Avaya Solution & Interoperability Test Lab

Application Notes for SLIT NovaProHop CS with Avaya IP Office - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for SLIT NovaProHop CS to successfully interoperate with Avaya IP Office.

The objective of the test was to evaluate the interoperability of the above-mentioned products in a Healthcare environment, i.e. the successful authorisation and routing of incoming and outgoing calls and the processing of call detail records for those calls.

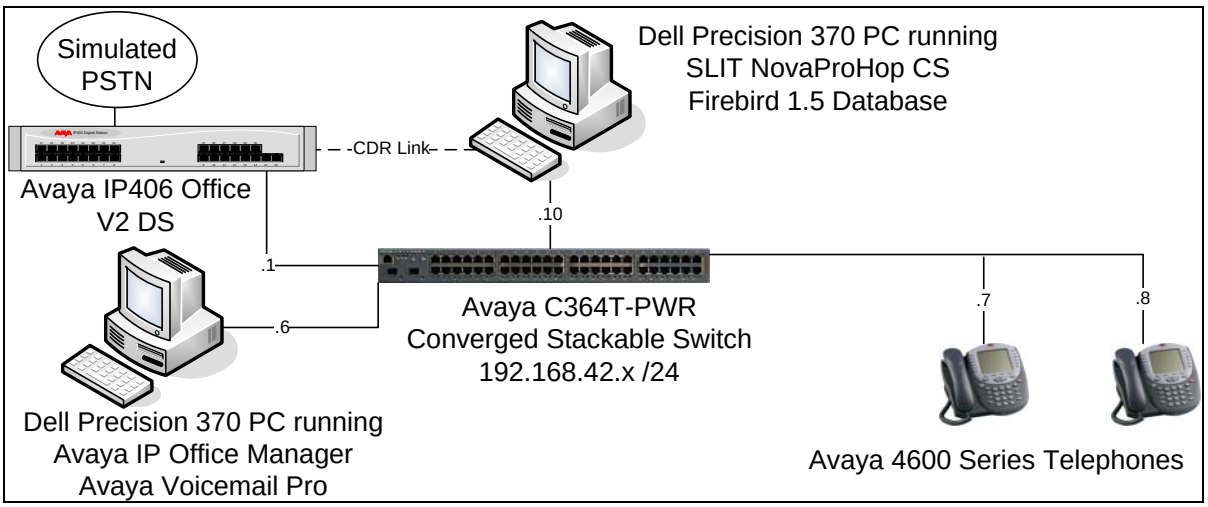
Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the configuration steps required for SLIT NovaProHop CS to successfully interoperate with Avaya IP Office.

NovaProHop CS software suite is a PC-based application suite that provides an end user interface with Avaya IP Office in a Healthcare environment. The suite is able to manage one or several Avaya IP Offices, and works as a client/server application to meet the requirements of hospitals or retirement homes. It is widely used in hospitals and retirement homes in France.

These notes describe the compliance test configuration using SLIT NovaProHop CS, an Avaya IP Office and the Voicemail Pro module. Incoming and outgoing calls are routed through the Voicemail Pro to allow patient authentication, using scripts provided by SLIT to communicate with the NovaProHop CS database.



The main functions of SLIT NovaProHop CS are as follows

- **Check-in and check-out:** These functions are used to manage patients, assign them to particular rooms and Avaya IP Office extension numbers for incoming calls, and allow them to make phone calls according to their account balance. Billing operations are performed during check out, allowing the hospital to bill the patient for telephony services.
- **Room transfer facility:** This function is used to change the room and/or Avaya IP Office extension number assignment of a particular patient.
- **Change controlled restrictions:** This facility consists of using the built-in functions of Avaya IP Office and Voicemail Pro module to allow or prevent patient-originated phone calls, according to the patient's balance. The patient account is checked at call time against an internal table, and the appropriate rights are given to the caller's phone.

2. Equipment and Software Validated

The following equipment and software were used for the compliance-tested configuration.

Equipment	Software
Avaya IP406 Office V2 DS Control Unit	Avaya IP Office 4.0 (10)
Avaya C364T-PWR Converged Stackable Switch	4.6.12
Dell Precision 370 PC	Windows XP Professional, Service Pack 2 Avaya Voicemail Pro 4.0 (18) Avaya IP Office Manager 6.0 (10)
Avaya 4610SW IP Telephones Avaya 4620SW IP Telephones	2.3 2.3
Dell Precision 370 PC	Windows XP Professional, Service Pack 2 SLIT NovaProHop CS 4.0 FireBird 1.5 Database

3. Configure Avaya IP Office

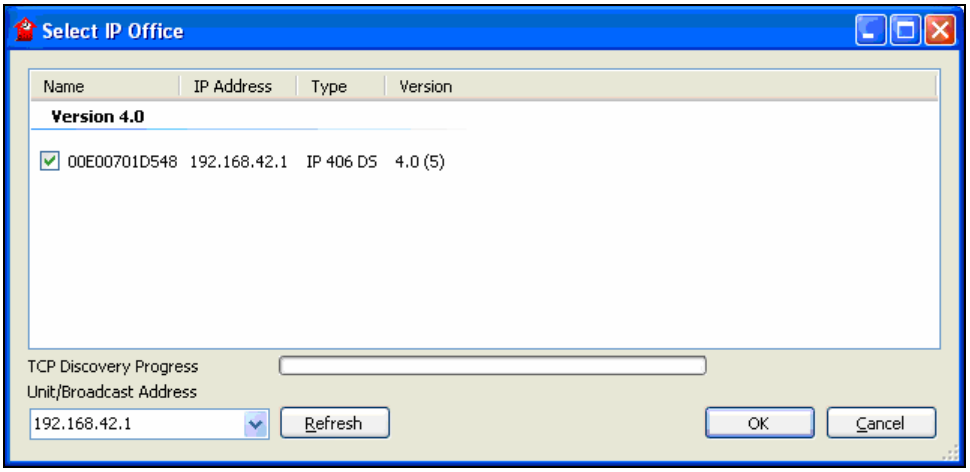
This section provides the procedures for configuring Avaya IP Office for interoperability with SLIT NovaProHop CS. The procedures include the following areas:

- License Avaya IP Office
- Configure Avaya IP Office
- Configure Voicemail Pro

Please note that it is expected that the installer is familiar with configuring users, trunk groups etc. on Avaya IP Office as the focus of these Application Notes is on the configuration of the interface to SLIT NovaProHop CS only. For all other provisioning information, such as software installation, installation of optional components, basic configuration of Avaya IP Office, etc., refer to the Avaya IP Office product documentation in reference [1].

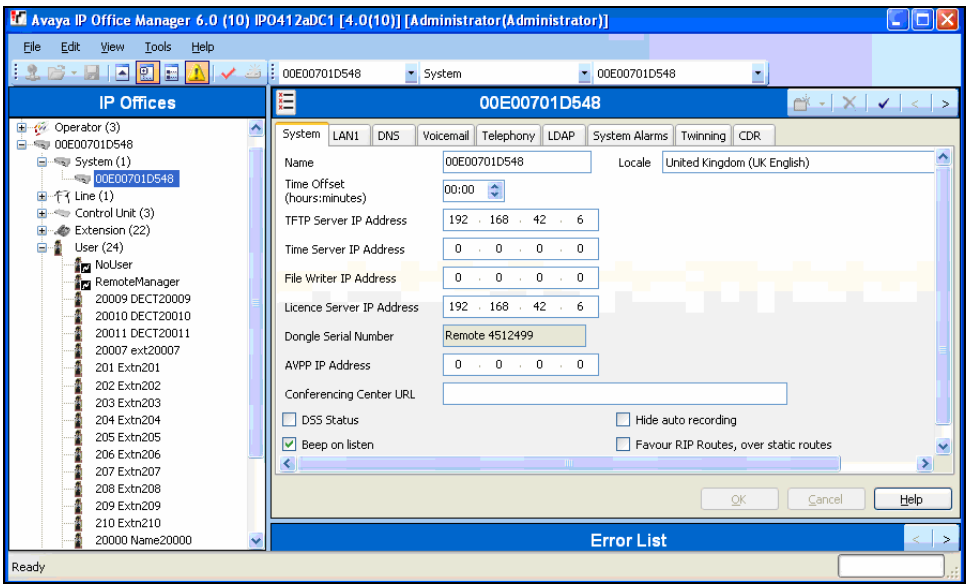
3.1. License Avaya IP Office

Log into the IP Office Manager PC and go to **Start > Programs > IP Office > Manager** to launch the Manager application. Go to **File > Open Configuration** to bring up the **Select IP Office** dialog box. Select the IP Office system by checking the system name as seen below and clicking **OK**. In this case, there is only one system to select.



Ensure that the Avaya IP Office serial license dongle is connected to the IP Office Manager PC. Log into the Avaya IP Office Manager application by using the appropriate user name and password (not shown).

