AVAYA

Avaya Solution & Interoperability Test Lab

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

Abstract

These Application Notes describe the configuration steps for NovaAlert from NovaLink with Avaya IP Office R9.1. NovaAlert integrates with Avaya IP Office using SIP Trunks.

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.

PG; Reviewed:
SPOC 5/18/2015

Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.

1 of 38
NovaAlert_IPO91

1. Introduction

These Application Notes describe the configuration steps for NovaAlert from NovaLink to interoperate with Avaya IP Office R9.1 Server Edition with an Avaya v2 500 expansion.

NovaAlert is an application which is used in a health care, hotel or industrial environment for alerting, messaging or information services. NovaAlert can react to external alarm stimuli which indicate the existence of an emergency situation by informing affected persons of the situation. Alarms can be triggered from various possible input sources including manual input via Web browser, Smartphone Apps's, Databases, E-Mails, serial interfaces, potential free contacts, SNMP, OPC, SMS, IP, etc. "Direct" alarms can also be defined which allow alarms to be input and triggered via telephone calls. The alarm triggering described is restricted to those methods which involve interaction with Avaya IP Office.

Once an alarm has been triggered, the medium selected when the alarm was configured is used to deliver the alarm. Possible delivery interfaces include phone calls (including conferences), Smartphone App's, Desktop-Clients, E-Mail, Pager, SMS, Fax, Printers, etc. Multiple recipients can be configured for an alarm, thus possibly creating multiple simultaneous telephone calls. This test plan focuses on those delivery methods which involve interaction with Avaya IP Office.

Alarms which are triggered via Avaya IP Office can include pre-recorded or ad hoc voice messages, or can generate voice messages via a text-to-speech mechanism. The calling party name can also be configured to contain a brief alarm message, so that this alarm message will appear in the caller list of intended recipients who are unable to answer an alarm call

2. General Test Approach and Test Results

This section describes the compliance testing used to verify interoperability of NovaAlert with IP Office and covers the general test approach and the test results. Calls were made to and from NovaAlert over SIP trunks connecting Avaya IP Office and NovaAlert. IP Office Server Edition with a 500 v2 expansion was used for compliance testing and various Avaya endpoints were registered to the Server Edition side and the 500 v2 side using all endpoints during compliance testing. The SIP trunk was connected between the Server Edition and NovaAlert with all number/dial-plan setup with that in mind.

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.

PG; Reviewed:
SPOC 5/18/2015
Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.
2 of 38
NovaAlert_IPO91

2.1 Interoperability Compliance Testing

The interoperability compliance testing evaluated the ability of NovaAlert to carry out a variety of alarming functions, in various conditions, to multiple types of endpoint according to the configuration made via the web interface. These included recording of alarms from SIP/H.323/Digital endpoints.

- Delivery of voice recorded and TTS alarm to SIP/H.323/Digital endpoints.
- Intrusion calls to deliver alarms.
- Verification of Calling Party Name.
- Over-ride forwarding to deliver alarms.
- Following forwarding to deliver alarms.
- Alarms delivered to Voicemail.
- DTMF PIN Entry.

Serviceability testing consisted of verifying the ability of NovaAlert to recover from power or network interruption to both IP Office and NovaAlert.

2.2 Test Results

All functionality and serviceability test cases were completed successfully. The following observation was noted during the compliance testing.

- Voicemail was not setup on IP Office so a test for the alarm going to voicemail was skipped.

2.3 Support

Technical support can be obtained for NovaAlert 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 NovaAlert with Avaya IP Office Server Edition R9.1 & an expansion using an Avaya IP Office 500v2. The connection between the NovaAlert and the IP Office solution is via SIP Trunks.
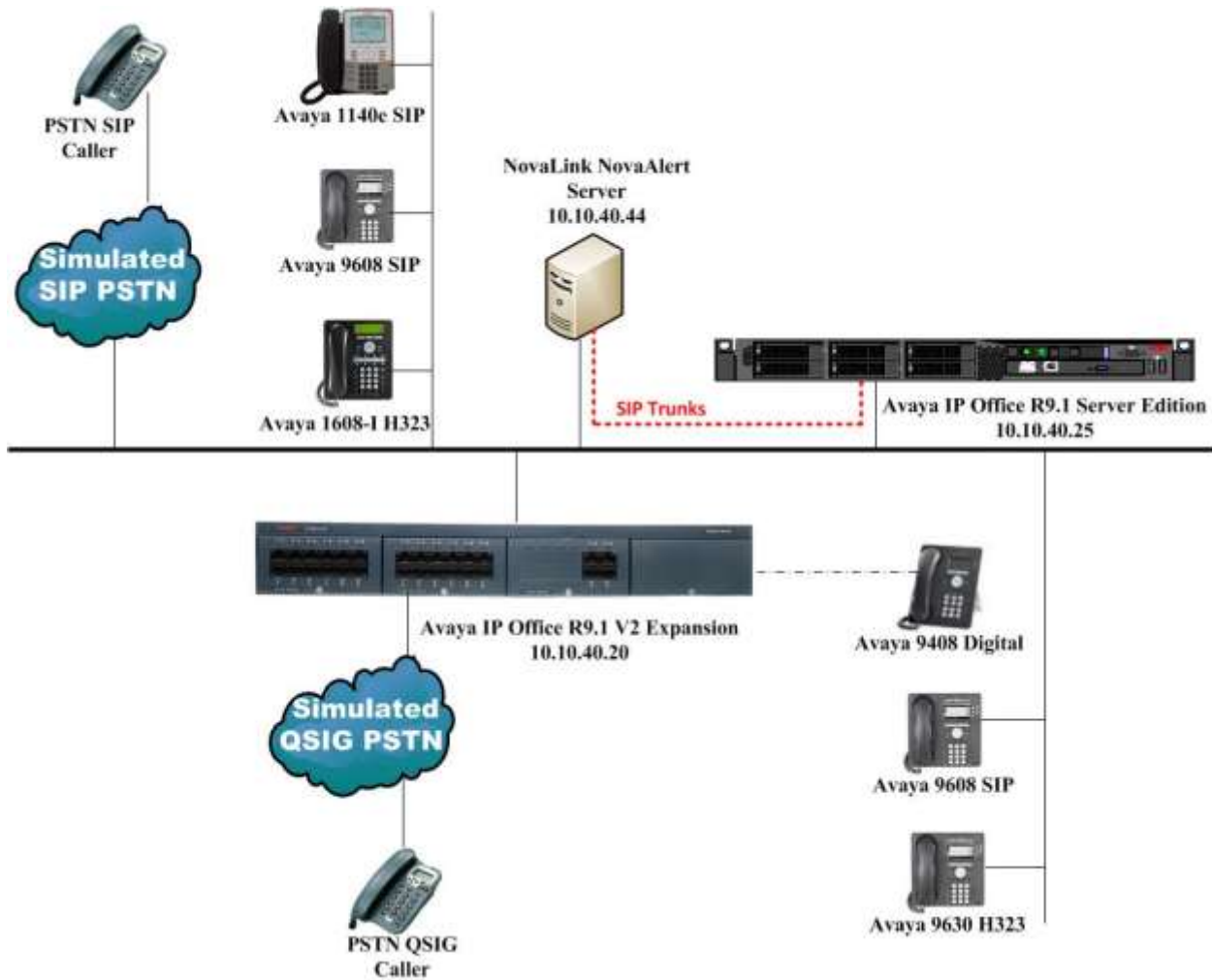
Figure 1: Connection of NovaAlert from NovaLink with Avaya IP Office Server Edition & Expansion R9.1

