



Avaya Solution & Interoperability Test Lab

Application Notes for configuring NovaLink NovaTax with Avaya IP Office R9.1 - Issue 1.0

Abstract

These Application Notes describe the configuration steps for configuring NovaTax from NovaLink with Avaya IP Office R9.1. NovaTax integrates with Avaya IP Office using the SMDR link to collect CDR data.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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 for NovaLink NovaTax and Avaya IP Office V2 500 as a standalone server, focusing on verifying that CDR records are being sent to NovaTax via SMDR port on IP Office. NovaTax call accounting server processes Station Message Detail Records (SMDR) and generates statistics and invoices to be used for customer billing. NovaTax calculates the cost of a call based on the duration, origin, and destination of the call.

2. General Test Approach and Test Results

This section describes the compliance testing used to verify interoperability of NovaTax with IP Office and covers the general test approach and the test results. Calls were made to and from the Avaya IP Office 500 V2 both internally and to a simulated PSTN. Various Avaya endpoints were registered IP Office and calls were made to and from these Avaya endpoints in order to generate CDR records. Using the SMDR port on IP Office, NovaTax was able to compile a list of call records and present them using a web interface.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1 Interoperability Compliance Testing

The interoperability compliance testing evaluates the ability of NovaTax to carry out SMDR collection and reporting under a variety of call handling scenarios. Execution of call scenarios and verification of correct call data was performed manually and the results compared against reports generated via the NovaTax web interface. These included:

Integration: determine whether NovaTax works as documented by NovaLink in the test plan without negative impact to the Avaya Solution.

Functionality: determine the ability of NovaTax to function as documented by NovaLink in the established test plan without negative impact.

Stability: Determine the ability NovaTax to continue to function during the complete established test audit session and over its full range of use, without failing or causing negative impact to the Avaya Solution.

Main test areas included:

- Making calls to and from Avaya IP H323, SIP and Digital phones.
- Making Incoming Network calls over PRI and SIP trunks.
- Making calls using Call Forwarding on Busy or No Answer.
- Making calls using Transfers – Blind and Supervised.
- Making Calls using Call Park and Call Pick Up.
- Utilizing the feature Call-back when free.
- Utilizing Account Codes.
- Accounting for Daylight Savings.
- Defense Tests to ensure recovery following LAN or Serial connection interrupts.

2.2 Test Results

All functionality and serviceability test cases were completed successfully with the following observations noted.

1. When Call Forwarding to PSTN, the A-Party calling the number gets the bill and not the B-Party or forwarded phone. There is no CDR record for the phone that is forwarding the call.
2. When using Blind Transfer Internally, two internal call records from the original caller (A-party) are produced and there are two “no answer” call records from the transferring person (B-party).
3. There is no record produced for a call parked internally. There is for a call parked from the PSTN.
4. An extra record is being produced for hunt group calls.

2.3 Support

Technical support can be obtained for NovaTax from the website <http://www.novalink.ch/en/> or from the following.

NovaLink GmbH
Businesstower
Zuercherstrasse 310
8500 Frauenfeld
Switzerland
helpdesk@novalink.ch
Phone: +41 52 762 66 77
Fax: +41 52 762 66 99

3. Reference Configuration

The configuration in **Figure 1** is used to compliance test NovaLink NovaTax with Avaya IP Office 500 V2. The connection between the NovaTax and the IP Office 500 V2 is via SMDR link on IP Office.