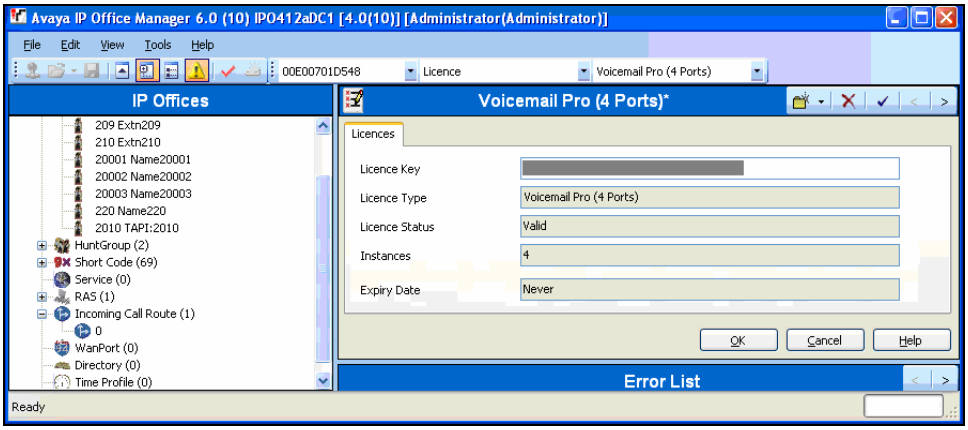
In the Manager window, go to the left panel Configuration Tree and click **System**. Click the **System** Tab on the right panel. The **Dongle Serial Number** field should be populated with the serial number of the dongle previously plugged into the IP Office Manager PC. Enter the IP address of the IP Office Manager PC in the **License Service IP Address** field and click **OK**.



Two licenses are required for NovaProHop CS.

- **Voicemail Pro (4 ports):** This license enables the use of Voicemail Pro with Avaya IP Office and includes 4 ports. Further ports can be licensed if required.
- **VMPro Database Interface**: This license enables Voicemail Pro to connect to the database of NovaProHop CS.

To add a license, in the Manager window, go to the Configuration Tree, right-click **License** and select **New** from the drop-down menu**.** Enter the license code, provided by Avaya or the Business Partner, into the **License Key** field and click **OK**.

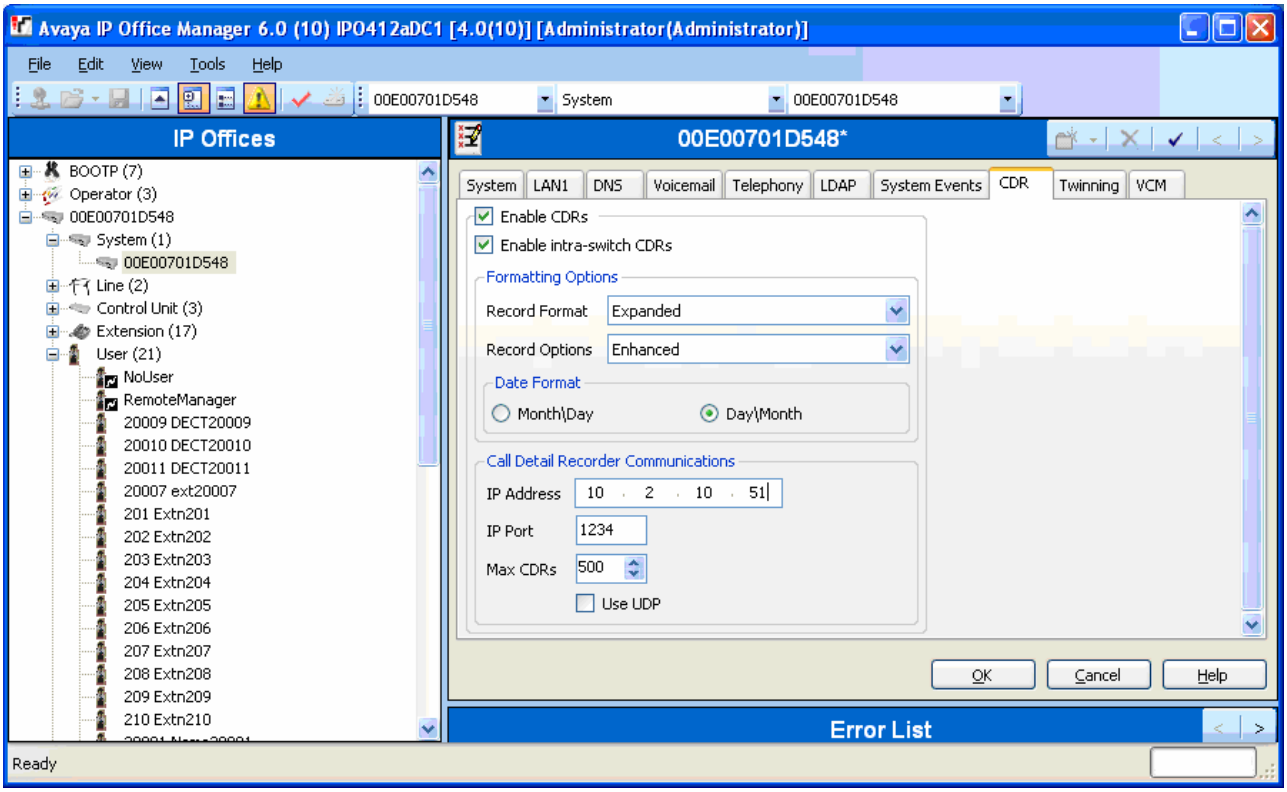


3.2. Configure Avaya IP Office

To enable the CDR interface, open the IP Office Manager application. In the Manager window, go to the left panel Configuration Tree and click **System**. Select the **CDR** Tab on the right panel and configure the fields as follows.

- **Enable CDRs:** Check the check box.
- **Enable Intra-Switch CDRs:** Check the check box.
- **Record Format:** "Expanded"
- **Record Options:** "Enhanced"
- **Date Format:** Select the **Day\Month** radio button.
- **IP Address:** Enter the IP address of the NovaProHop CS system.
- **Port Number:** Enter any unused port number.

The rest of the fields may be left at their defaults. Once completed, select **OK**.



The rest of the Avaya IP Office configuration is based on configuring short codes to pass calls into Voicemail Pro. Each short code is assigned to a script within Voicemail Pro, which interacts with the NovaProHop CS database. The short codes required are as follows:

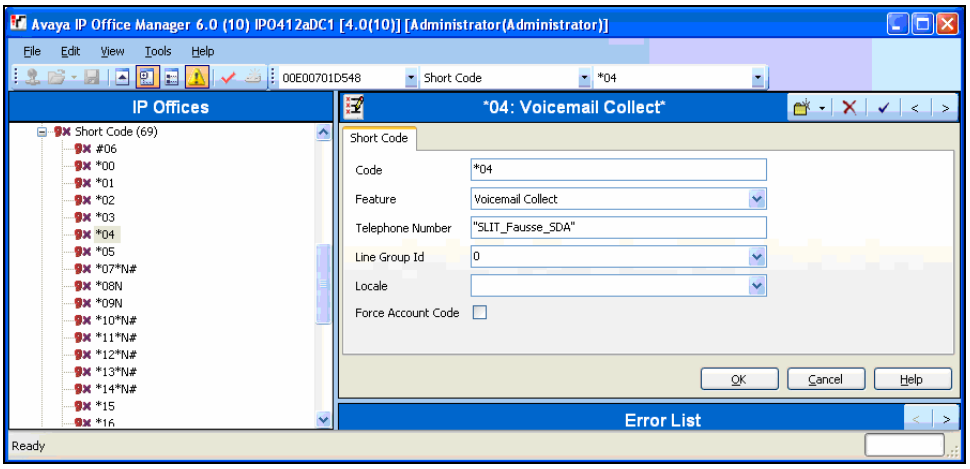
- **PSTN outgoing:** This short code passes a patient, who wishes to call a PSTN number, into Voicemail Pro where a script asks them for their account code or PIN and checks their balance before authorising or denying the call.
- **PSTN incoming:** This short code passes an incoming PSTN caller into Voicemail Pro where a script asks them to enter the extension or room number of the patient they are calling.
- **Trunk access:** This short code is used by Voicemail Pro when it routes an authorised caller back to Avaya IP Office. The short code will route the call out to the PSTN.

To add a short code in the Avaya IP Office Manager application, right-click on **Short Codes** in the left hand pane and select **Add New** from the drop-down menu.