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office Server Edition running on a virtual server (Primary Server)	R9.1
Avaya IP Office v500 (Expansion)	R9.1
Avaya 1608 I Deskphone	H323 1608UA1_350B.bin
Avaya 9630 Deskphone	96xx H.323 Release 6.4014U
Avaya 9608 Deskphone	96x1 SIP 6.4.1.25
Avaya 1140e SIP	R 04.03.12.00
Avaya 9408 Digital	Version 2
NovaAlert 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 and also when deployed with IP Office Server Edition in all configurations.

Testing was performed with IP Office Server Edition R9.1. Note that IP Office Server Edition requires an Expansion IP Office 500 v2 R9.1 to support analog or digital endpoints or trunks.

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 9**. The configuration operations described in this section can be summarized as follows:

- Launch Avaya IP Office Manager.
- Display LAN Configuration.
- Configure Incoming Route for SIP Trunk.
- Configure SIP Trunk.
- 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 or use the **shortcut on the desktop** highlighted. Tick the required server to log in to, this will be the Server Edition and log in to Avaya IP Office using the appropriate credentials to receive its configuration.
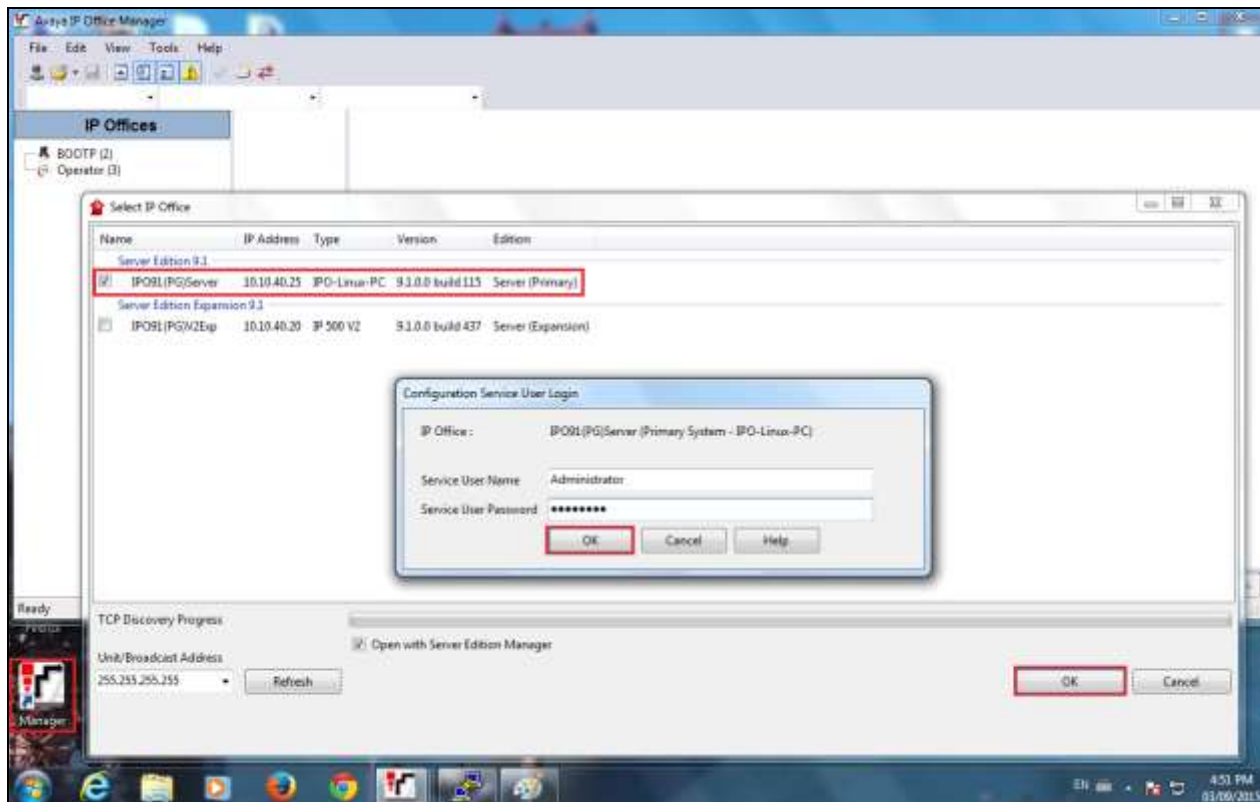
5.2 Display LAN Configuration

In the IP Offices window expand the configuration tree in the left pane and double-click **System**. During compliance testing the System was called **IPO91(PG)Server**. Select the **LAN Settings** tab within the LAN1 tab and note the following information:

- **IP Address**   IP Address of the IP Office that will be required in **Section 6.1** for the configuration of the SIP Trunk on NovaAlert.
- **IP Mask**   Subnet mask for the IP Office.
- **Primary Trans IP**   Gateway IP Address.

PG; Reviewed:
SPOC 5/18/2015

Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.

