## Avaya Solution & Interoperability Test Lab

# Application Notes for GT2F GT-HOSP with Avaya IP Office 500 v2 R9.0 - Issue 1.0

## Abstract

These Application Notes describe the configuration steps required for GT-HOSP to interoperate with Avaya IP Office 500 v2 R9.0.

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 outline the steps necessary to configure GT-HOSP from GT2F to interoperate with Avaya IP Office. GT-HOSP is a graphical hospitality user interface. It is commonly used in hotels to provide a way to control usage of room facilities. GT-HOSP uses XML based communication for hospitality control of the IP Office. Hospitality features are translated into a set of XML commands which are passed by a secure IP port to the IP Office. The GT-HOSP software can also be supplied in a Business version.

GT-HOSP provides the following features with the IP Office:

- **Check-In**
- **DDI Allocation**
- **Update Name** - A facility that updates the display name of the station in Avaya IP Office.
- **Room Transfer**
- **Telephone Service Class**
- **Check-out**
- **Room Status** –
- **SMDR**: call billing (hospitality and business mode) and analysis (in business mode)

Not supported: Voicemail / Message waiting / Wakeup

# 2. General Test Approach and Test Results

The general test approach was to configure GT-HOSP to communicate with IP Office as implemented on a customer's premises. Feature functionality testing was performed manually. During compliance testing the GT- HOSP was installed on a Windows 2008 server operating system; it may also be installed on Windows XP, Windows Vista, Windows 7, Windows 2003 Server or Windows 8 operating systems.

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 included feature and serviceability testing. The feature testing evaluated the ability of GT-HOSP to carry out hospitality functions through XML based communication with IP Office. The serviceability testing introduced failure scenarios to see if GT-HOSP could resume after a link failure with IP Office. The testing included:

- Check-In
- DDI
- Update Name
- Room Transfer
- Telephone Service Class
- Check-out
- Room Status
- Link Failure/Recovery
- Prepay

The SMDR test cases included:

- Local internal call handling
- Handling of Incoming Network calls
- Handling of External Calls
- Call Forwarding on busy/No Answer/Unconditional
- Transfers – Blind and Supervised
- Conference Calls
- Account Codes
- Call Park
- Call Pickup
- Auto Call back

## 2.2. Test Results

Tests were performed to ensure full interoperability between GT-HOSP and IP Office. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully with the following observation:

It is possible to exceed the Prepay limit.
**Example:** Where Hotel guests are using the Prepay facility they may exceed the Prepay limit, if the limit was not reached on the previous call. GT-HOSP only calculates the cost of each call after it is completed, therefore, if the current call incurs a charge greater than the value remaining, the call will be allowed to continue. Future calls are barred.

## 2.3. Support

Technical support from GT2F can be obtained through the following:

Phone: +33 8 92 140 150 (French Customers)
+33 4 66 62 94 65 (International Customers)

E-mail: hotline@gt2f.com

# 3. Reference Configuration

**Figure 1** illustrates the network topology used during compliance testing. The Avaya solution consists of an IP Office 500v2 which has a TCP/IP link established to the GT-HOSP server.

- For the SMDR feature call records were sent to an agreed port number on GT-HOSP server from the IP Office.
- For the Hospitality, XML commands were passed via secure IP port on the IP Office for replication of the hospitality features.

Digital, H323 and Soft phones were configured on the IP Office to generate outbound/inbound calls to/from the PSTN. A QSIG trunk was configured to connect to the PSTN. Some telephones configured on the IP Office also acted as Hotel Room extensions when testing the GT-HOSP hospitality feature.