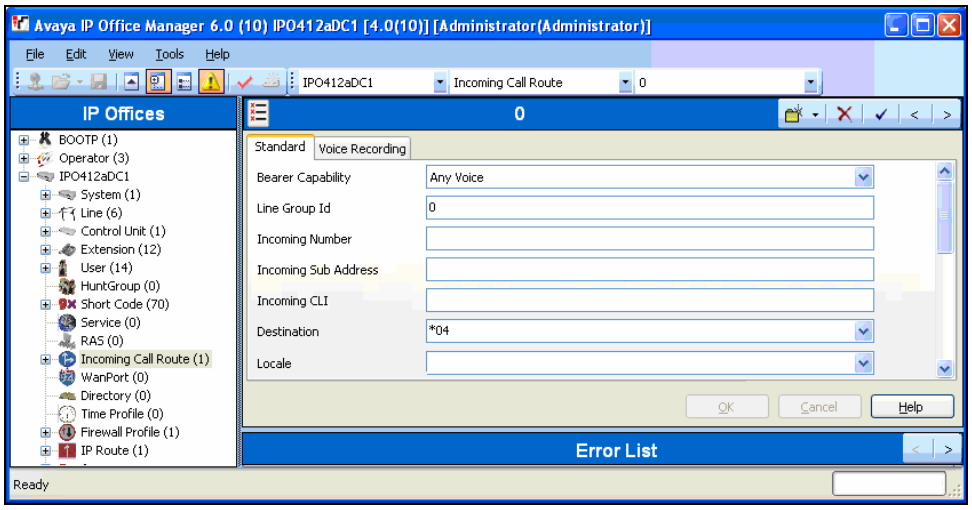
Configure the fields in the **Short Code** tab as per the following table.

Short Code Type	Code	Feature	Telephone Number
PSTN outgoing	XN	Voicemail Collect	"SLIT_Clef"
PSTN incoming	X	Voicemail Collect	"SLIT_Fausse_SDA"
Trunk access	XN	Dial	Leave blank

"X" represents any combination of digit(s) 1-9, * and #; and must be different for each short code. The rest of the fields may be left at their defaults. Once completed, select **OK**.



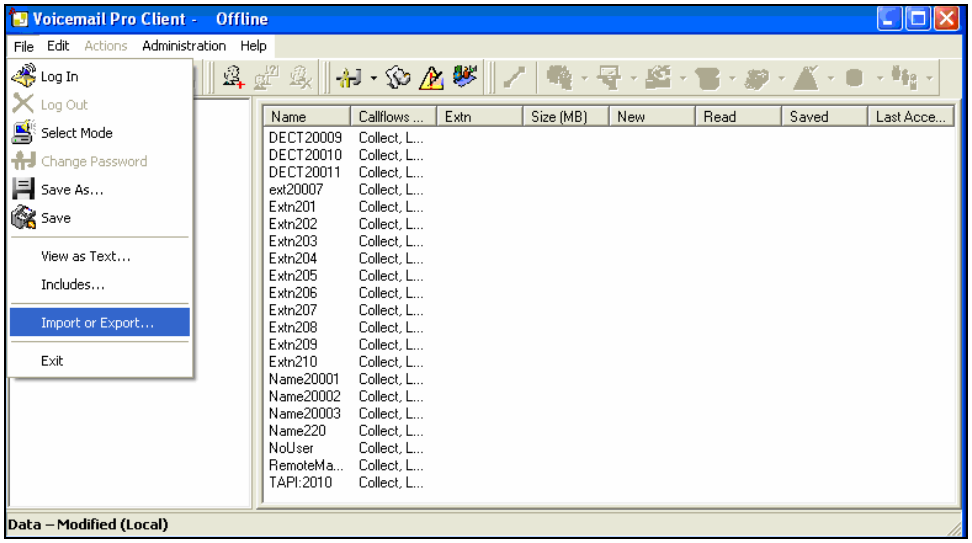
The PSTN incoming short code must be added to the **Incoming Call Route** settings as follows. Right-click **Incoming Call Route** in the left-hand pane and select **Add New** from the drop-down menu. In the **Standard** tab, enter the PSTN incoming short code into the **Destination** field and select **OK** when completed.



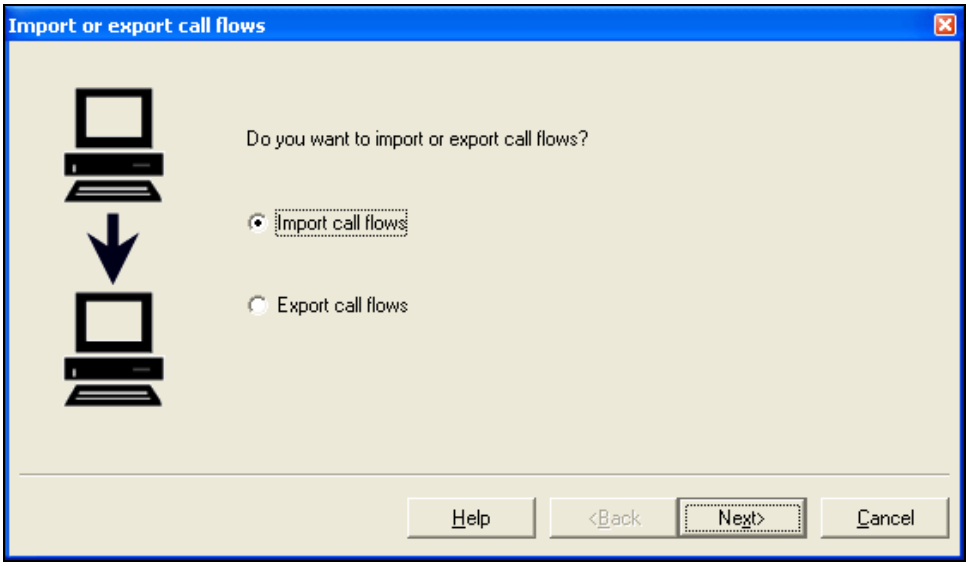
3.3. Configure Voicemail Pro

The Avaya IP Office Voicemail Pro module is used to control whether or not patients are allowed to perform external calls, and also to route incoming calls to the right extension. For that, a series of scripts is used. This section focuses on the installation of these scripts into the Voicemail Pro module.

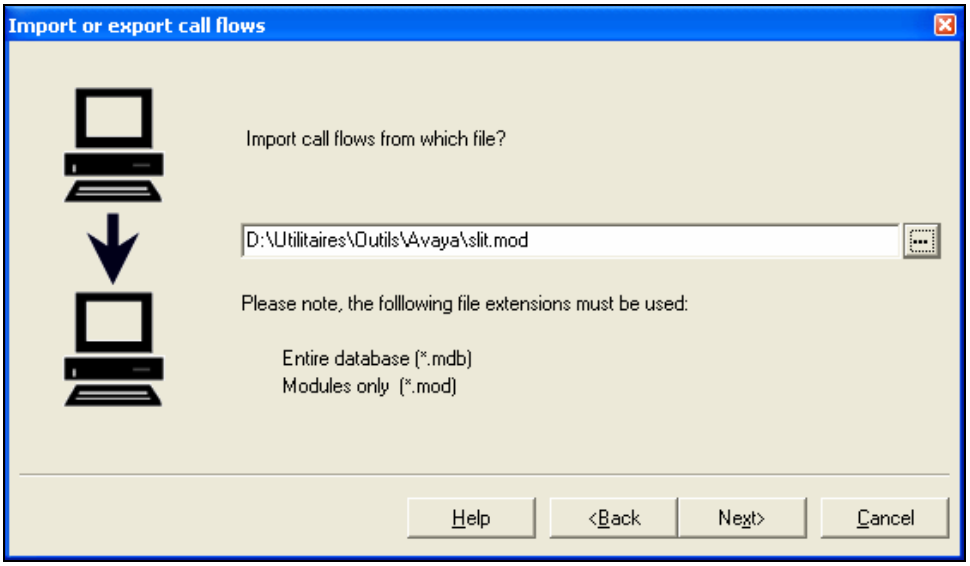
On the PC where the Voicemail Pro module is installed, insert the NovaProHop CS installation CD. Select **Start > Programs > IP Office > Voicemail Pro Client** to open the Voicemail Pro Client program. Select **File > Import or Export**.



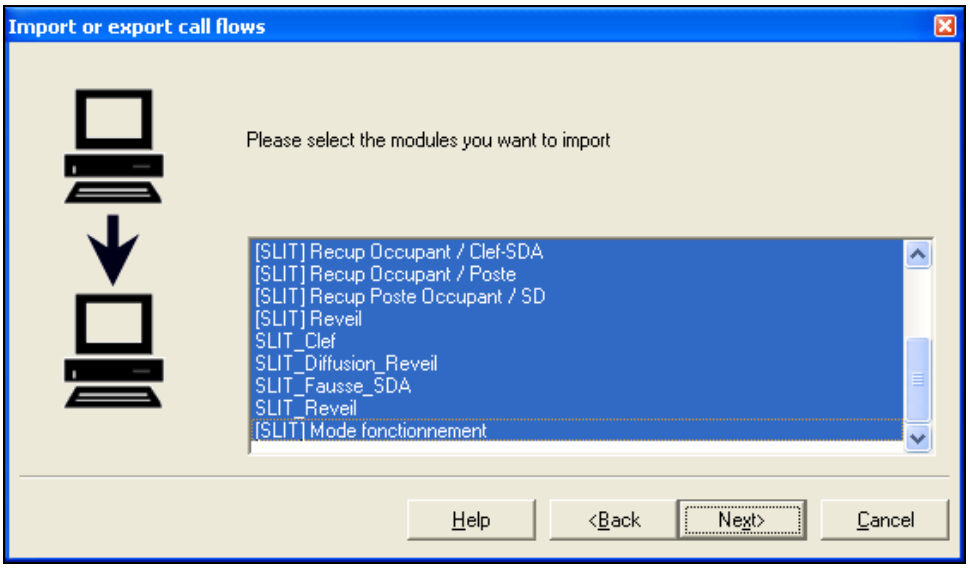
On the first **Import or export call flows** screen, select the **Import call flows** radio button and select **Next**.