7 of 38
NovaAlert_IPO91
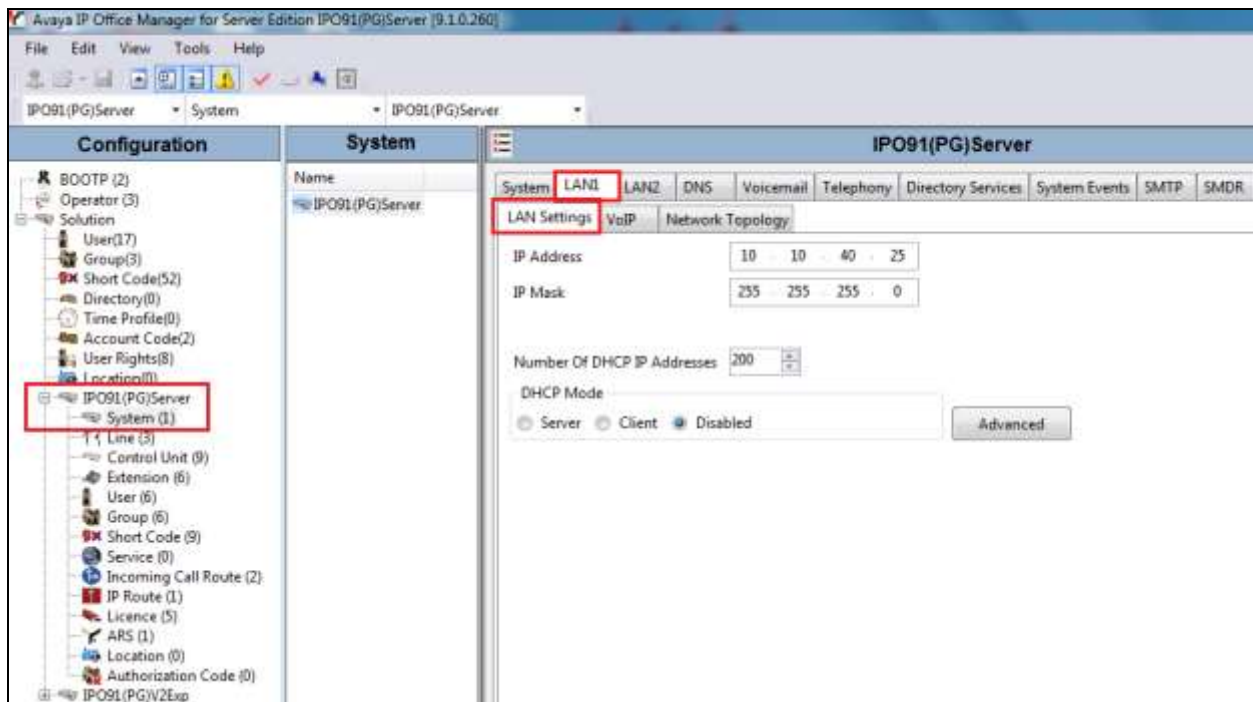
Click on the **VoIP** tab and set the following.

- **SIP Trunks Enable**.
- **SIP Registrar Enable**.
- **Domain Name**, set this to the telephony domain name.
- **UDP** set the UDP Port to **5060**.
- **TCP** set the TCP Port to **5060**.
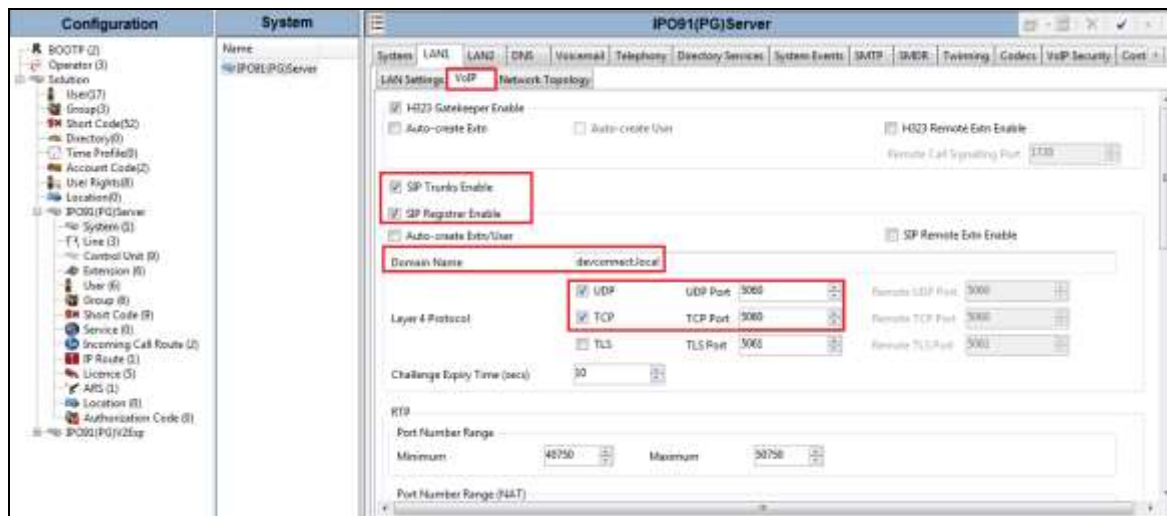
Click on the **Telephony** tab. Ensure that the **Maximum SIP Sessions** is set to the correct number and is not set to 0. Also ensure that **Inhibit Off-Switch Forward/Transfer** is not ticked.
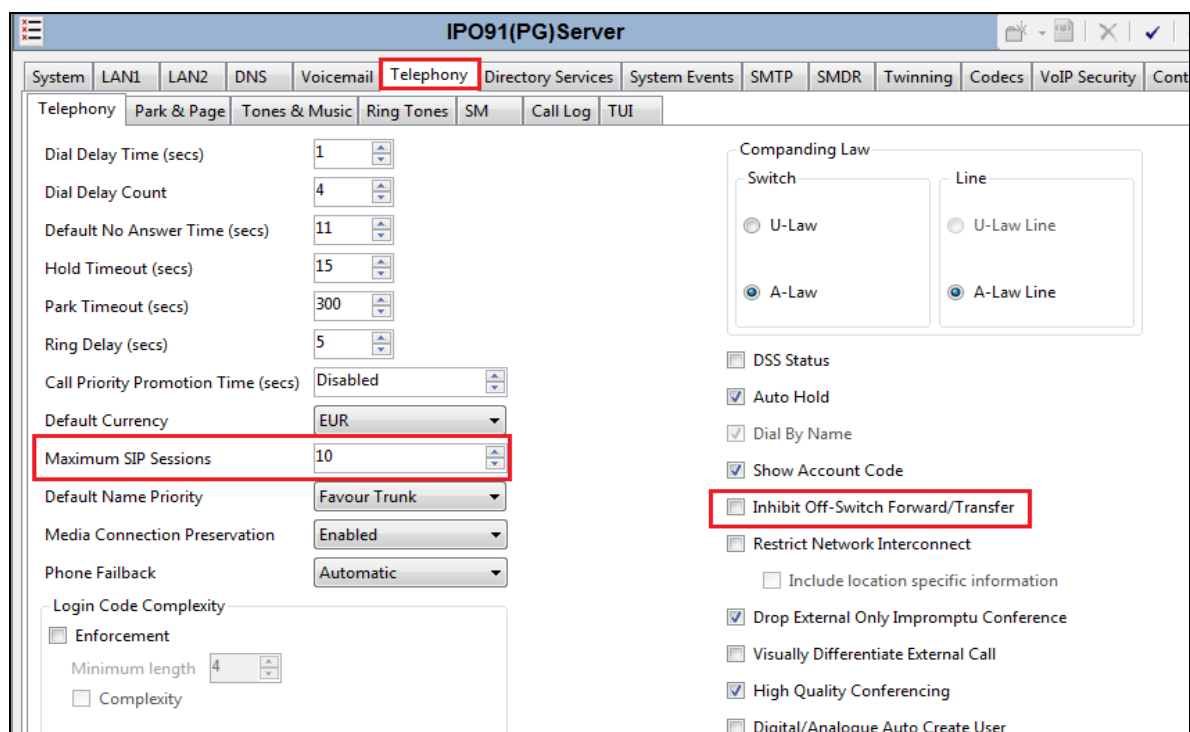
Click on the **Codecs** tab. Ensure that the correct codecs are selected.
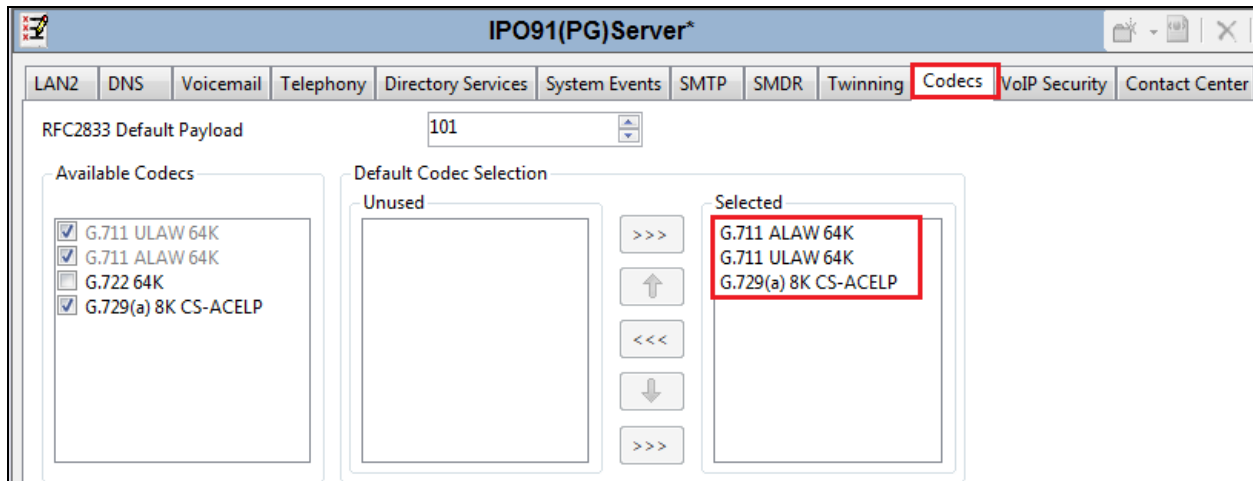
5.3 Configure Incoming Route for SIP Trunk