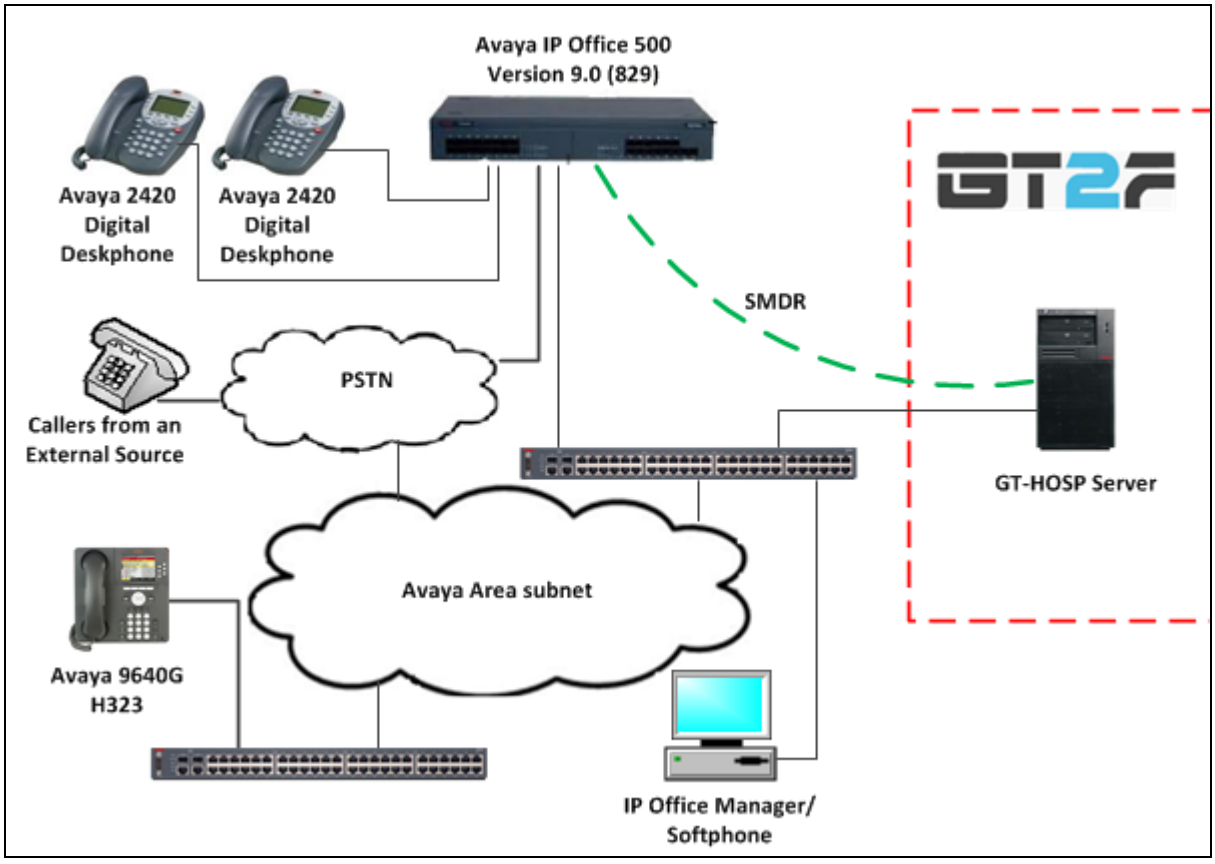



**Figure 1: Avaya and GT2F Reference Configuration**

# 4. Equipment and Software Validated

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

| Avaya Equipment | Software / Firmware Version |
|---|---|
| Avaya IP Office 500v2<br>Phone8 Analog Module<br>DIGSTA8 Digital Module | 9.0 Build 829<br>9.0.0.829<br>9.0.0.829 |
| Avaya IP Office Manager | 9.0 Build 829 |
| Avaya 9630 IP Telephone | Release 3.2 |
| Avaya 2420 Digital Telephones | -- |
| Avaya IP Office softphone | 3.2.3.49 68975 |
| Avaya Analogue Telephone | -- |
| **GT2F Equipment** | **Software / Firmware Version** |
| GT-HOSP- CONNECTOR MODULE<br>(SMDR and hospitality command) | 1.0.0.3 |
| GT-HOSP- CENTRAL MODULE<br>(DB and software management) | 1.0.0.3 |
| GT-HOSP- REPORT MODULE<br>(HOSPITALITY – end user interface) | 1.0.0.3 |
| FireFox | 32.0.2 |
| Firebird | 2.5.2 |
| MS C++ Runtime 2005 | 8.0 |
| MS .Net | 4.0 |

**Note:** During compliance testing all GT2F Equipment was installed on a Dell PowerEdge R610 running a Windows Server 2008 R2 Enterprise SP1 operating system.

**Note:** Testing was performed with IP Office 500v2 R9.0, but it also applies to IP Office Server Edition R9.0. Note that IP Office Server Edition requires an Expansion IP Office 500 v2 R9.0 to support analog or digital endpoints or trunks. IP Office Server Edition does not support TAPI Wave or Group Voicemail.