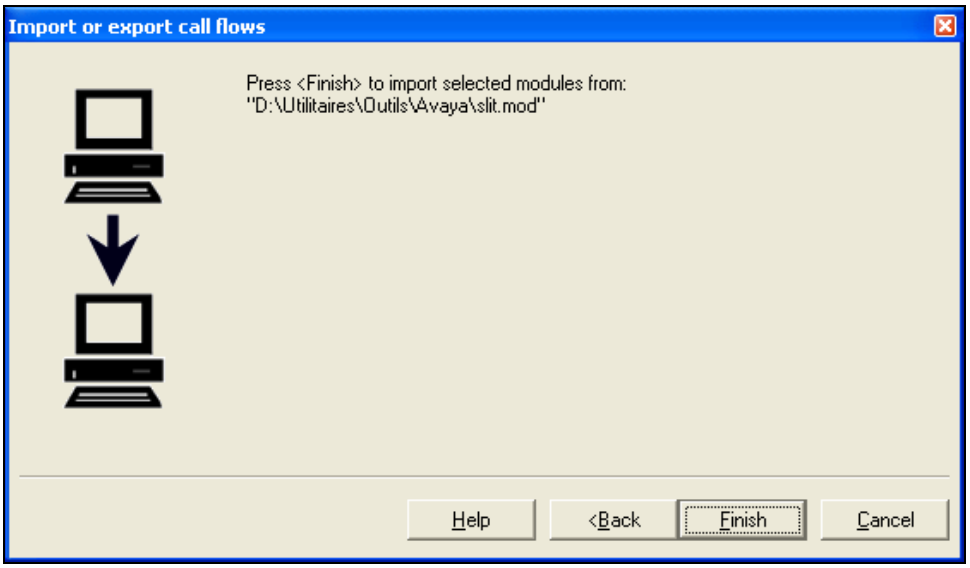
On the second **Import or export call flows** screen, enter "D:\Utilitaires\Outils\Avaya\slit.mod" into the text box (this assumes the NovaProHop installation CD has been inserted into the D: drive). Once completed, select **Next**.



On the third **Import or export call flows** screen, select all the modules in the list (by selecting the first, then holding down the Shift key and selecting the last module). Once completed, select **Next**.



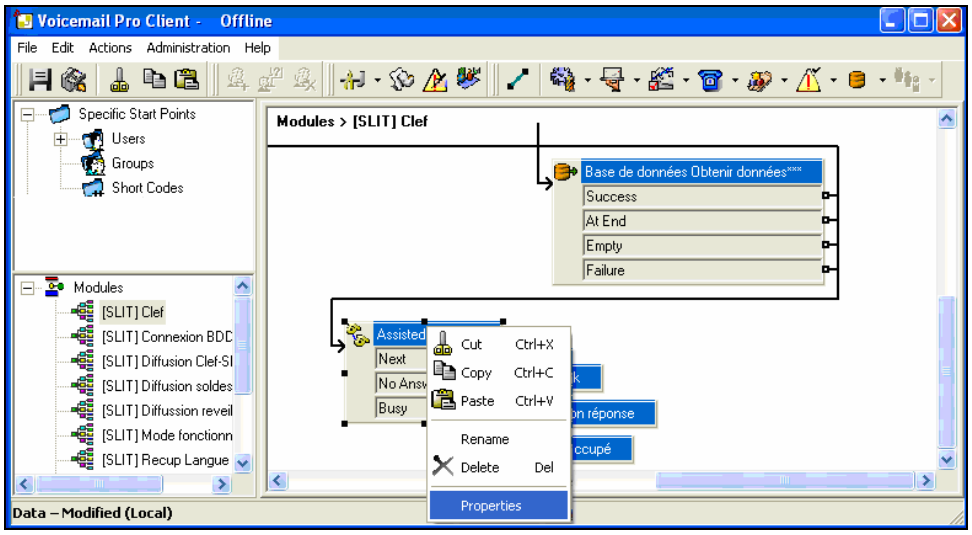
On the final **Import or export call flows** screen, select **Finish**.



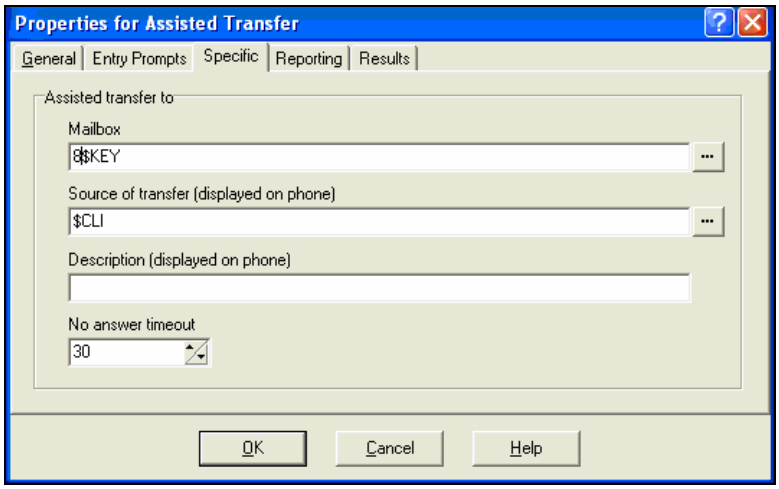
A confirmation box will appear, select **OK**.

The next step is to copy the .WAV files into the correct directory. Open the NovaProHop install CD in **Windows Explorer** and browse to "\Utilitaires\Outils\Avaya". Copy the "slit" folder and paste into "C:\Program Files\Avaya\IP Office\Voicemail Pro\VM\WAVS", assuming Voicemail Pro was installed into its default location on the PC's C: drive.

The final step is to ensure that Voicemail Pro inserts the correct short code, for trunk access, when it transfers the caller back to Avaya IP Office. Open **Voicemail Pro Client** and, in the **Modules** pane, select the **[SLIT] Clef** module. This will bring up a workflow in the main pane. Move to the bottom right hand corner of this pane, right click on the **Assisted Transfer** node and select **Properties** from the drop down menu.



On the **Properties for Assisted Transfer** screen, select the **Specific** tab. Enter "X$KEY" in the **Mailbox** field, where X is the trunk access short code assigned in **Section 3.2**. The other fields may be left at their defaults. Select **OK** when completed.



4. Configure SLIT NovaProHop CS

This section provides the procedures for configuring SLIT NovaProHop CS. The procedures include the following areas:

- Install the NovaProHop CS Software
- Configure the NovaProHop CS Software

It is expected that the installer is familiar with the standard configuration of SLIT NovaProHop CS as the focus of these Application Notes is on the configuration of the interface to Avaya IP Office only. For all other provisioning information, such as software installation, installation of optional components, basic configuration of SLIT NovaProHop CS, etc., refer to the SLIT NovaProHop CS product documentation in reference [2].

4.1. Install the NovaProHop CS Software

The initial configuration of NovaProHop is done during the installation from CD.

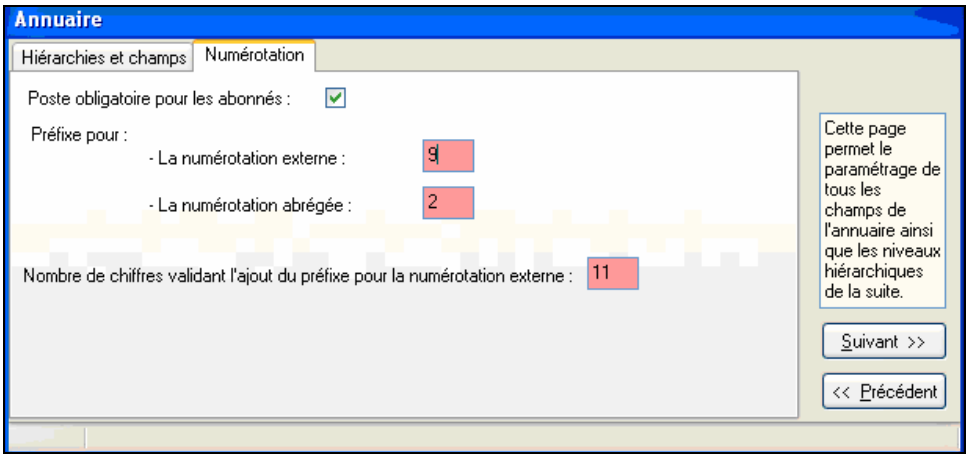
The configuration wizard starts when the **Licenses** screen is displayed. The following screens may be left at their defaults. Select **Suivant** to continue.