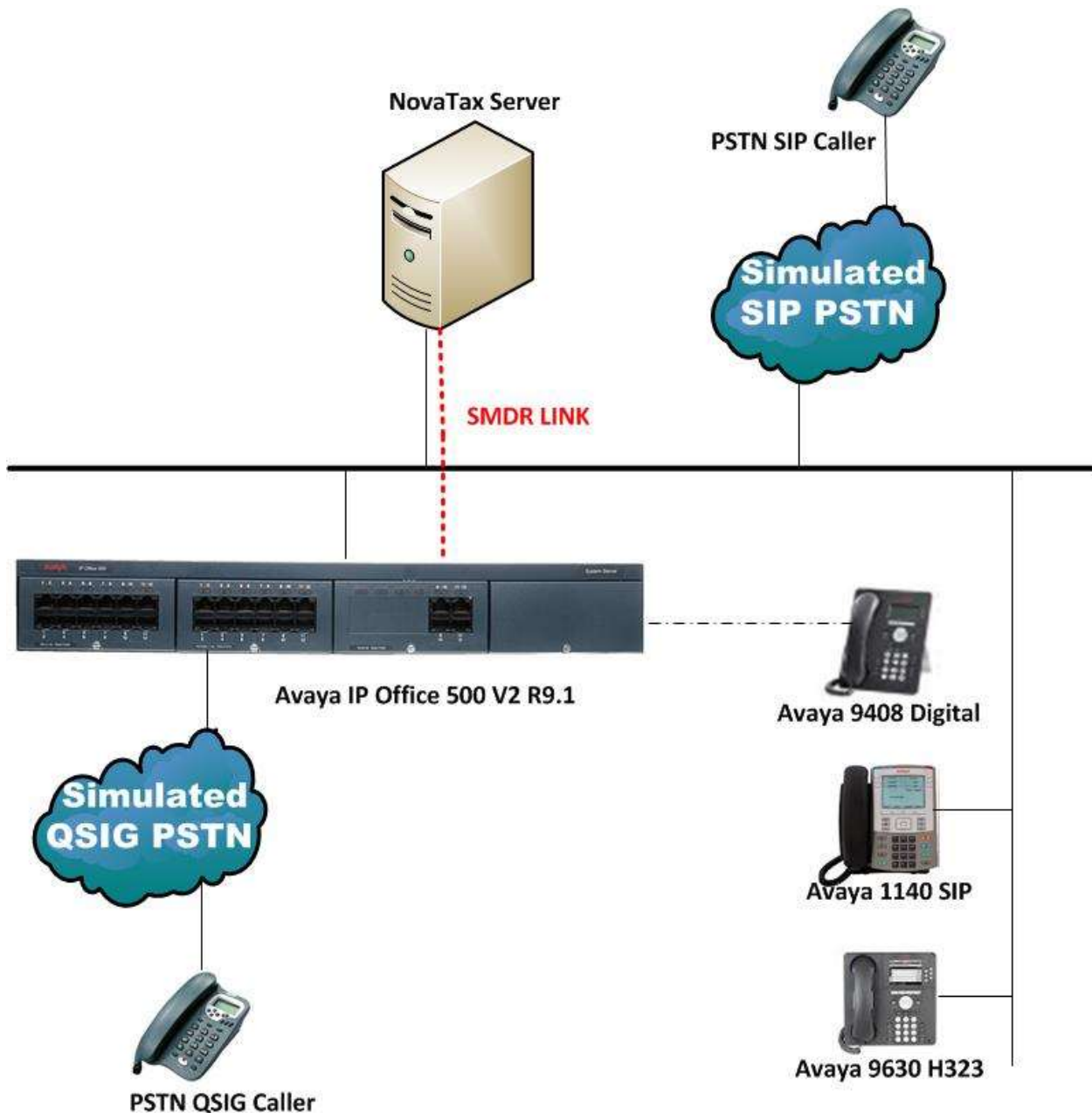


Figure 1: Connection of NovaTax from NovaLink with Avaya IP Office 500 V2 R9.1

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500 V2	R9.1
Avaya IP Office Manager	R9.1
Avaya 9630 Deskphone	96xx H.323 Release 6.4014U
Avaya 1140e SIP	R 04.03.12.00
Avaya 9408 Digital	Version 2
NovaTax running on a Windows 2012 virtual server	9.8

Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 only.

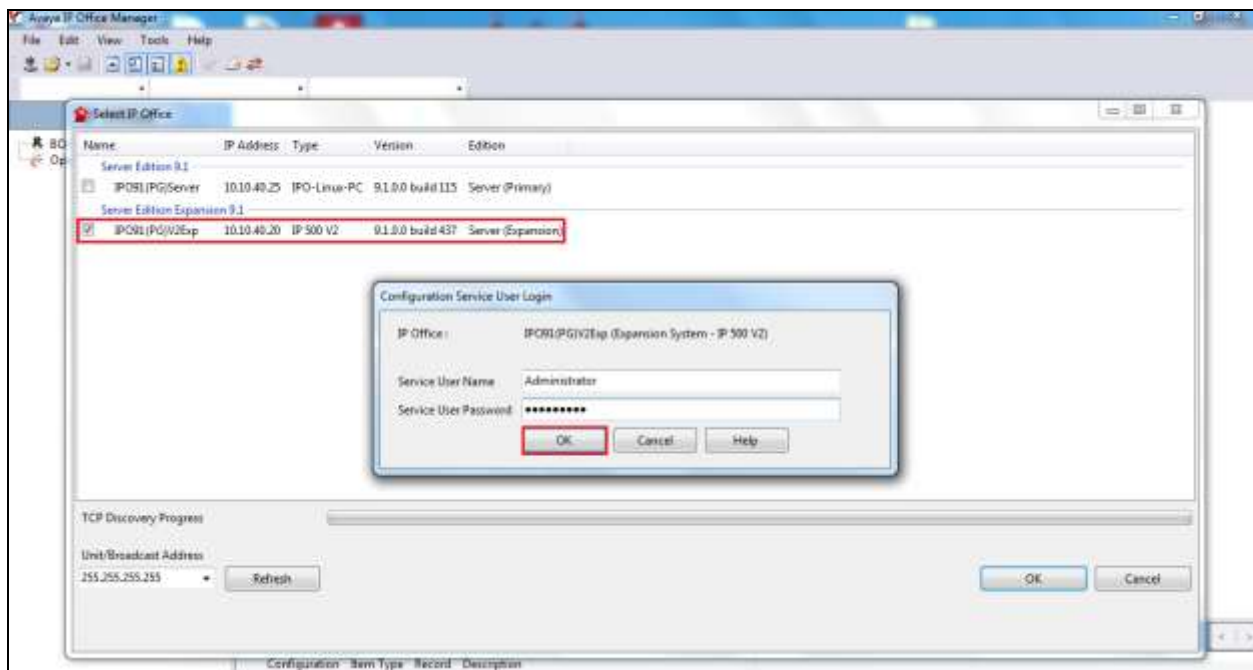
5. Configuration of Avaya IP Office

Configuration and verification operations on the Avaya IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of the Avaya IP Office for this solution. It is implied a working system is already in place. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**. The configuration operations described in this section can be summarized as follows:

- Launch Avaya IP Office Manager.
- Configure SMDR.
- Configure Account Codes.
- Save Configuration.

5.1 Launch Avaya IP Office Manager

From the Avaya IP Office Manager PC, go to **Start → Programs → IP Office → Manager** to launch the Manager application (not shown). Tick the required server to log in to, this will be the IP Office 500 V2 then log in using the appropriate credentials to receive the configuration.