# 5. Avaya IP Office Configuration

Configuration and verification operations on 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 with the necessary licensing. 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:

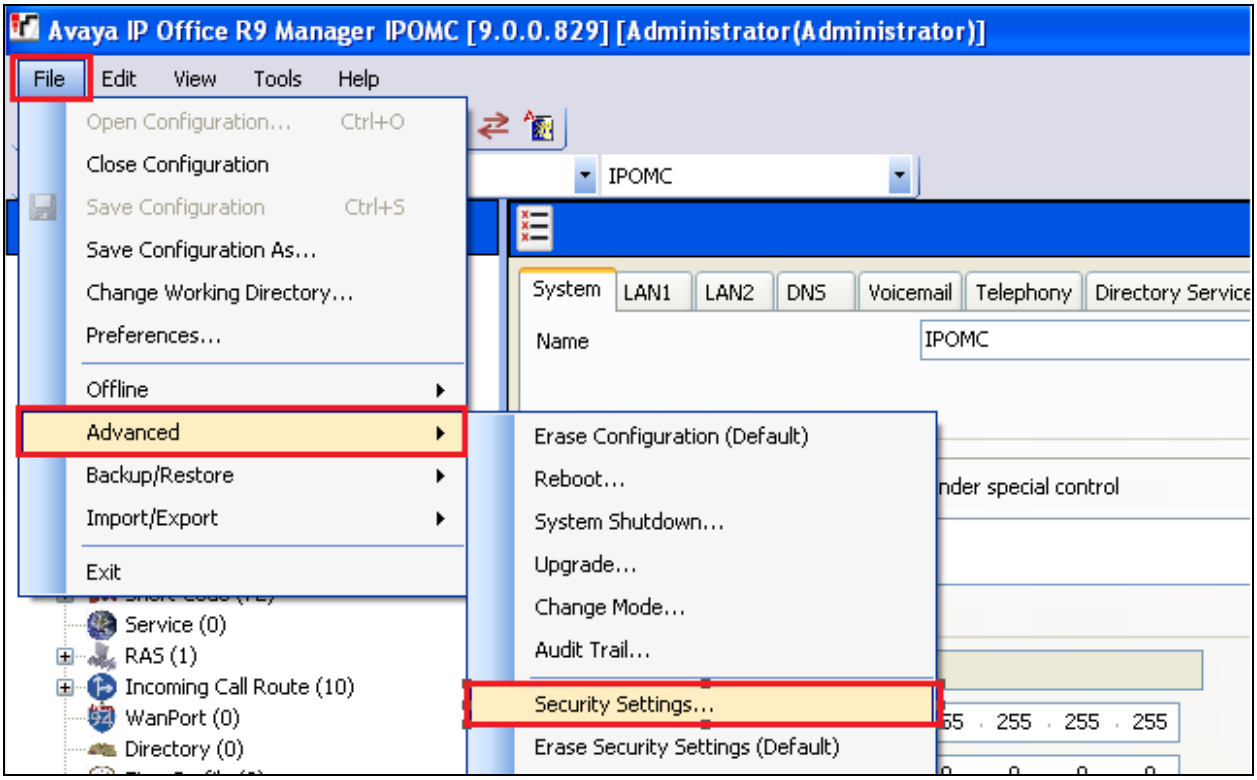
- Launch Avaya IP Office Manager (Security)
- Security Level
- Launch Avaya IP Office Manager (Administration)
- Configure System Locale
- Create Extensions
- Create Users
- Modify User Rights
- Create DDI Hunt Groups
- Create Short Codes
- SMDR Configuration
- Save Configuration

## 5.1. Launch Avaya IP Office Manager (Security)

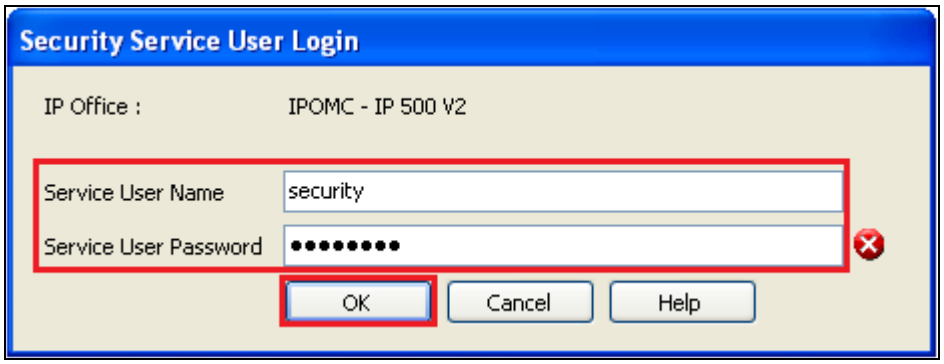
To Log in as a Security administrator first Log in as Administrator. From the IP Office Manager PC, go to **Start→Programs→IP Office→Manager** (not shown) to launch the Manager application. Select **File →Open Configuration**.