- **Licenses**
- **Parametres genereaux**
- **Historiques/Journaux**
- **Utilisateurs et profiles**

On the **Annuaire** screen, select the **Numerotation** tab. Configure the fields as follows.

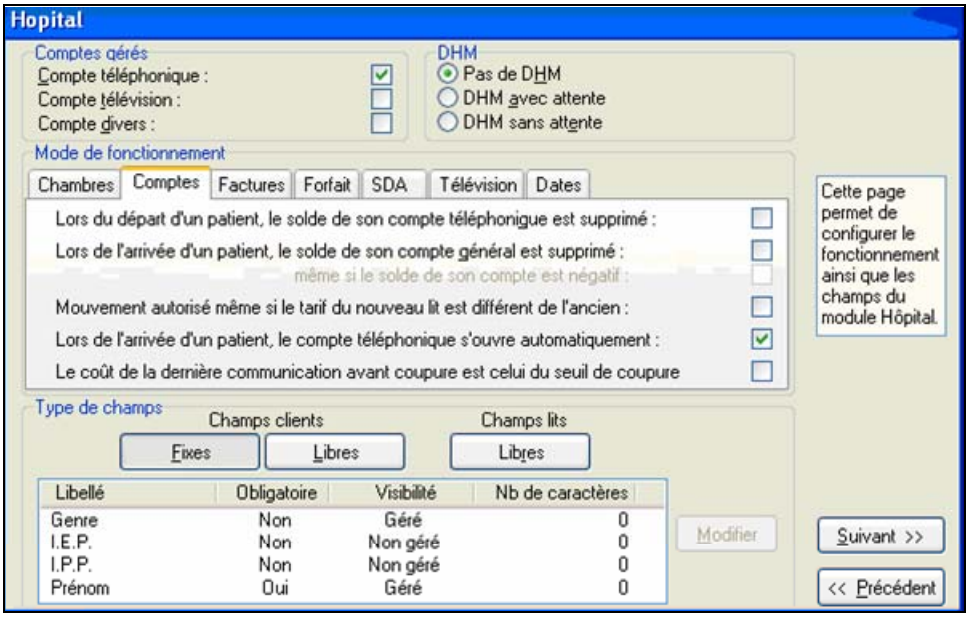
- **La numérotation externe:** Enter the short code used for accessing an external line.
- **La numérotation abrégée:** Enter the initial digit of the Avaya IP Office extensions.
- **Nombre de chiffres validant l'ajout du préfixe pour la numérotation externe:** Enter the amount of digits (not including the short code) required to dial an external number.

Once completed, select **Suivant**.

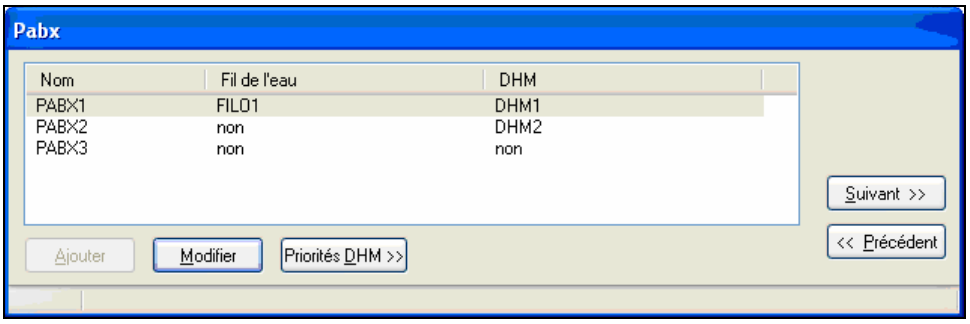


On the **Hopital** screen, ensure that the following checkboxes are checked:

- **Pas de DHM**
- **Compte téléphonique**
- **Lors de l'arrivée d'un patient, le compte téléphonique s'ouvre automatiquement**



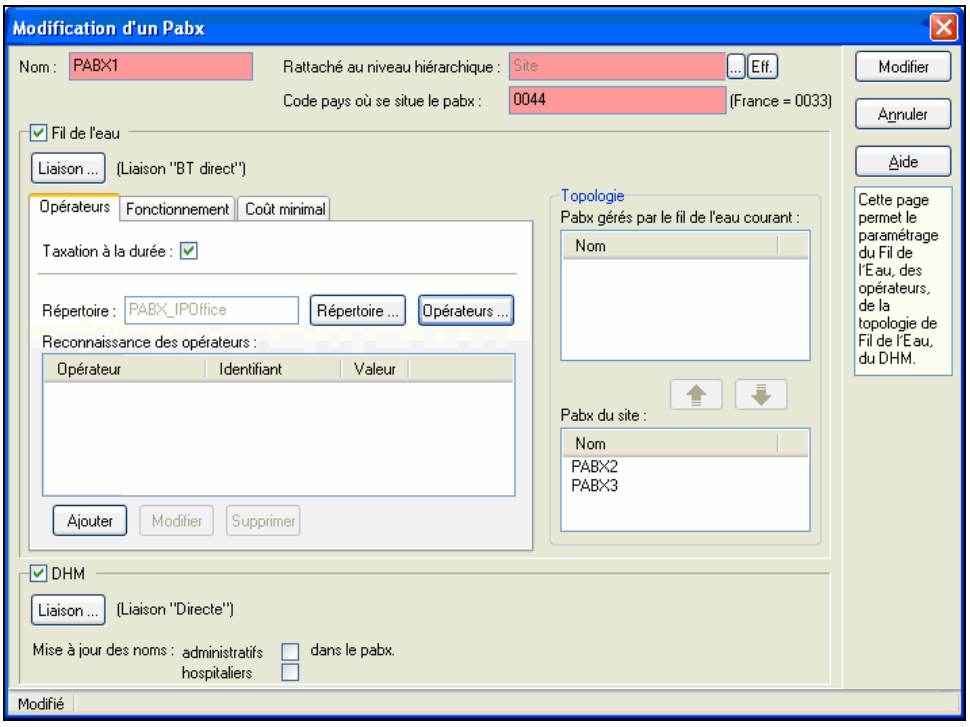
On the **Pabx** screen, select the link you wish to configure and select **Modifier**.



On the **Modification d'un Pabx** screen, configure the fields as follows.

- **Nom:** Enter a descriptive name.
- **Code pays où se situe le pabx:** Enter the international dial code for the country of install.

The rest of the fields may be left at their defaults. Once completed, select the **Liaison** button under the **Fil de l'eau** checkbox.



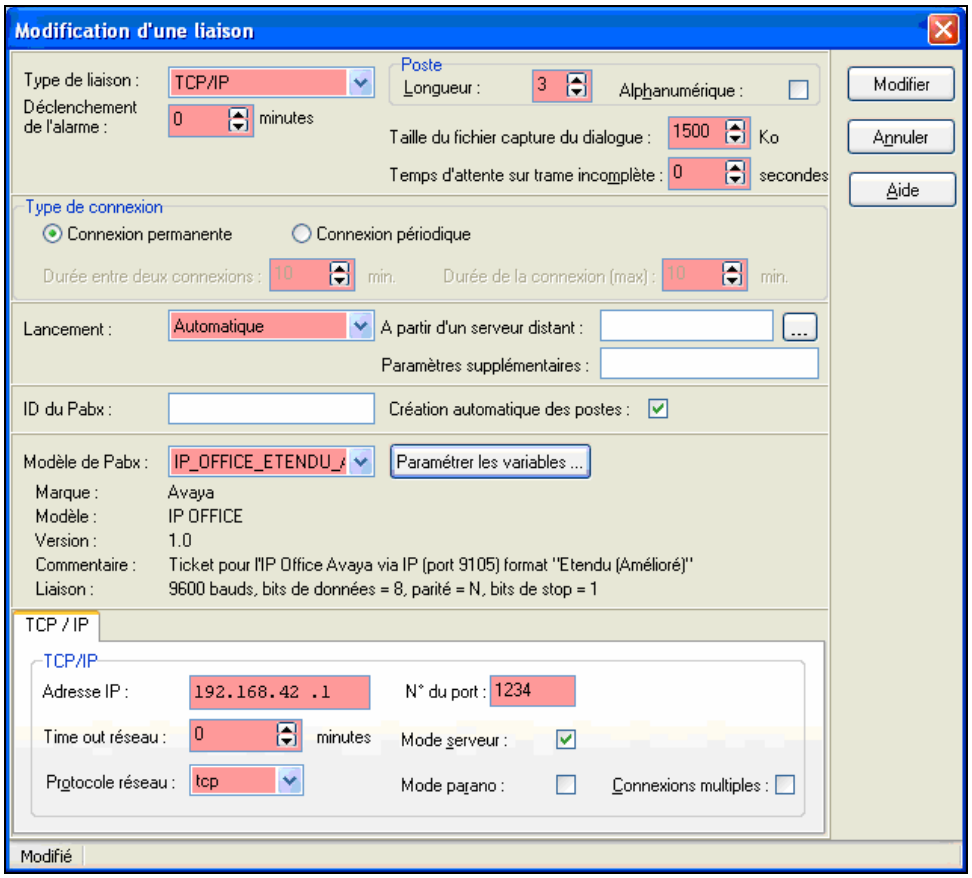
On the **Modification d'une liaison** screen, configure the fields as follows.