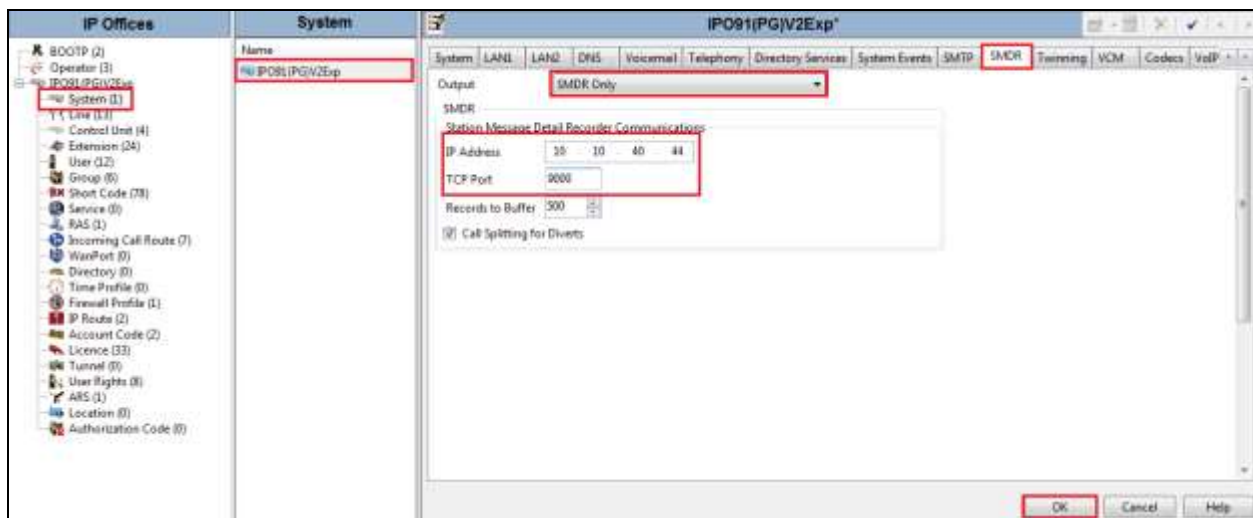


5.2 Configure SMDR

The SMDR settings must be administered on IP Office in order to define the destination of the SMDR output. In the left pane of the Manager application click **System** → **SMDR** and configure as follows:

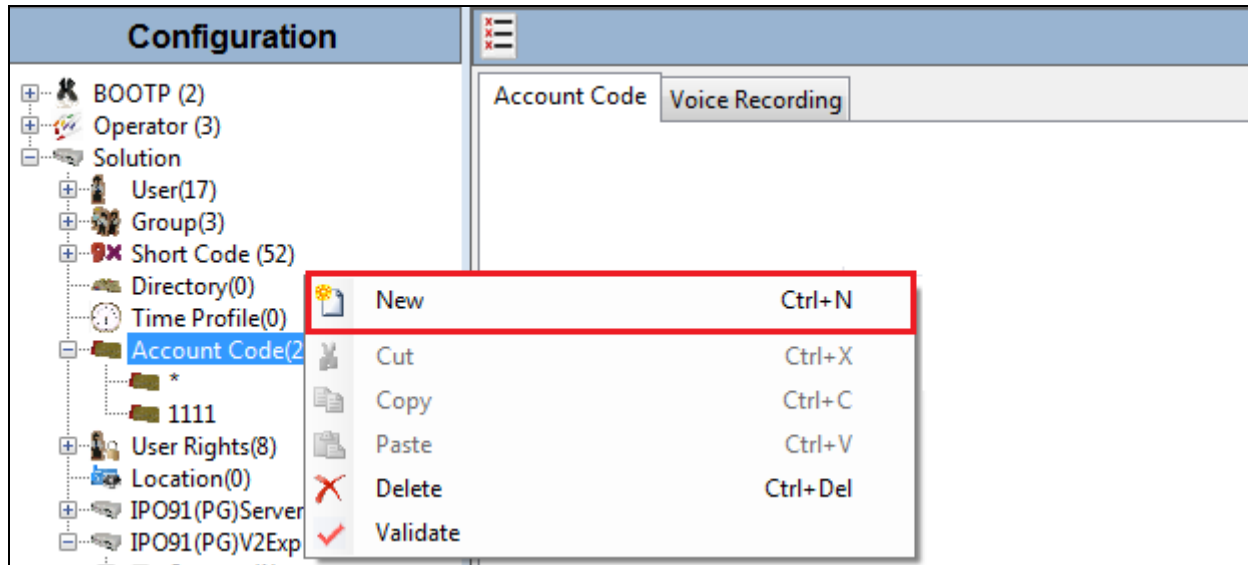
- **Output** – select **SMDR Only** from the drop down list.
- **IP Address** – enter the IP address assigned to NovaTax, in this case **10.10.40.44**.
- **TCP Port** – enter the port used by NovaTax for the SMDR connection, in this case **9000**.

Click on **OK**.