Select the appropriate IP Office and Log in using the **Service User Name** of **Administrator** and the appropriate **Service User Password** and click on the **OK** button. During compliance testing the System was called **IPOMC**.


Once the Configuration is opened select **File → Advanced → Security Settings**.

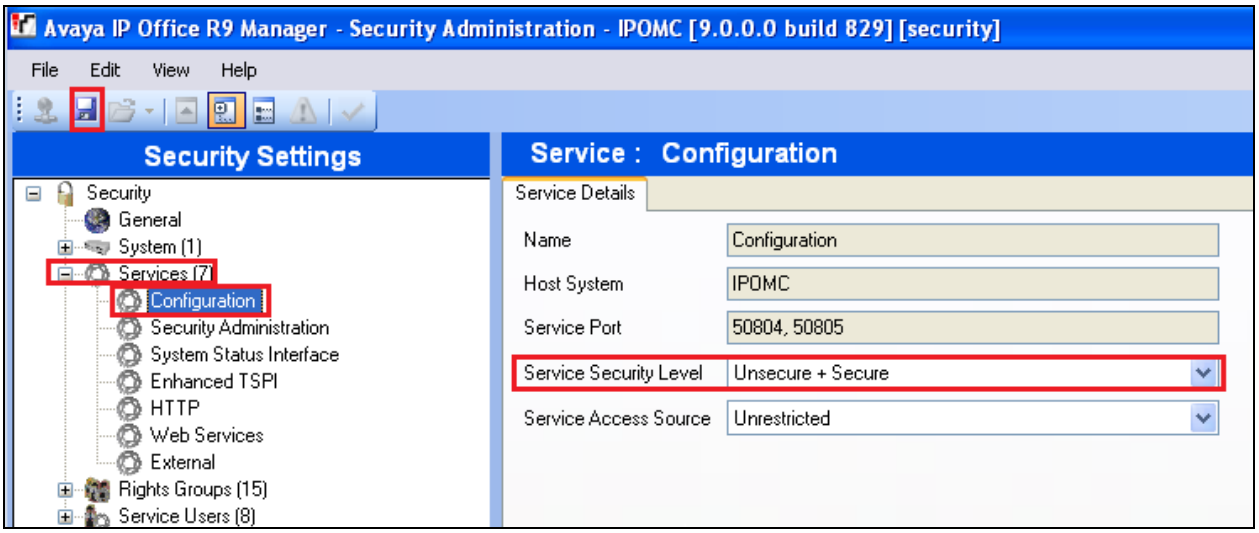


In the **Security Service User Login** window Log in using the **Service User Name** of **security** and the appropriate **Service User Password** and click **OK**.