- **Type de liaison:** "TCP/IP"
- **Longueur:** Enter the length of the IP Office extensions.
- **Lancement:** Select "Automatique" from the drop down list.
- **Modèle de Pabx:** Select "IP_OFFICE_ETENDU_AMELIORE" from the drop down list.

On the **TCP/IP** tab, check the **Mode Serveur** checkbox and configure the fields as follows.

- **Adresse IP:** Enter the IP address of the IP Office.
- **N^{0} du port:** Enter the port number used by the IP Office to export the CDR statistics.
- **Protocole réseau:** Select "tcp" from the drop down list.

The rest of the fields may be left at their defaults. Once completed, select **Modifier** on both the **Modification d'une liaison** and **Modification d'un Pabx** screens; select **Suivant** on the **Pabx** screen.



The following screens may be left at their defaults. Select **Suivant** in each case to continue.

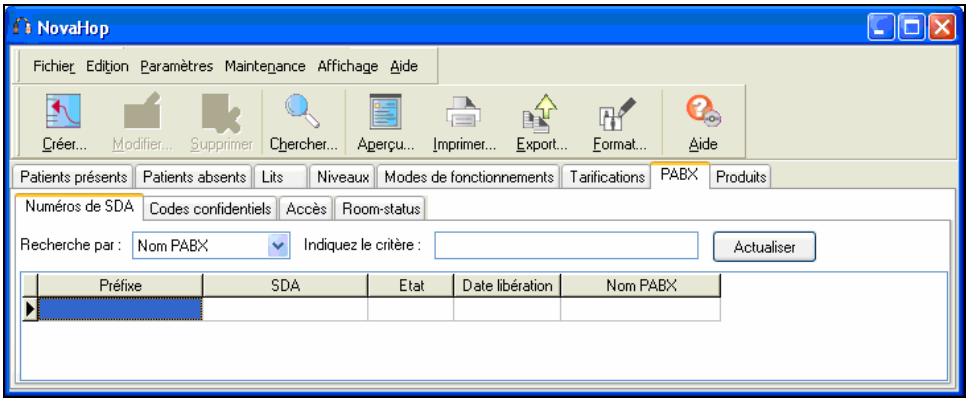
- **Pools**
- **Passerelles**
- **Supervision**
- **WebServices**
- **Gestion des alarmes et surveillance réseau**
- **Maintenance**

This completes the installation of the NovaProHop CS software.

4.2. Configure the NovaProHop CS Software

On the PC where NovaProHop CS is installed, select **Start** > **Programs** > **NovaCS** > **Lanceur** and select **NovaHop** from the launch screen (not shown).

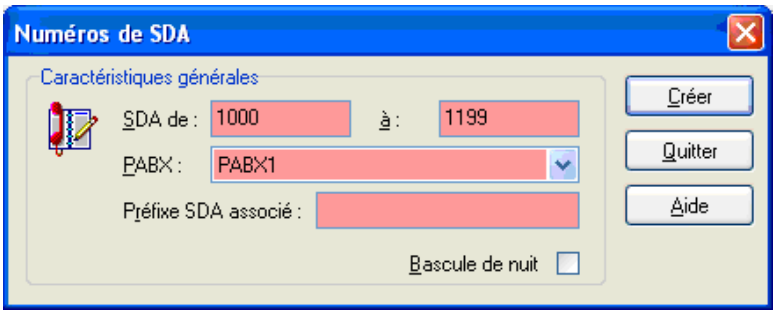
On the **NovaHop** screen select the **PABX** tab, then beneath this select the **Numéros de SDA** tab. Select **Créer...**



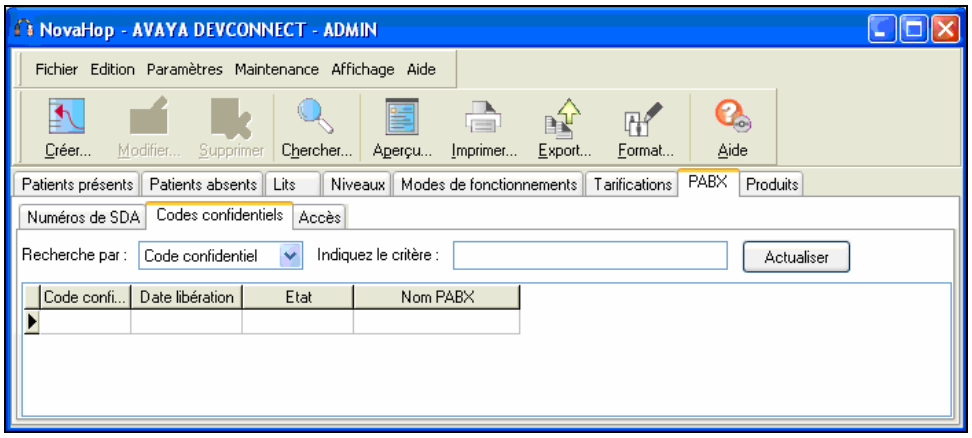
On the **Numéros de SDA** screen, configure the fields as follows.

- **SDA de:** Enter the first Avaya IP Office extension in the range available to be assigned for accounts.
- **à**: Enter the last Avaya IP Office extension in the range available to be assigned for accounts.
- **PABX:** Select the PBX created in **Section 4.1**

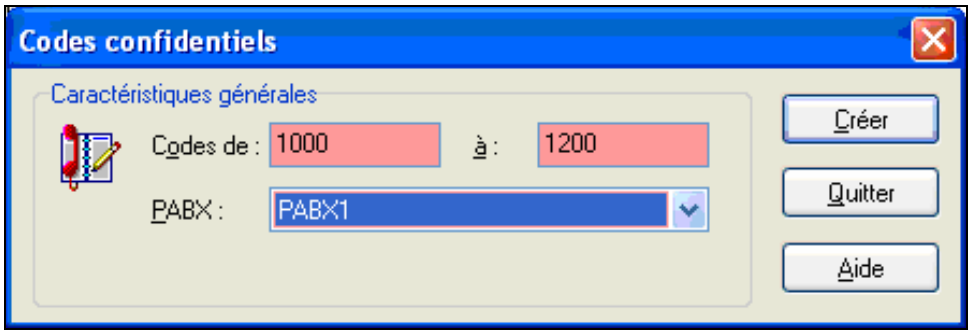
Once completed, select **Créer**.



On the **NovaHop** screen select the **PABX** tab, then beneath this select the **Codes confidentiels** tab. Select **Créer.**



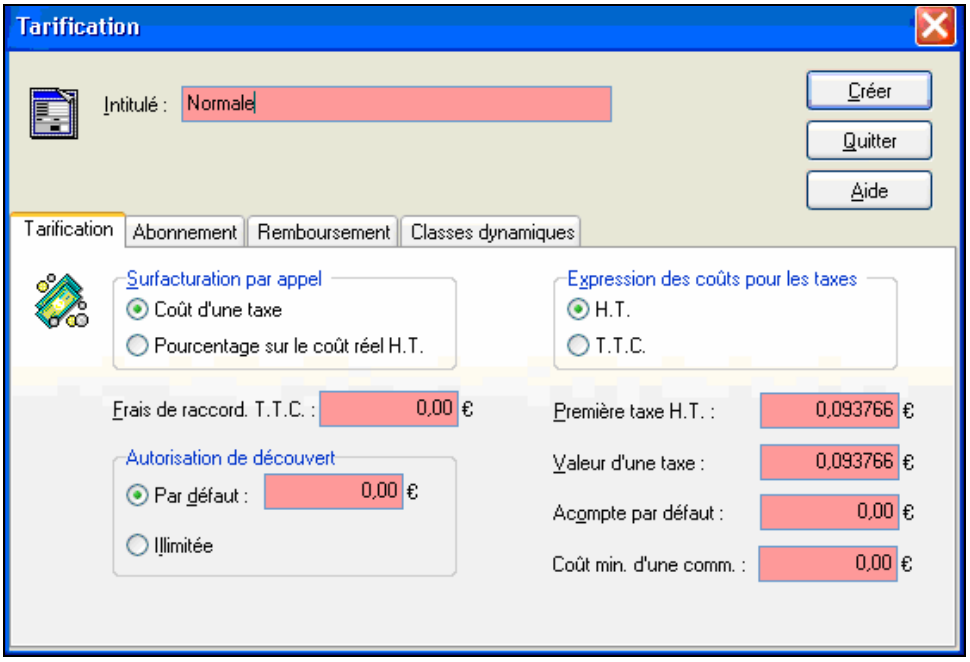
On the **Codes confidentiels** screen, enter the range of PIN numbers to be used for accounts and select the PBX created in **Section 4.1**. Once completed, select **Créer**.