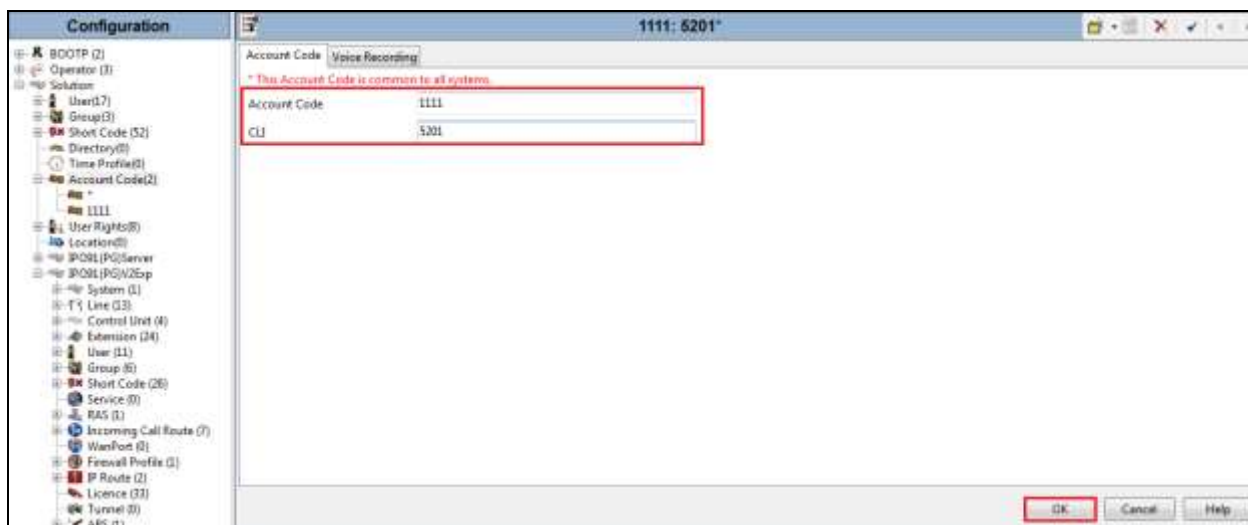


5.3 Configure Account Codes

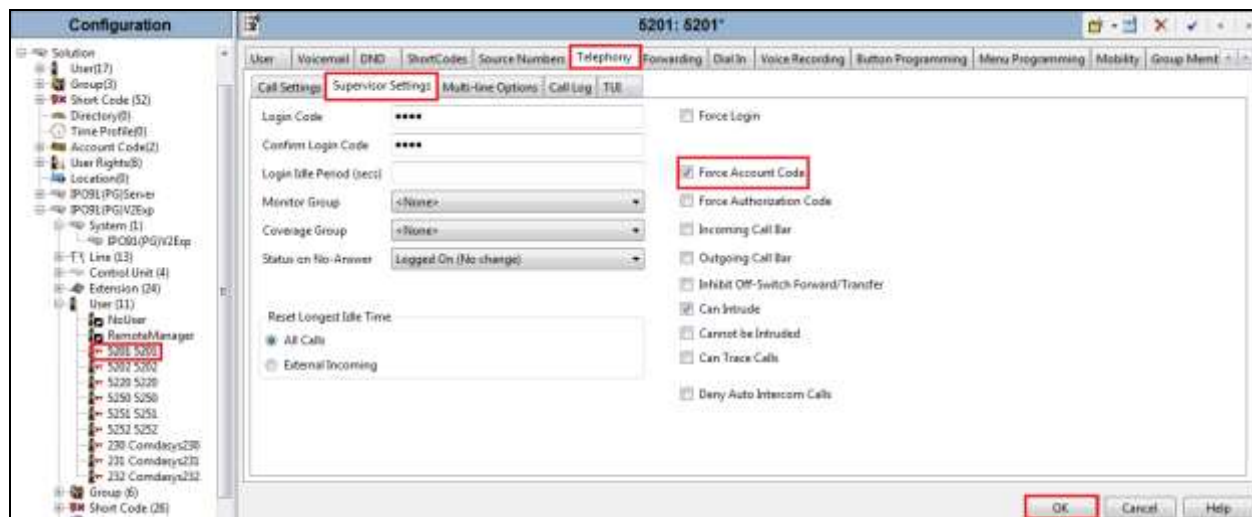
To add a new account code, right click on **Account Code** in the left window and select **New** as shown below.



Enter the **Account Code** number and the **CLI** of the phoneset that is it to be applied to. Click on **OK**.

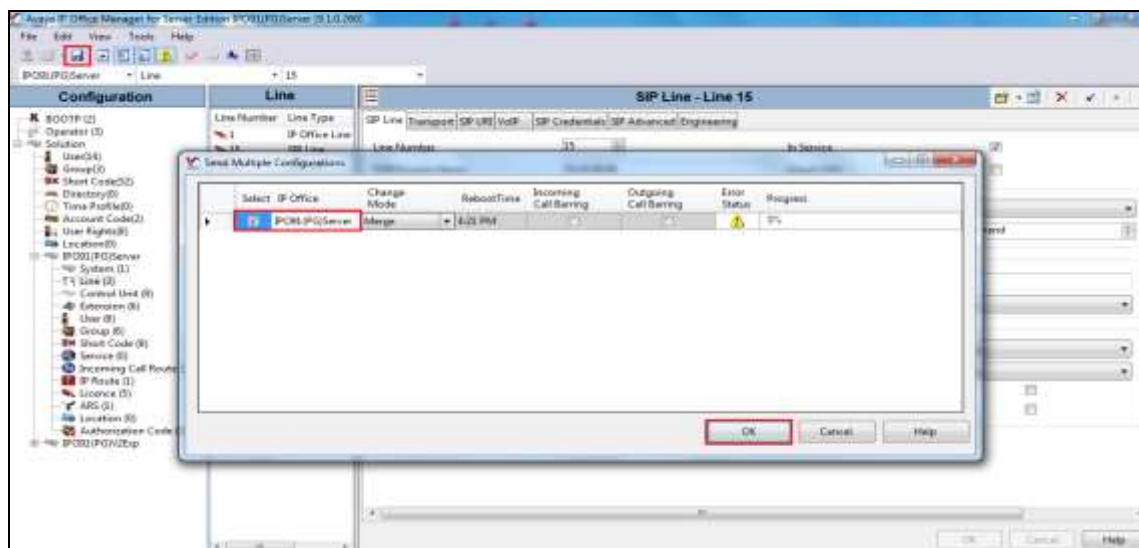


To ensure that the account code is used tick the **Force Account Code** box by selecting the required user in the left window and navigating to **Telephony → Supervisor Settings** in the main window.