An incoming route must be added for the SIP trunk that will be setup in **Section 5.4**. Navigate to **Server Edition → Incoming Call Route**. Right click on Incoming Call Route select **New**.
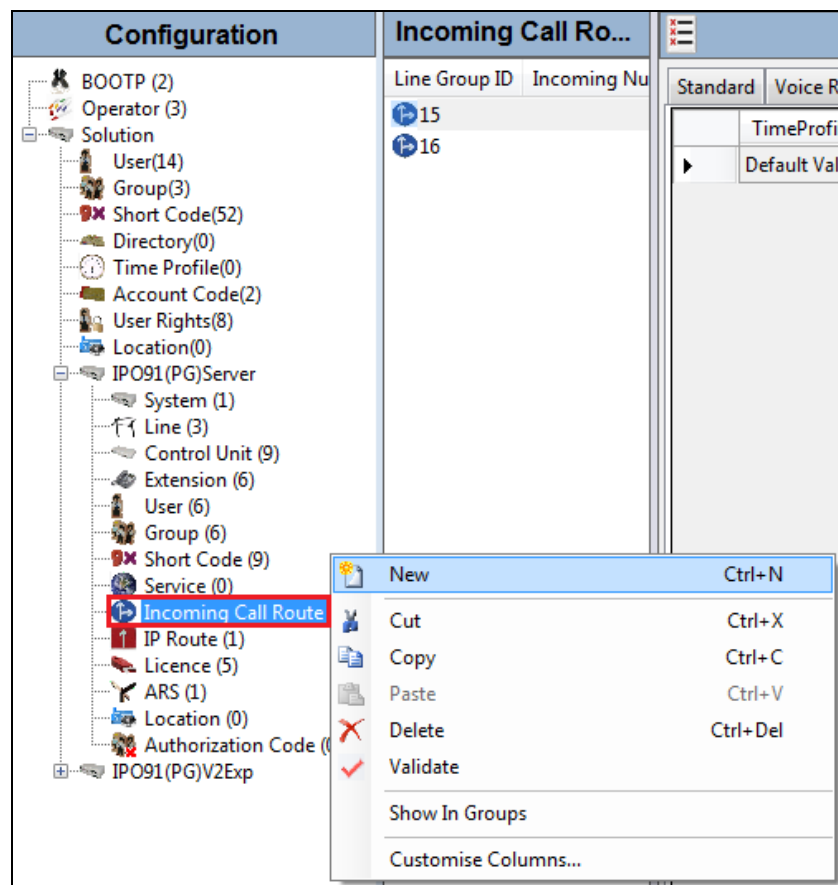
From the **Standard** tab, enter the **Line Group ID;** this can be kept the same as the SIP Line that is to be created for convenience. **Bearer Capability** can be set to **Any Voice.**

From the **Destinations** tab, select **.** for the **Destination**. Click on **OK** to continue.

5.4 Configure SIP Trunk

This section shows how to add a new SIP Trunk in order to facilitate the connection to NovaAlert. Navigate to the Server Edition or the IP Office module that NovaAlert is connecting to. During compliance testing NovaAlert connected to the IP Office Server Edition using SIP trunks, the SIP Line was therefore created on the Server Edition.