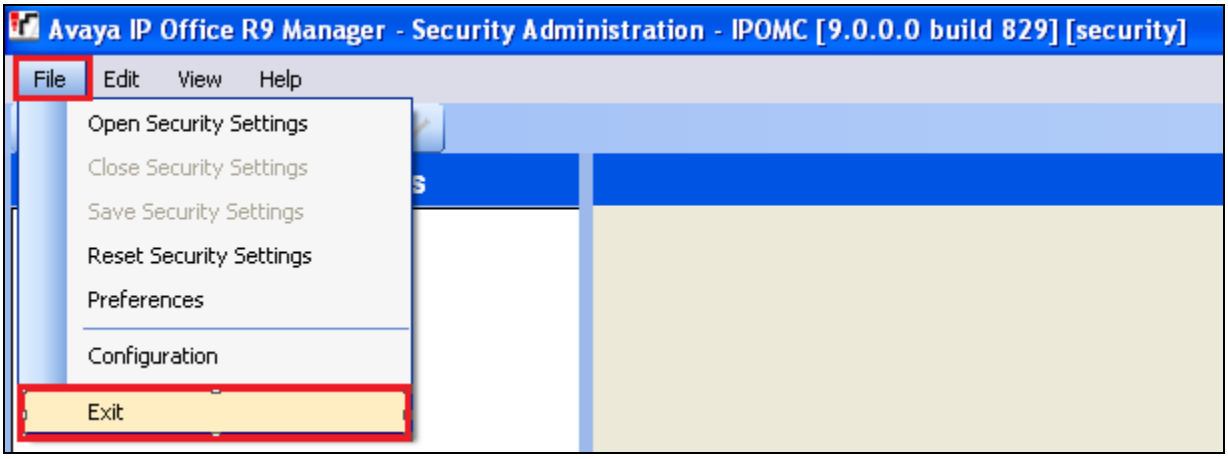



## 5.2. Security Level

Once the **Security Administration** page opens, select **Services → Configuration** and select **Unsecure + Secure** from the **Service Security Level** drop-down box and click on the **OK** button (not shown). Click on the **Save** icon on the top of the window to save the new setting. Enter the appropriate **Service User Name** and **Service User Password** and click on **OK** button to complete (not shown).



To log out of the **Security Administration** click **File → Exit**.

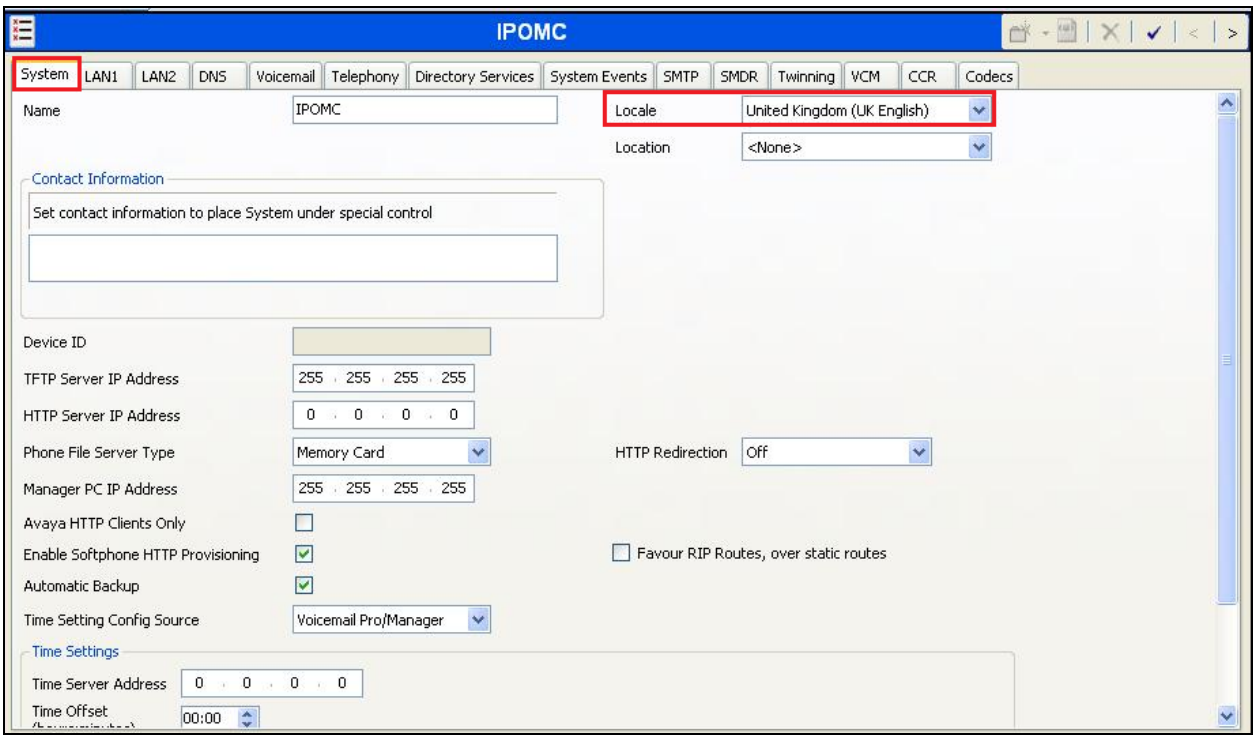



## 5.3. Launch Avaya IP Office Manager (Administration)

From the IP Office Manager PC, click **Start→Programs→IP Office→Manager** (not shown) to launch the Manager application. Log in to IP Office using the appropriate credentials to receive the IP Office configuration.