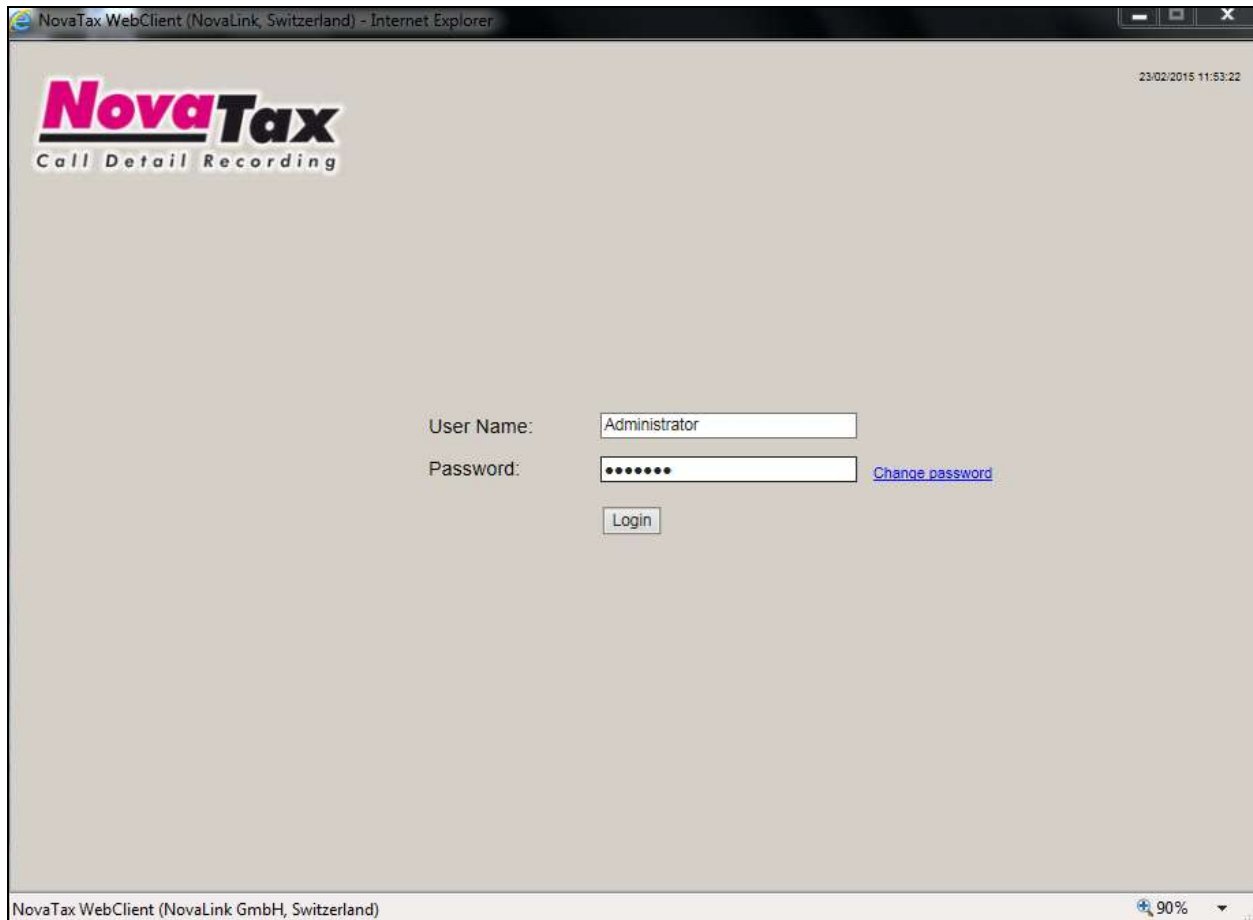
5.4 Save Configuration

Once the configuration has been made it must be sent to the IP Office. Click on the **Save** Icon at the top left of the screen as shown below. Once the **Save Configuration** window opens, either the **Merge** or **Immediate** button will be filled in depending on the changes that are made. Click on the **OK** button.



6. Configuration of NovaLink NovaTax

The following sections describe the steps required to configure NovaTax in order to successfully connect to Avaya IP Office using the SMDR port. All configuration changes are made to NovaTax using a web browser session to the NovaTax server. Open a web browser session to the IP Address of the NovaTax server followed by /NovaTax. For example what was used for compliance testing was **http://10.10.40.44/NovaTax**. The following screen is shown asking for the **User Name** and **Password**. Enter these and click on the **Login** button.



The screenshot shows the NovaTax WebClient login interface in an Internet Explorer browser window. The title bar reads "NovaTax WebClient (NovaLink, Switzerland) - Internet Explorer". The page features the NovaTax logo with the tagline "Call Detail Recording" in the top left. The top right corner displays the date and time "23/02/2015 11:53:22". The main content area contains a login form with the following elements:

- User Name:** A text input field containing the text "Administrator".
- Password:** A password input field with masked characters ".....". To the right of this field is a blue hyperlink labeled "Change password".
- Login:** A button located below the password field.