Navigate to **Server Edition → Line**, then right click on **Line** and select **New → SIP Line**.
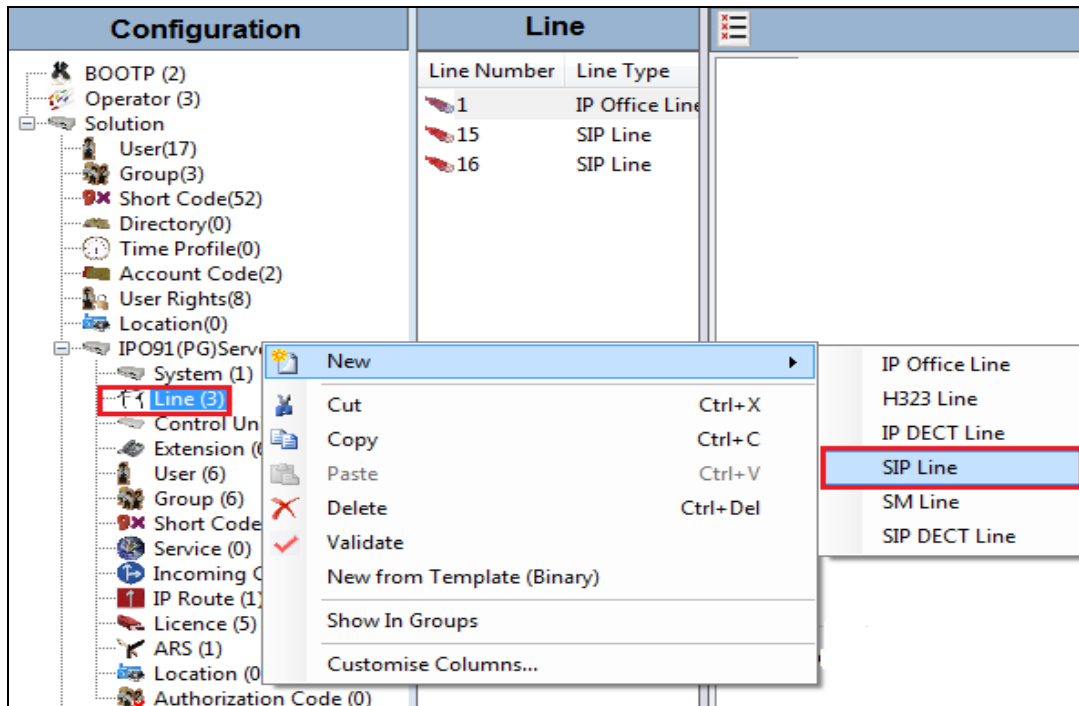
Click the **SIP Line** tab and select the new **Line Number** and insert the IP Address of the NovaAlert server for the **ITSP Domain Name**.
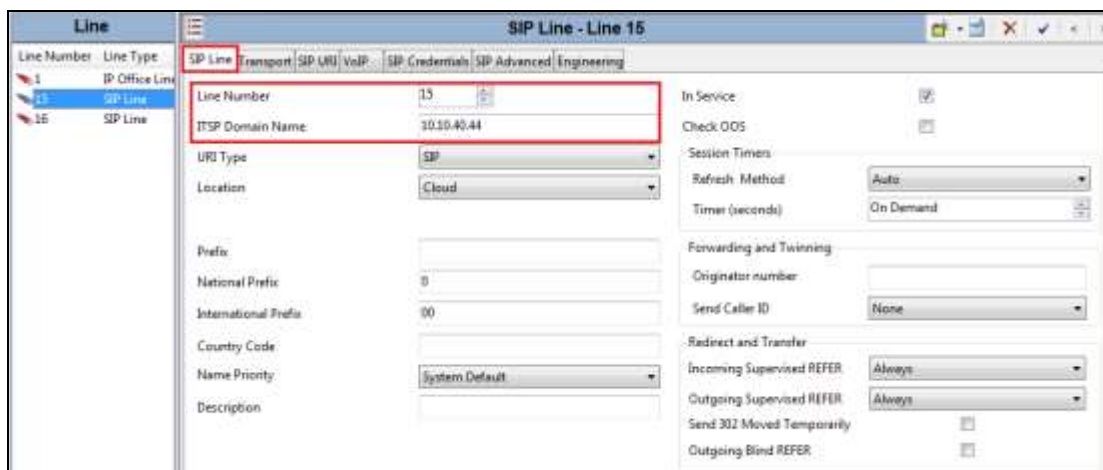
Click on the **Transport** tab and enter the IP Address of the NovaAlert server for **ITPS Proxy Address**. Ensure that the **Layer 4 Protocol** is set to **UDP** and that the **Send Port** and **Listen Port** are both set to **5060**.

Click on the **SIP URI** tab and click on **Add**.

The following should be set as shown below; anything else can be left as default or as it is displayed in the screen shot below. Click on **OK** to continue.

Local URI	Set to *
Contact	Set to *
Display Name	Set to *
PAI	Set to **None**
Incoming Group	Set to the incoming group number for the SIP trunk (**15** in this case)
Outgoing Group	Set to the outgoing group number for the SIP trunk (**15** in this case)
Max Calls per Channel	Will depend on the number of SIP Licenses on IP Office and NovaAlert

Select the **VoIP** tab and ensure that the correct **Codecs** are **Selected**. The **Re-invite Supported** and **Prack/100rel Supported** boxes are also ticked. Everything else can be left as default or as is shown below.

Under the **SIP Advanced** Tab, ensure that **Caller ID from From header** and **Send From In Clear** are both ticked. Click on **OK** to continue and that will also finish the Line setup.

5.5 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 NovaAlert

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

Once logged in the following screen is presented to the user.
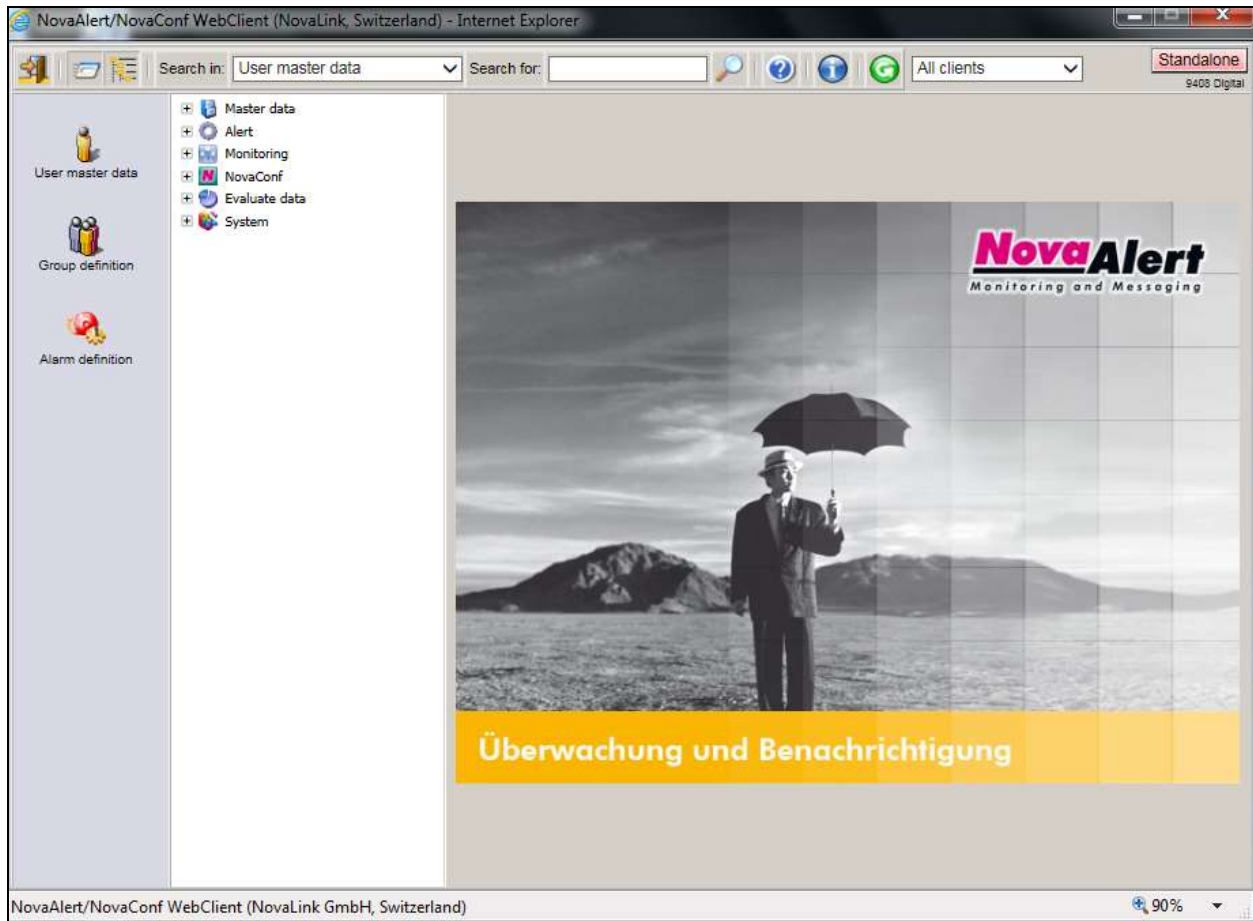
6.1 Configure NovaAlert SIP Trunk Connection