On the **NovaHop** screen, select the **Tarifications** tab then select **Créer**.On the **Tarification** screen, select the **Tarification** tab. Enter a descriptive name in the **Intitulé** field and configure the remaining fields as follows.

- **Frais de raccord T.T.C:** Enter the price for telephony services.
- **Autorisation de découvert:** Select the **par défaut** radio button and in the resulting field enter the amount of negative balance authorised for a patient.

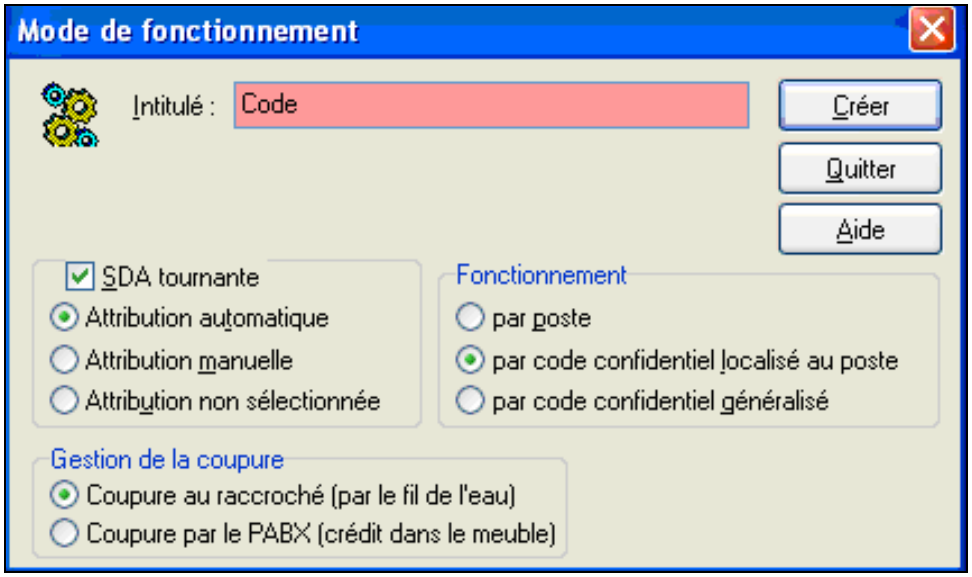
The rest of the fields may be left at their defaults. Once completed, select **Créer**.



On the **NovaHop** screen, select the **Modes de fonctionnements** tab then select **Créer**. On the **Mode de fonctionnement** screen, enter a descriptive name in the **Intitulé** field. Ensure the **SDA tournante** checkbox is checked and that the following radio buttons are selected.

- **Attribution automatique:** This automatically assigns a DDI to a new account.
- **par code confidential localisé au poste:** This enables PIN codes for accounts.
- **Coupure au raccroché (par le fil de l'eau):** This prohibits a guest from dialling external numbers if they have a negative balance.

Once completed, select **Créer**.



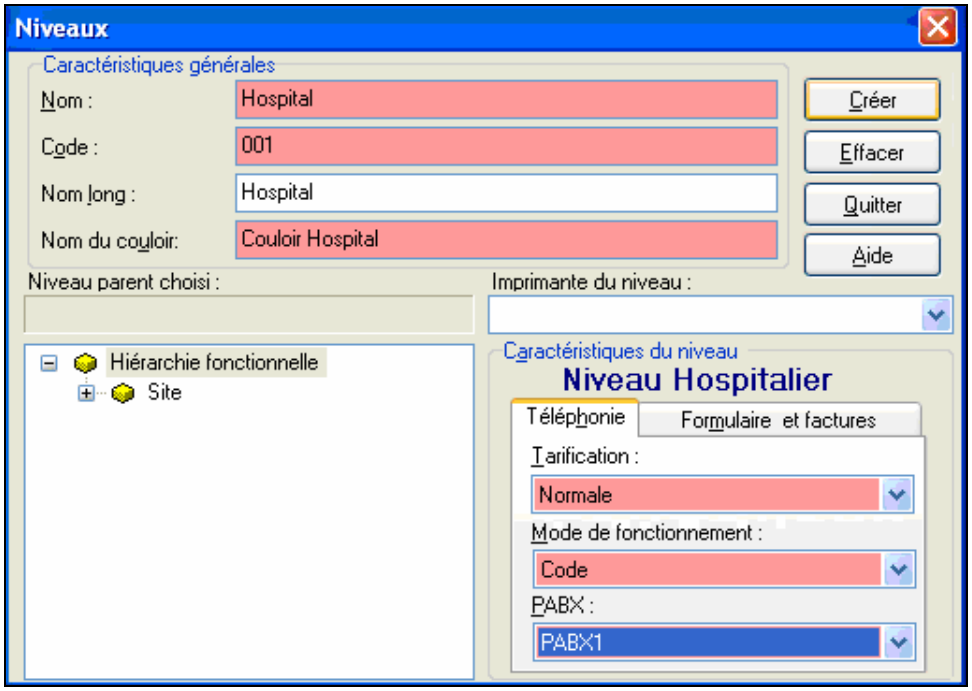
On the **NovaHop** screen, select the **Niveaux** tab then select **Créer**. On the **Niveaux** (hierarchy) screen, configure the fields as follows.

- **Nom:** Enter a descriptive name for the hierachy.
- **Code:** Enter a unique numeric ID for the hierarchy.

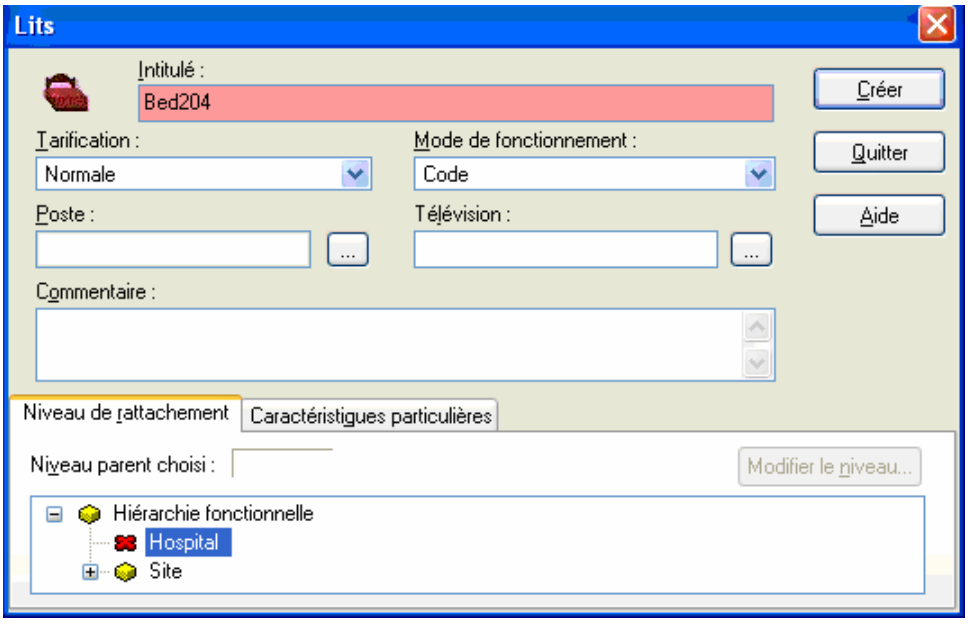
Under the **Niveau Hospitalier** heading, select the **Téléphonie** tab and select from the drop down boxes as follows.

- **Tarification:** "Normale"
- **Mode de fonctionnement:** Enter the mode created above.
- **PABX:** Enter the PBX created in **Section 4.1**.

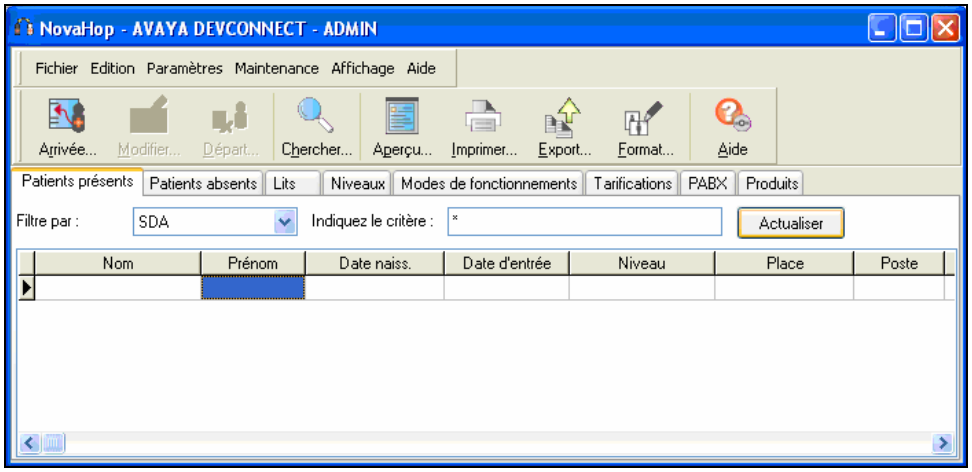
Leave the remaining fields at their default values. Once completed, select **Créer**.