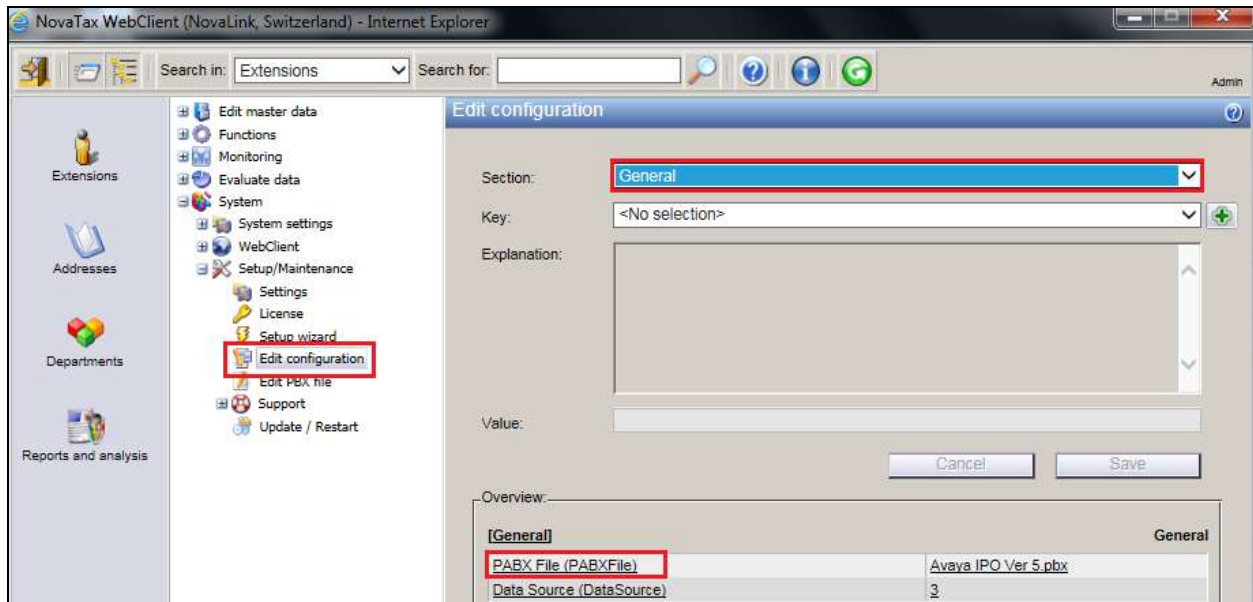
The bottom of the browser window shows the status bar with the text "NovaTax WebClient (NovaLink GmbH, Switzerland)" and a zoom level of "90%".

Once logged in the following screen is presented to the user.



6.1 Configure NovaTax connection to Avaya IP Office

To begin the configuration of NovaTax in order to receive SMDR information from IP Office, from the main menu, expand **Setup/Maintenance** and click on **Edit configuration**. From the main window select the **Section, General** from the drop-down menu.



Select **PABX File (PABXFile)** from the **Key** drop-down menu. Ensure that the **Value** is set to **Avaya IPO Ver 5.pbx** and click on **Save**.

The screenshot shows the 'Edit configuration' dialog box with the 'General' section selected. The 'Key' dropdown menu is set to 'PABX File (PABXFile)'. The 'Value' dropdown menu is set to 'Avaya IPO Ver 5.pbx'. The 'Save' button is highlighted. The 'Explanation' text reads: 'For several PABX are special interpreters available, please ask for you PABX'. The 'Overview' section shows a table with the following data:

[General]		General
PABX File (PABXFile)	Avaya IPO Ver 5.pbx	
Data Source (DataSource)	3	

Remaining in the same **Section**, select **Data Source (DataSource)** from the **Key** drop-down menu and ensure that the **Value** is set to **TCP Connection Server (see section [IP])**. Click on **Save** to complete.

The screenshot shows the 'Edit configuration' dialog box with the 'General' section selected. The 'Key' dropdown menu is set to 'Data Source (DataSource)'. The 'Value' dropdown menu is set to 'TCP Connection Server (see section [IP])'. The 'Save' button is highlighted. The 'Explanation' text reads: 'Type of data source'. The 'Overview' section shows a table with the following data:

[General]		General
Data Source (DataSource)	TCP Connection Server (see section [IP])	

Change the **Section** to **Data connection (IP)**, select **IP Address (IPAddress)** from the **Key** drop-down menu and ensure that the **Value** is set to the IP address of the NovaTax Server. Click on **Save** to complete.

The screenshot shows the 'Edit configuration' dialog box. The 'Section' dropdown is set to 'Data connection (IP)'. The 'Key' dropdown is set to 'IP Address (IPAddress)'. The 'Explanation' text box contains the text: 'IP-Adresses to listen on (Server -empty: local adress) or we try to connect (Client)'. The 'Value' text box contains the IP address '10.10.40.44'. At the bottom right, there are 'Cancel' and 'Save' buttons. Red boxes highlight the 'Section', 'Key', and 'Value' fields.

In the same **Section** select the **IP Port (IPPort)** **Key**. Set the **Value** to **9000** and click on **Save**. This value 9000 was set in **Section 5.2**.

The screenshot shows the 'Edit configuration' dialog box. The 'Section' dropdown is set to 'Data connection (IP)'. The 'Key' dropdown is set to 'IP Port (IPPort)'. The 'Explanation' text box contains the text: 'TCP-port to listen on (Server) or we try to connect (Client)'. The 'Value' text box contains the port number '9000'. At the bottom right, there are 'Cancel' and 'Save' buttons. Red boxes highlight the 'Key' and 'Value' fields.

This completes the configuration for NovaTax to collect the SMDR information from IP Office.