## 5.4. Configure System Locale

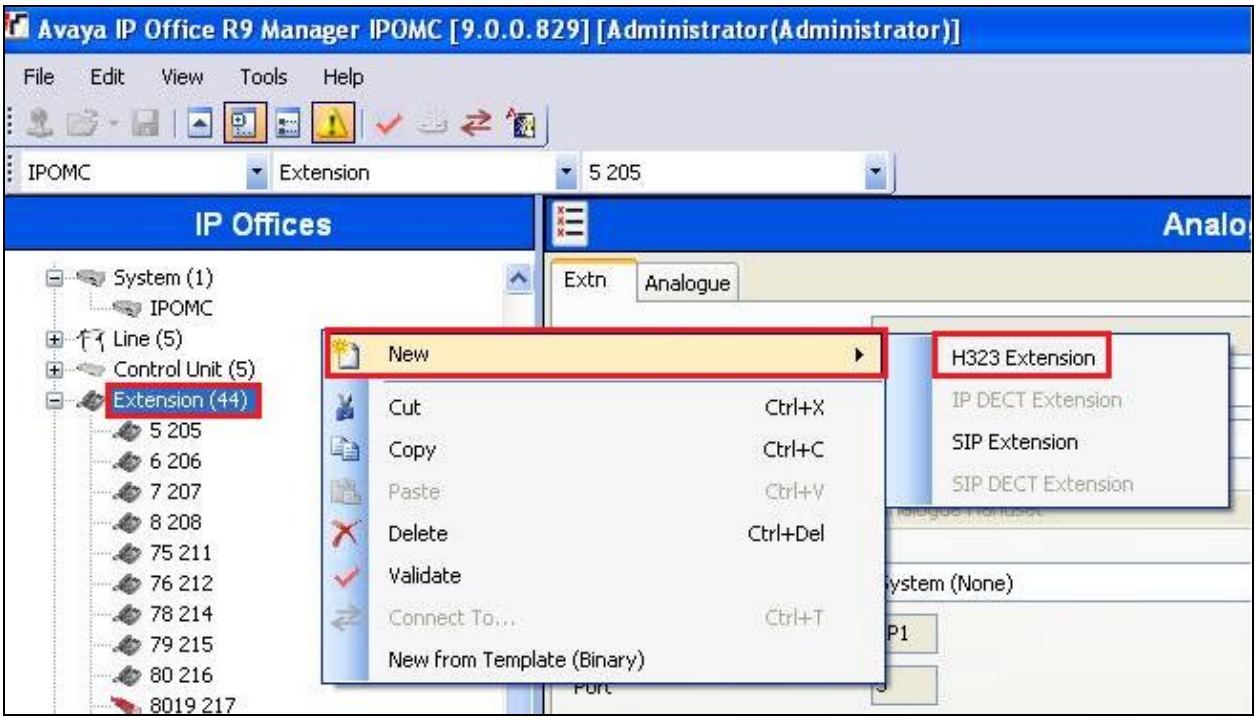
The Locale is usually the country where the IP Office is installed. By selecting the correct country, a number of system defaults for that country will be used by the IP Office. To configure the Locale, select **System** from the IP Office Configuration Tree (not shown). In the right hand pane select the **System** tab, and from the **Locale** dropdown box select the appropriate country (i.e. **United Kingdom (UK English)**). Click the **OK** button to save (not shown).