To begin the configuration of NovaAlert in order to connect to IP Office using SIP trunks, from the main menu, expand **System → Setup/Maintenance** and click on **Edit configuration**. From the main window select the **Table**, **NovaAlert Basic Configuration**, from the drop-down menu.
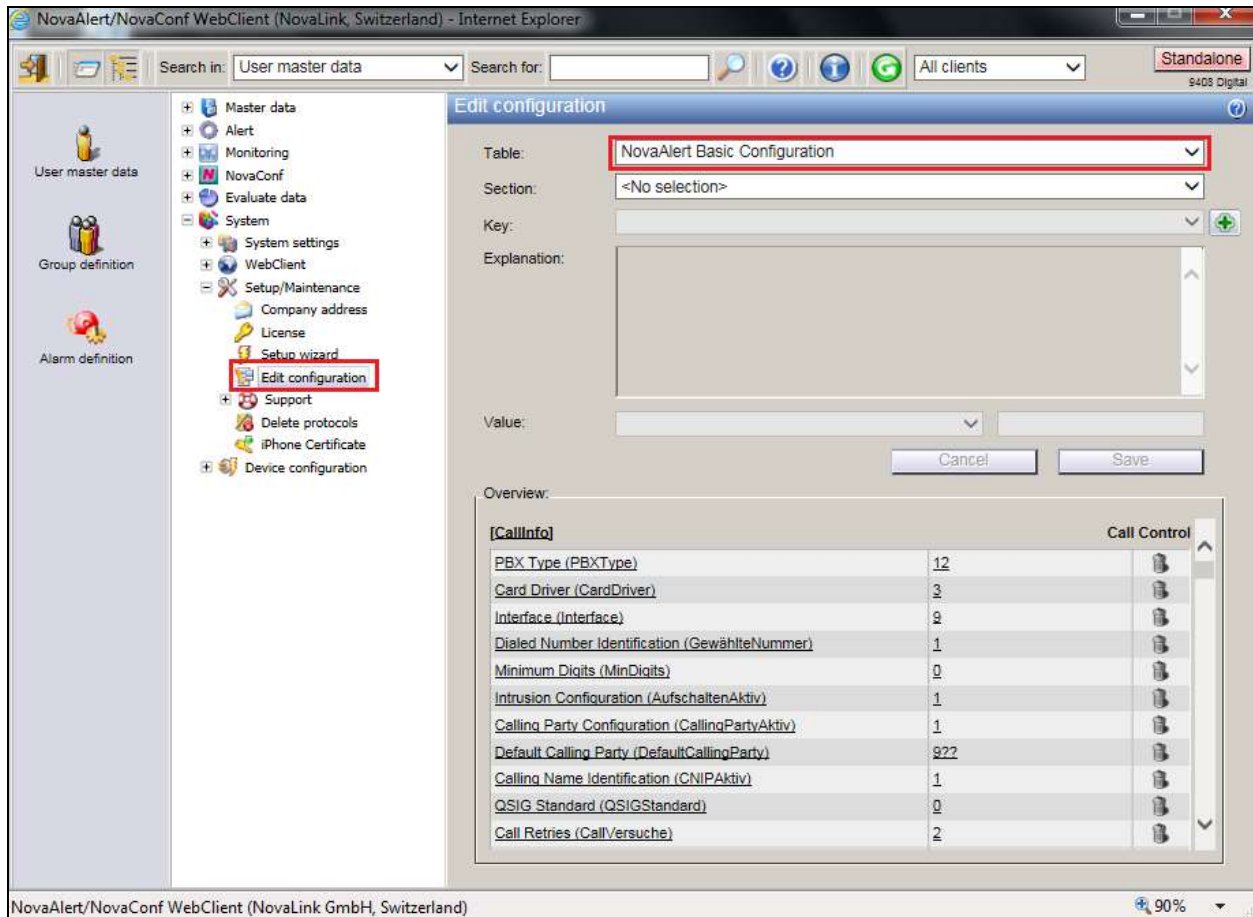
Select **Call Control (CallInfo)** from the **Section** drop-down menu. Select **PBX Type** from the **Key** drop-down menu or click on **PBX Type** highlighted at the bottom of the screen. Ensure that the **Value** is set to **Avaya IPO** and click on **Save**.

PG; Reviewed:
SPOC 5/18/2015
Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.
19 of 38
NovaAlert_IPO91

Remaining in the same **Section**, select **Interface** from the **Key** drop-down menu and ensure that the **Value** is set to **VoIP**. Click on **Save** to complete.

In the same **Section** select the **Calling Party Configuration (CallingPartyAktiv) Key**. Set the **Value** to **Yes** and click on **Save**. This will send the calling party with the outgoing call.

PG; Reviewed:
SPOC 5/18/2015
Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.
21 of 38
NovaAlert_IPO91

In the same **Section** select the **Default Calling Party (DefaultCallingParty) Key**. Set the **Value** to **9??** and click on **Save.** Note this value will be used for dialing out from IP Office.