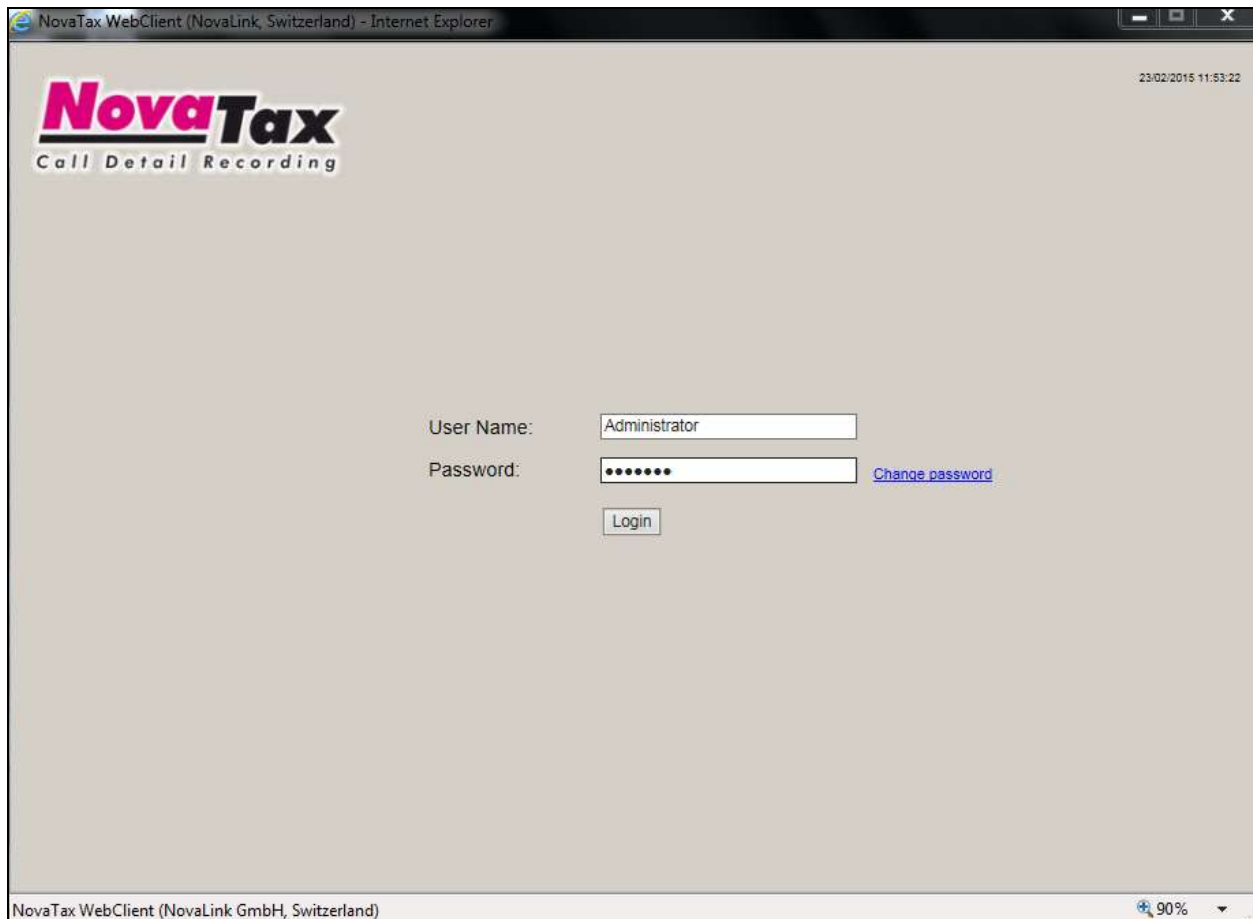
7. Verification Steps

This section illustrates the steps necessary to verify that the NovaTax is configured correctly to collect CDR data from IP Office using the SMDR link.

7.1 Verify NovaLink NovaTax

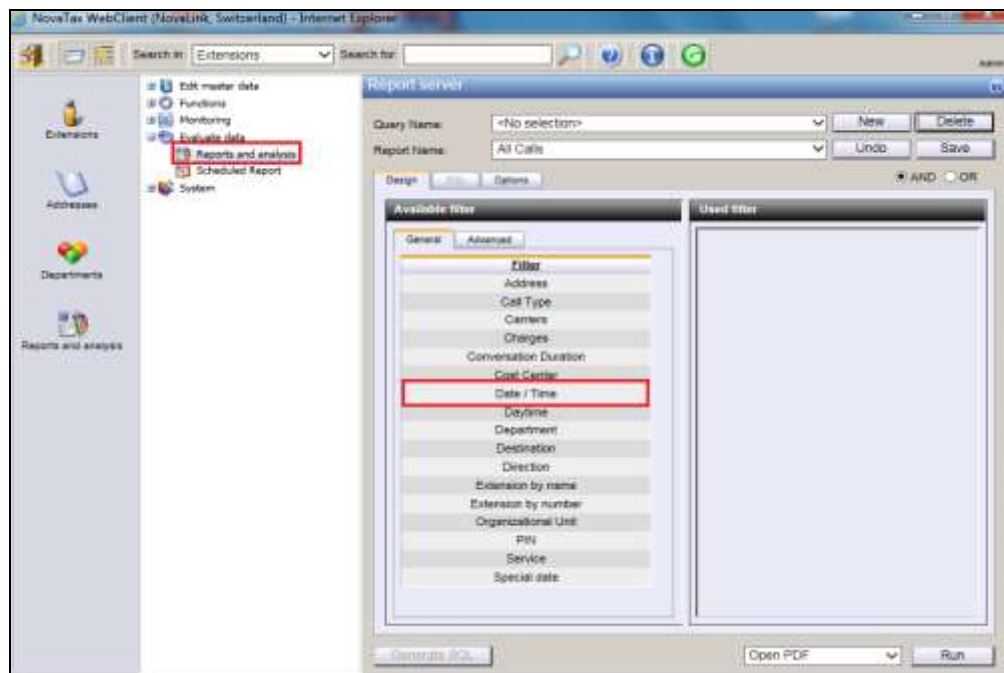
Place a variety of calls including internal, external, transferred, conferenced and forwarded to and from Avaya IP Office telephones.