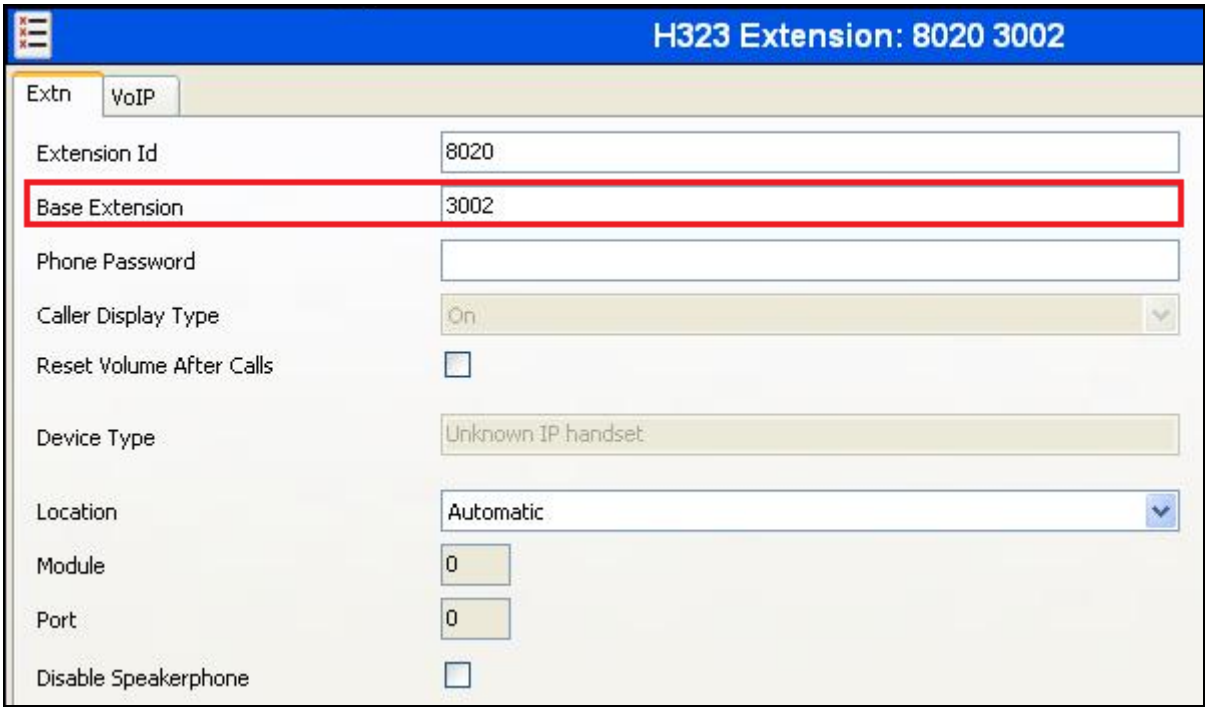
## 5.5. Create Extensions

Extensions are required for each guest room and administrators. This section shows the procedure for creating H323 Extensions, for creating Analogue, Digital, etc. extensions refer to the product documentation in **Section 9**. From the configuration tree in the **IP Offices** pane, click on **Extension → New → H323 Extension**.

**Note:** Six virtual extensions are also required to create Users for configuring room status Short Codes in **Section 5.9.3**. See **Appendix A** for a list of Short codes and virtual extensions used during compliance testing. These virtual extensions were configured as H323.



In the extension pane, for **Base Extension e**nter the number used for this extension (i.e. 3002). The **Extension Id** field is filled in automatically. Defaults were used for the remaining fields and tabs. Click on the **OK** button to save.