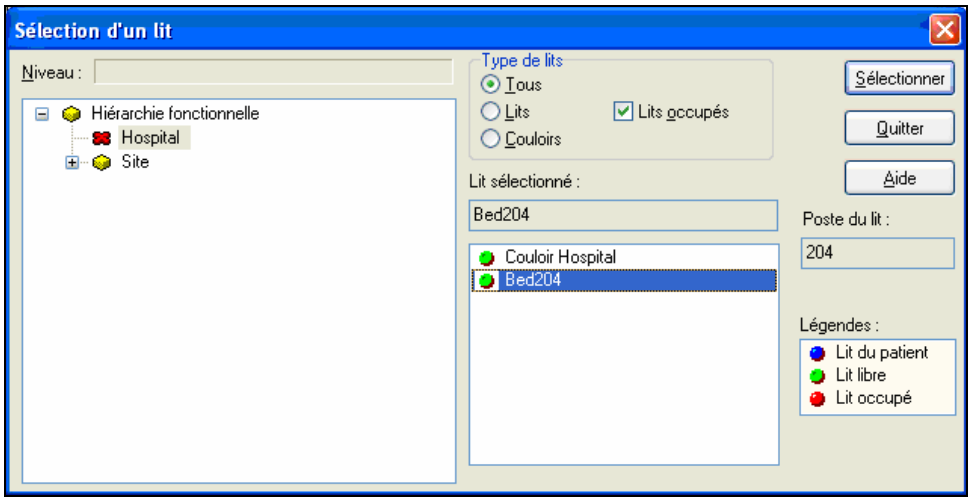
On the **NovaHop** screen, select the **Lits** tab then select **Créer**. On the **Lits** screen, enter a descriptive name for the bed in the **Intitulé** field. Select from the **Mode de fonctionnement** drop-down box the mode used in the previously shown screen. On the **Niveau de rattachement** tab, expand **Hiérachie fonctionelle** and select the hierarchy created above. Leave the remaining fields at their default values. Once completed, select **Créer**.



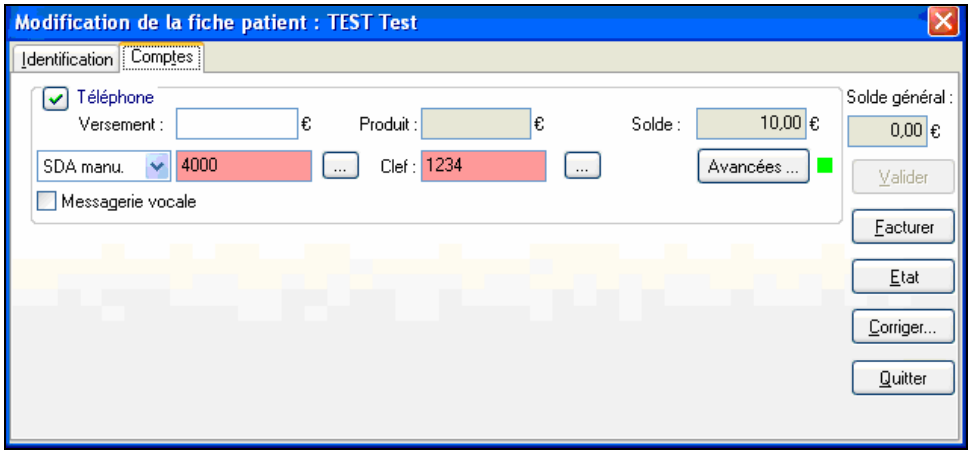
On the **NovaHop** screen, select the **Patients présents** tab. To check in a patient, enter their surname in the **Nom** column and their first name in the **Prénom** column and select **Arrivée**.



On the **Sélection d'un lit** screen, expand **Hiérachie fonctionnelle** and select **Hospital**. In the box beneath **Lit sélectionné,** select the bed you wish to use, then select **Sélectionner**.



On the **Modification de la fiche patient** screen, select the **Comptes** tab, click on the button, which will change to a , and will enable the telephony account. Enter appropriate values for the telephony tarifs, if required. Once completed, select **Valider**, then **Quitter**.



This completes the configuration of NovaProHop CS.

5. Interoperability Compliance Testing

The interoperability compliance testing included feature and serviceability testing.

The feature testing focused on the ability of SLIT NovaProHop CS to receive and present Avaya IP Office CDR records.

The serviceability testing focused on verifying the ability of SLIT NovaProHop CS to recover from an outage condition, such as disconnecting the Ethernet cable for the CDR link.

5.1. General Test Approach

All feature and serviceability test cases were performed manually. The verification included checking the states at the telephone sets and viewing both raw and processed CDR records on SLIT NovaProHop CS.

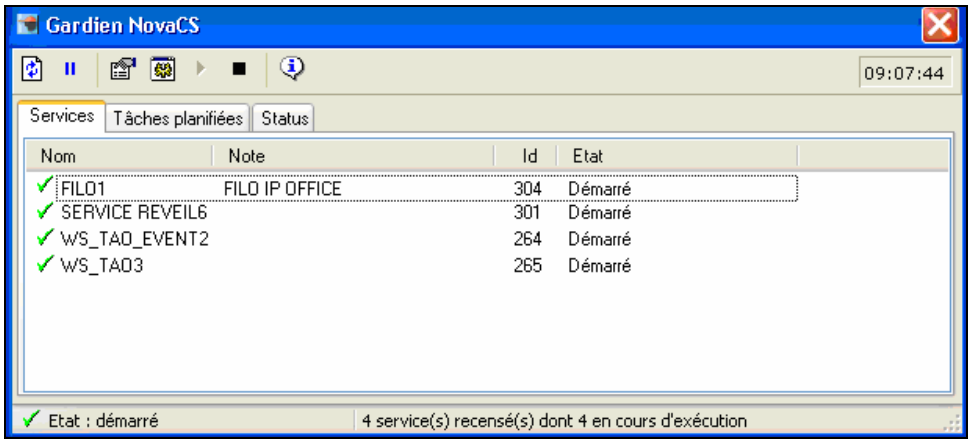
5.2. Test Results

All test cases passed successfully.

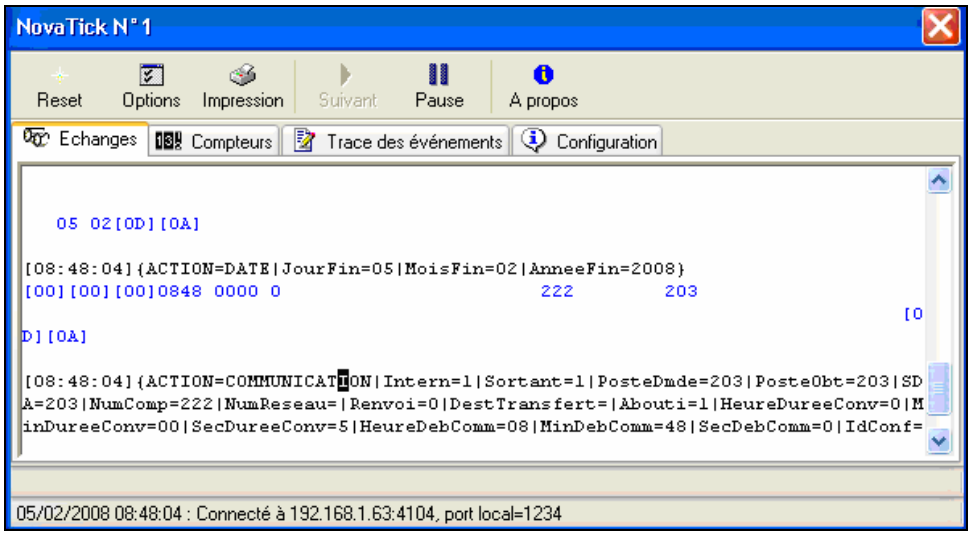
6. Verification Steps

This section provides the steps that can be performed to verify proper configuration of the CDR link between Avaya IP Office and NovaProHop CS.

On the PC where NovaProHop CS is installed, double click on the icon in the system tray. On the **Gardien NovaCS** screen, select the **Services** tab. Double click the entry corresponding to the PBX link created in **Section 4.1**.



The **NovaTick N°1** screen is presented, as shown below. Make a call between two Avaya IP Office extensions and check that the CDR record appears on the **Nova Tick** application.



7. Support

Technical support on SLIT NovaProHop CS can be obtained through the following:

- **Phone:** +33 4 72 10 16 20
- **Email:** support@slit.fr

8. Conclusion

These Application Notes describe the configuration steps required for SLIT NovaProHop CS to successfully interoperate with Avaya IP Office.

9. Additional References

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

[1] *IP Office 4.0 Installation Manual*, Document ID 15-601042, Issue 15e, January 2007, available at:
http://support.avaya.com.

[2] Documentation for SLIT NovaProHop CS is available, on request from:
http://www.slit.fr

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.