In the same **Section** select the **Calling Name Identification (CNIPAktiv) Key**. Set the **Value** to **Yes** and click on **Save**. This will send the CLID info on the outgoing call.

Select **NovaAlert Basic Configuration and Line Configuration (NovaAlert)** from the **Section** drop-down menu. In order to add lines to any existing lines shown in the **Overview** window, click on the + icon to the right of the **Key** drop down menu, as is shown below.

The following window opens, enter **LinieX** into the window and click on **OK**, where X is the next line number to be added.

PG; Reviewed:
SPOC 5/18/2015
Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.
24 of 38
NovaAlert_IPO91

The Key added above, Linie5 should now populate the **Key** menu. Enter the **Value** X where X is the next line number to be added; in this case it is **5**. Click on **Save** to continue.

Choose a new section, **Voice over IP Configuration (VoIP)** from the **Section** drop-down menu. Select **Driver Preferences (DriverPref)** from the **Key** drop-down menu. Select **Only SIP** from the drop-down menu for **Value** and click on **Save** to continue.

Staying with the same **Section**, using the drop-down menu change the **Key** to **SIP Gateway** (**SIP_Gateway**). Enter the **Value** for the SIP Gateway which will be the IP address of the IP Office, in this case the IP address of the Server Edition. This is entered in the format IP Address, IP Address or **10.10.40.25**, **10.10.40.25** as is shown below. Click on **Save** to continue.

To finish out the configuration a restart of the lines is required. From the menu section navigate to **Monitoring → Modules** and from the main window click on the **refresh icon** beside any of the lines and select **Restart all lines**, as shown below.
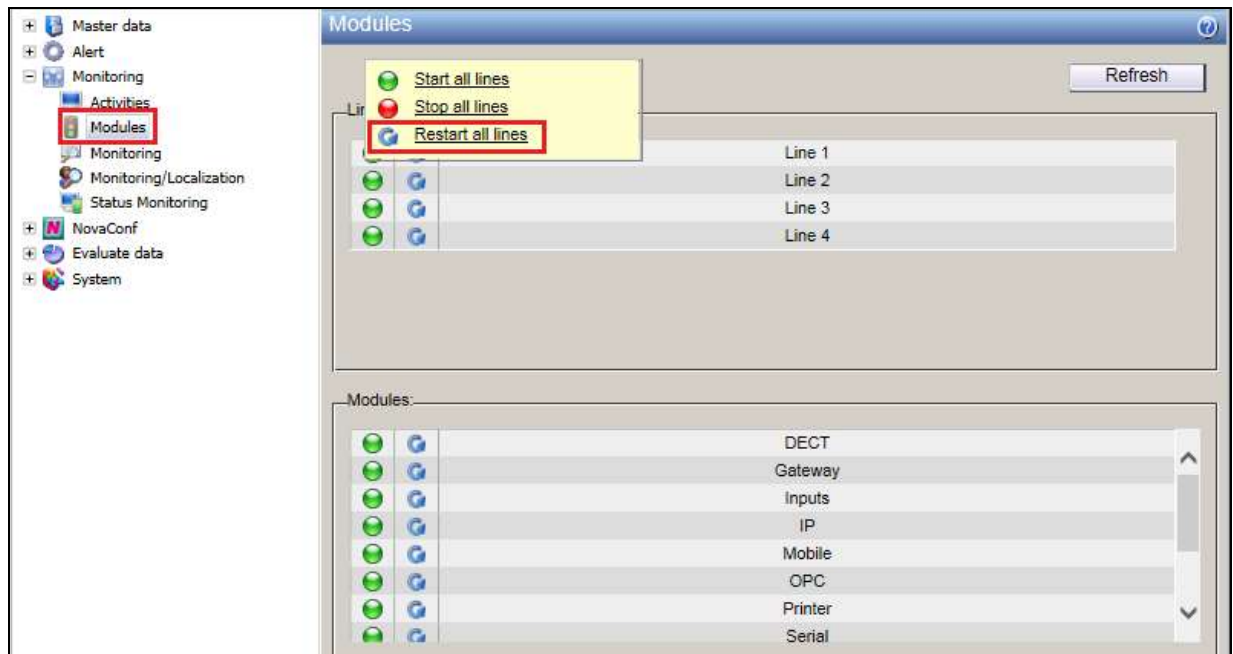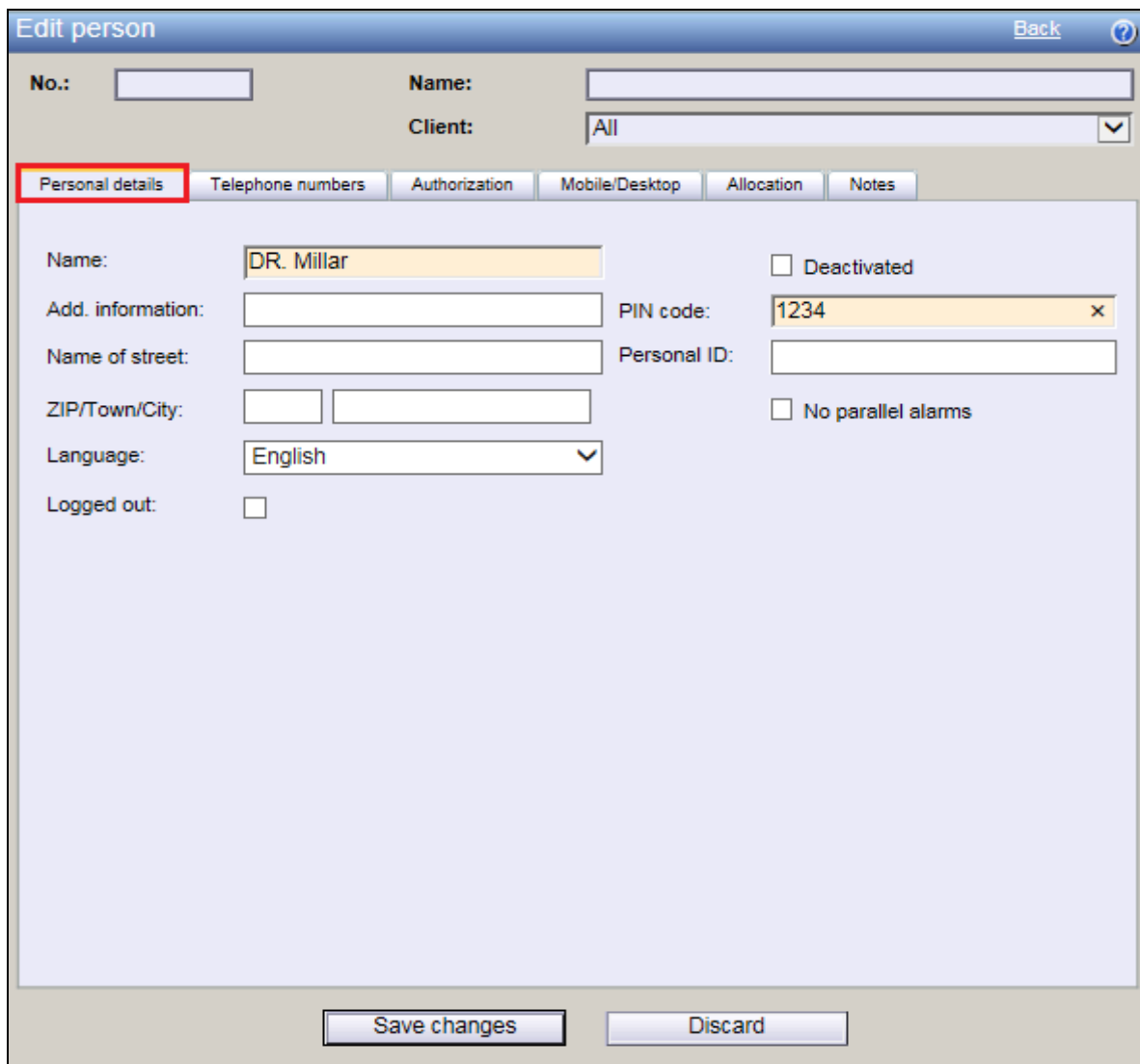
6.2 Add an Avaya IP Office extension to alert.