Open a web browser session to the IP Address of the NovaTax server followed by /NovaTax. For example what was used for compliance testing was **http://10.10.40.44/NovaTax**. The following screen is shown asking for the **User Name** and **Password**. Enter these and click on the **Login** button.

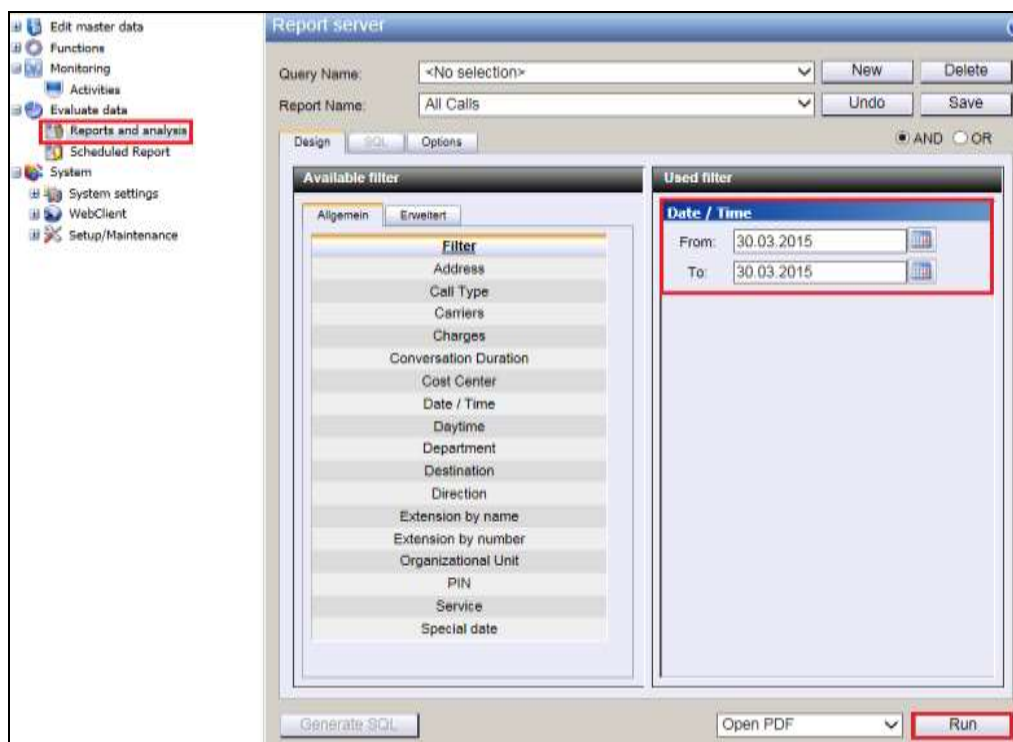


The screenshot shows the NovaTax WebClient login interface in an Internet Explorer browser window. The title bar reads "NovaTax WebClient (NovaLink, Switzerland) - Internet Explorer". The page features the NovaTax logo (pink "Nova" and black "Tax" with "Call Detail Recording" below it) in the top left and the date/time "23/02/2015 11:53:22" in the top right. The login form consists of two input fields: "User Name:" with "Administrator" entered, and "Password:" with masked characters "••••••". To the right of the password field is a blue link labeled "Change password". Below the password field is a "Login" button. The status bar at the bottom of the browser window shows "NovaTax WebClient (NovaLink GmbH, Switzerland)" and a zoom level of "90%".

Navigate to **Evaluate Data → Reports and analysis**. In the main window there is a list of Filters that can be chosen, for example **Date / Time** as is highlighted below. Drag the required filter into the **Used filter** area.



Select the necessary date to run the report and click on **Run** at the bottom right of the screen.



A new window should open showing the calls that were made for that day. An example of this is shown below of one incoming and one outgoing call from **5201** and into **5250**.

All Calls							
Date / Time: {30.03.2015} - {30.03.2015}							
created by NovaTax C&D System Engineering							
Date	Time	Phone Number	Direction	Status	Duration	Charges	Service Call Type
9408 Digital on V2							
30/03/2015	17:13:10	Not defined	Outgoing	Completed	00:00:03	0.00	Telephony Business
Totals for 9408 Digital on V2 (1 Call)					00:00:03	0.00	
9360 H323 on V2							
30/03/2015	17:13:28	Not defined	Incoming	Completed	00:00:08	0.00	Telephony Business
Totals for 9360 H323 on V2 (1 Call)					00:00:08	0.00	
Total (2 Calls)					00:00:11	0.00	

8. Conclusion

These Application Notes describe the configuration steps required for NovaTax from NovaLink to interoperate with Avaya IP Office 500 V2. All feature functionality and serviceability test cases were completed successfully with any issues and observations noted in **Section 2.2**.

9. Additional References

This section references the Avaya and NovaLink product documentation that are relevant to these Application Notes.

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

[1] *Avaya IP Office R9.1 Manager 10.1, Document Number 15-601011*

[2] *Avaya IP Office R9.1 Doc library*

Technical support can be obtained for NovaTax from the website <http://www.novalink.ch/en/> or from the following.

NovaLink GmbH
Business tower
Zuercherstrasse 310
8500 Frauenfeld
Switzerland
helpdesk@novalink.ch
Phone: +41 52 762 66 77
Fax: +41 52 762 66 99

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