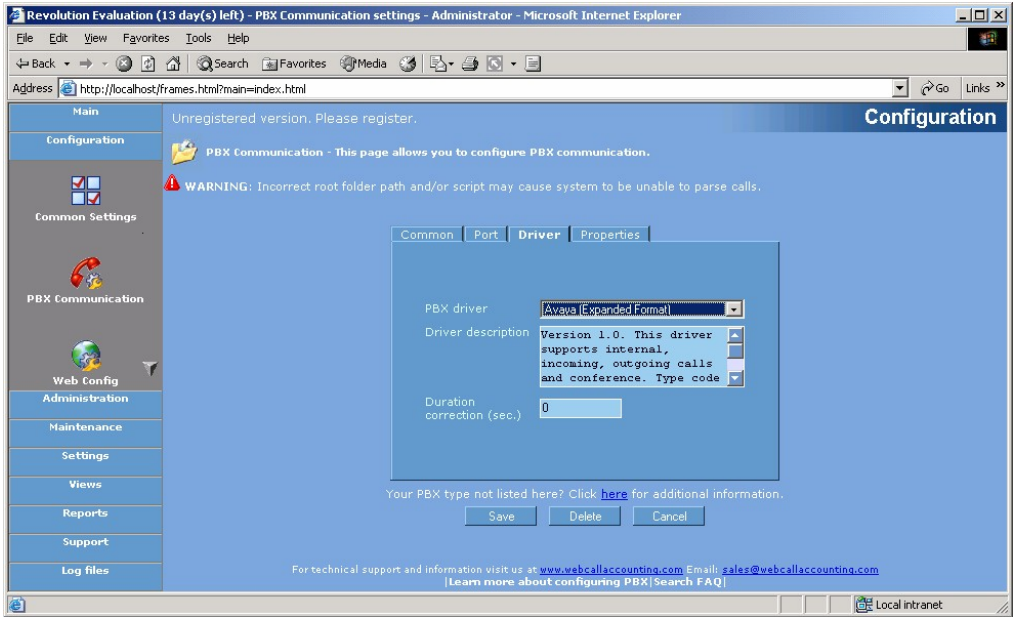
For all other provisioning information, such as software installation, installation of optional components, configuration of Revolution Web for call accounting, report generation, etc., please refer to the RSI Revolution Web product documentation in references [2] and [3].

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

Step	Description
1.	Log into the Revolution Web PC with the appropriate administrative credentials and navigate to **Start → Programs → RSI → Revolution Web**.
2.	In the Revolution Web page that appears, type in appropriate login credentials to log into Revolution Web and click **Login**. **Note**: Revolution Web is accessible from other PCs as well but the service must be running. Browse to the IP address of the Revolution Web PC.

Step	Description
3.	In the Revolution Web Home page that appears, click **Configurations → PBX Communication** in the left-hand tree view.

Step	Description
4.	In the PBX Communication page that appears, click the **Port** tab.
5.	In the Port tab page that appears, select **TCP** for Port; set **IP Parameters Port** to the port number to configure Revolution Web to listen for CDR records from IP Office. The **IP Parameters Port** number should match the port number configured in Section 3, Step 4.

Step	Description
6.	Click the **Driver** tab. In the Driver tab page that appears, select **Avaya (Expanded Format***)* for PBX driver 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.). A load test involving a high volume of calls was executed for one to two hours. Revolution Web was configured to automatically retrieve, process, and store the CDR records for later report generation.

5.1. 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 Revolution Web collects the CDR records and properly classifies and reports the attributes of the call. For the load test, a call generator was used to place 6080 calls over a two hour period with Revolution Web configured to automatically retrieve, translate and store the CDR records for later report generation. Upon completion of the load test, the number of calls placed by the call generator matched the number of CDR records processed and reported by Revolution Web.

5.2. Test Results

All feature and performance test cases that were executed passed. Revolution Web successfully captured and processed call records from Avaya IP Office. For serviceability testing, Revolution Web was able to resume CDR record collection for outages where Avaya IP Office was reset or lost its network link without requiring manual intervention. In cases where the Revolution Web computer lost power or network connectivity, Revolution Web was able to successfully resume collecting CDR records once the computer was back online but not for CDR records for calls that were placed during the outage. Since the current IP Office CDR implementation does not support Reliable Session Protocol, there is a chance of CDR record loss if there is a network failure.
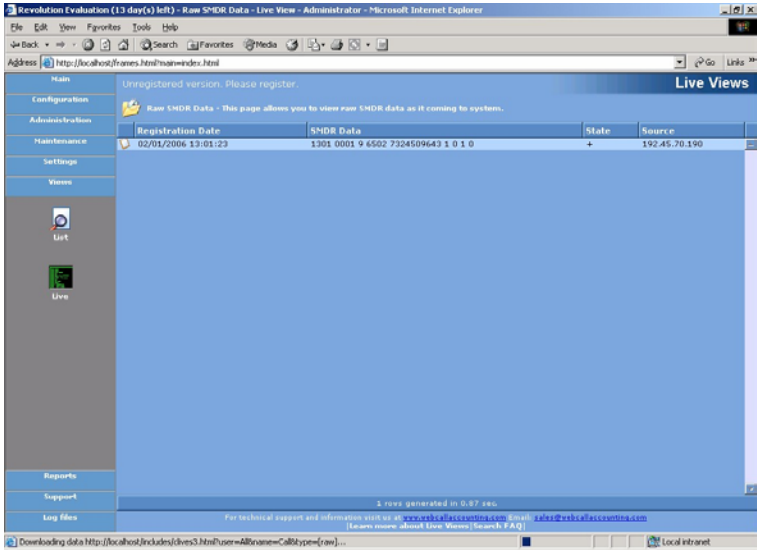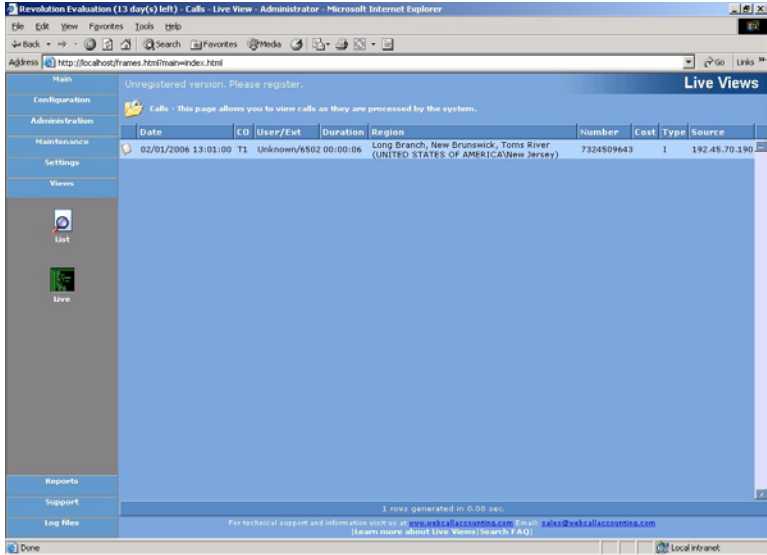
The following observations were made during testing:

- **Note1** - Revolution Web reports calls as Inbound, Outbound, or Internal. It does not identify calls participating in either a conference call, transfer or going to voicemail.

- **Note2** – CDR records for internal call transfer do not match call-splitting behavior described in IP Office documentation. For example, when A (x6501) calls B (x6502), B transfers the call to C (x6504), the IP Office call splitting documentation states that two CDR records will be generated with the first one listing A as the calling number and B as the dialed number, and the second one listing A as the calling number and C as the dialed number. The CDR records generated list A as the calling number and B as the dialed number for the first record (correct), and B as the calling number and C as the dialed number (incorrect) for the second record.
  Status: Issue #BugDB00027272 was filed with the IP Office team.

- **Note3** – CDR records for calls to retrieve voicemail shows '?<vm extension number>' as destination number, e.g., '?6501'. Revolution Web strips non-numeric values from the calling/destination number so that the report for this CDR record will show extension x6501 calling x6501.
  Status: RSI has been informed of this behavior.

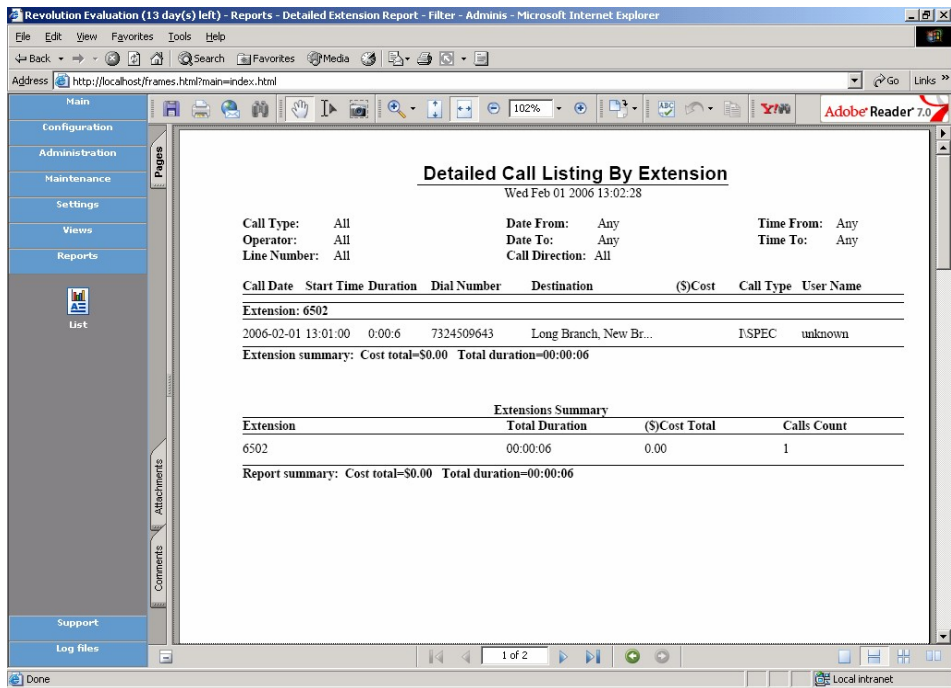- **Note4**: IP Office CDR does not to provide DNIS information in CDR records generated.

6. Verification Steps

The following steps may be used to verify the configuration:

Step	Description
1.	Place a call to a telephone attached to Avaya IP Office, answer the call, and drop the call after a few seconds.

Step	Description
	To view the raw CDR record received by Revolution Web:
2.	In the Revolution Web page, click **Views → Live** in the left-hand tree view. Then click **Raw** in the Live View list that appears.
	To view CDR record after it was translated and stored by Revolution Web into its database:
3.	In the Revolution Web page, click **Views → Live** in the left-hand tree view. Then click **Calls** in the Live View list that appears.

Step	Description
	To view CDR record in a sample Revolution Web report:
4.	In the Revolution Web Main page, click **Reports → List** in the left-hand tree view.

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 RSI Revolution Web to retrieve SMDR/CDR data from Avaya IP Office. All test cases completed successfully.

9. References

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

[1] Avaya IP Office 3.1 Installation Manual, Issue 13l (23rd January 2006)

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

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