In order to send an alarm to IP Office, an extension will need to be added. This extension is then called by NovaAlert when the alarm is activated. From the main menu, navigate to **Master data** → **User master data**. In the main window select **New person** as shown below.

Click on the **Personal details** tab and enter a suitable **Name** and **Pin code**.

Click on the **Telephone numbers** tab and enter the IP Office telephone number for this user and click on **Save Changes** at the bottom of the screen.

The new user/extension is now clearly shown.

PG; Reviewed:
SPOC 5/18/2015

Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.

30 of 38
NovaAlert_IPO91

7. Verification Steps

This section illustrates the steps necessary to verify that the NovaAlert is configured correctly to send an alarm to extensions on IP Office using SIP trunks.

7.1 Create a new Alarm on NovaAlert

From the main menu navigate to **Master data → Alarm definition**. From the main window, click on **New Alarm**, as shown below.

In the **General** tab, enter a suitable **Description** and **Pin code for trigger** for the new alarm. Select **Compile individual alert list** from the **Select contact group** drop-down menu.

Click on the **Alarm list** tab and select the user that was created in **Section 6.2**.

PG; Reviewed:
SPOC 5/18/2015

Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.

32 of 38
NovaAlert_IPO91

Once the **Person/IP output** has been correctly selected the **Tel. number** should also get populated automatically. Click on the **Add** button to add this new person.

Click on **Save Changes** at the bottom of the screen.

From the main menu, navigate to **Alert → Manual alarm trigger**. In the main window select the **Alarm to be triggered**, which should be the alarm created above.

Click on the Alert button at the bottom of the screen.

Click on **OK** to proceed.

Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.

The following screen should be displayed along with the telephone set ringing and an alarm message being played upon answer.

Solution & Interoperability Test Lab Application Notes
©2015 Avaya Inc. All Rights Reserved.
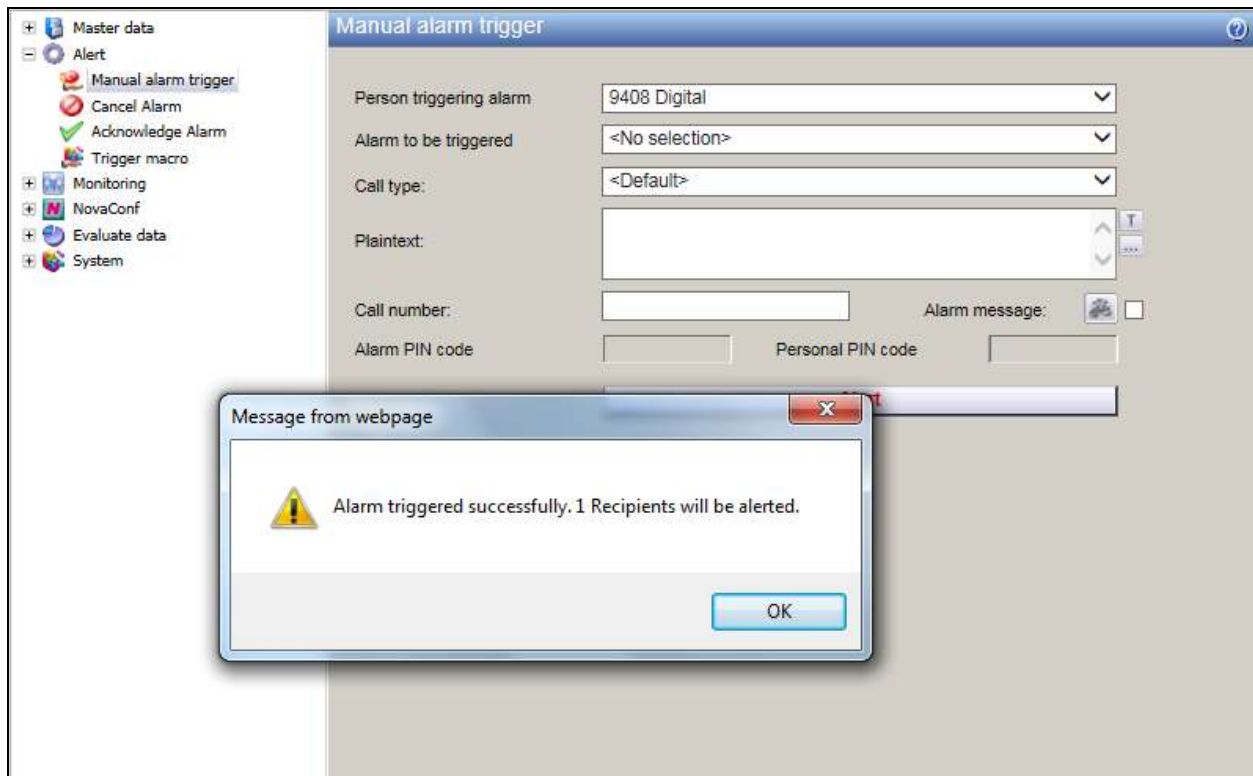
8. Conclusion

These Application Notes describe the configuration steps required for NovaAlert from NovaLink to interoperate with Avaya IP Office R9.1 Server Edition with an Avaya v2 500 expansion. 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 NovaAlert 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

©2015 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

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.