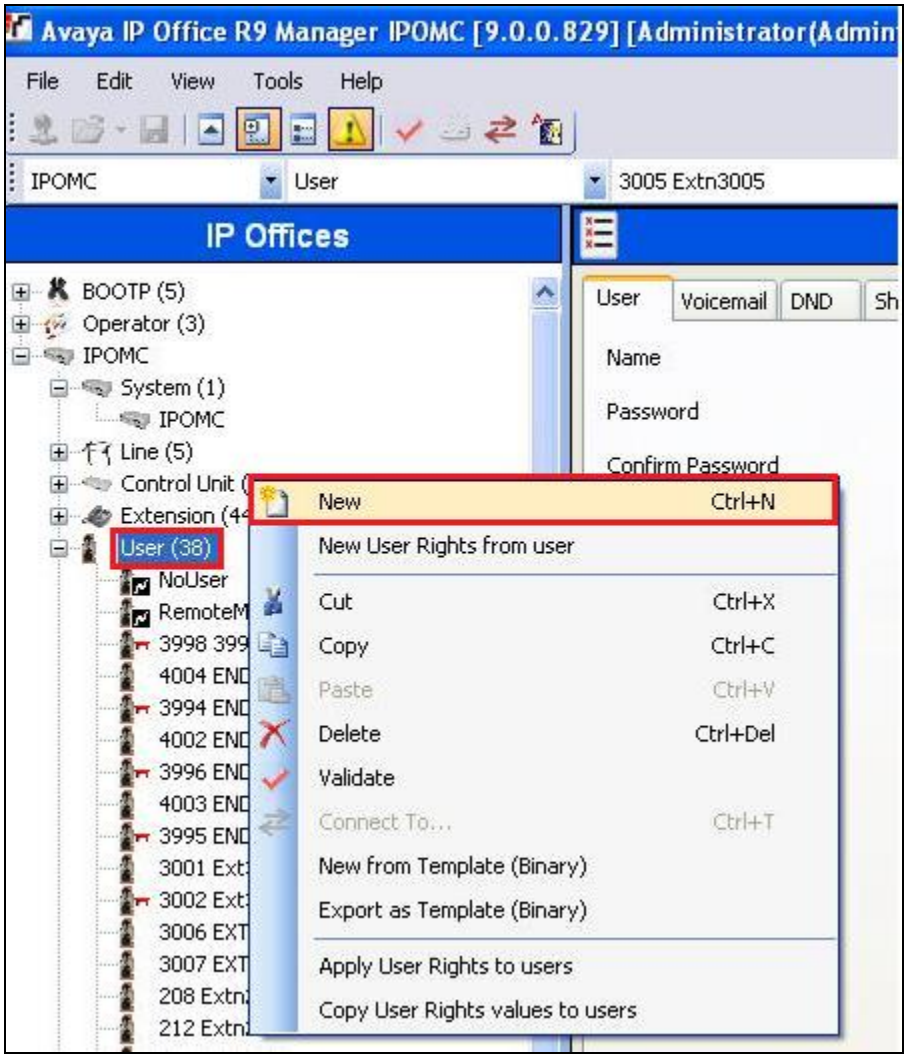



Repeat this section for each extension required.

## 5.6. Create Users

Each extension created in **Section 5.5** requires a user. From the configuration tree in the IP Offices pane, right click on **User,** and select **New**.

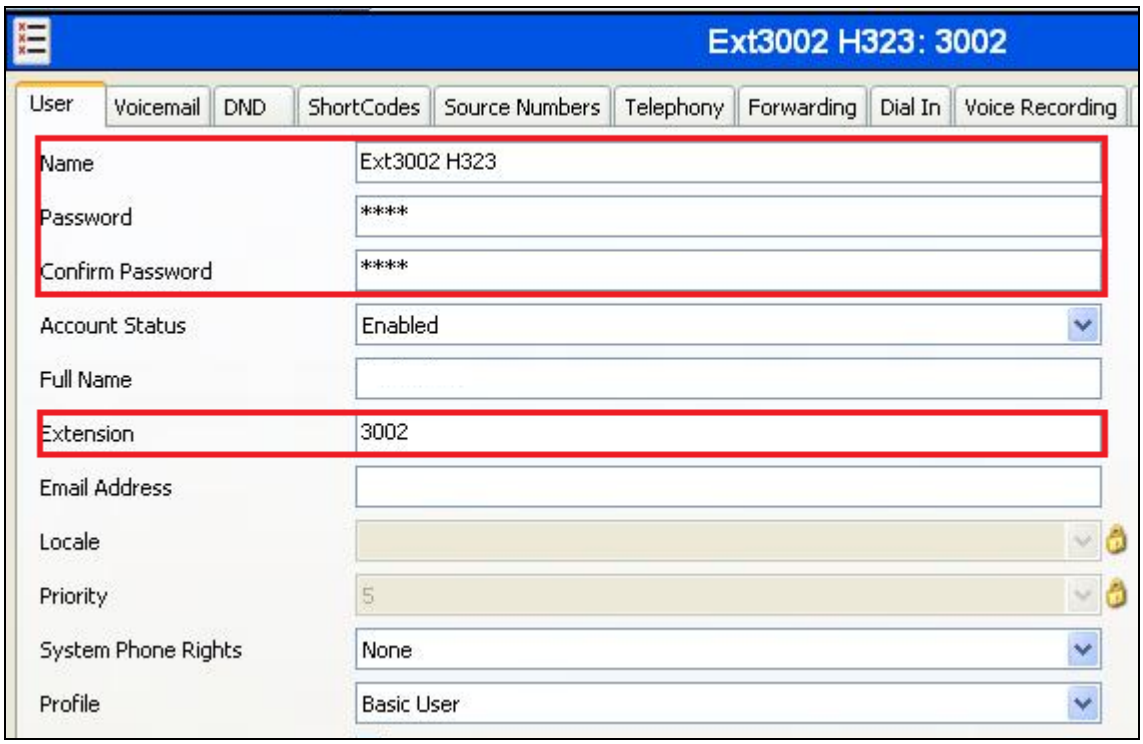
**Note:** Six users were created using the virtual extensions created in **Section 5.5** that will be used when creating Room Status Short Codes in **Section 5.9.3**. See **Appendix A** for a list of Short codes and Virtual Extensions used during compliance testing.



In the User pane, click on the **User** tab and enter the following:

- **Name** Enter a name for the user (i.e. Ext3002 H323)
- **Password** Enter an appropriate password (Only applicable if user applications and/or Dial In access is required)
- **Confirm** Confirm the password
- **Extension** Enter the **Extension** number as configured in **Section 5.5**

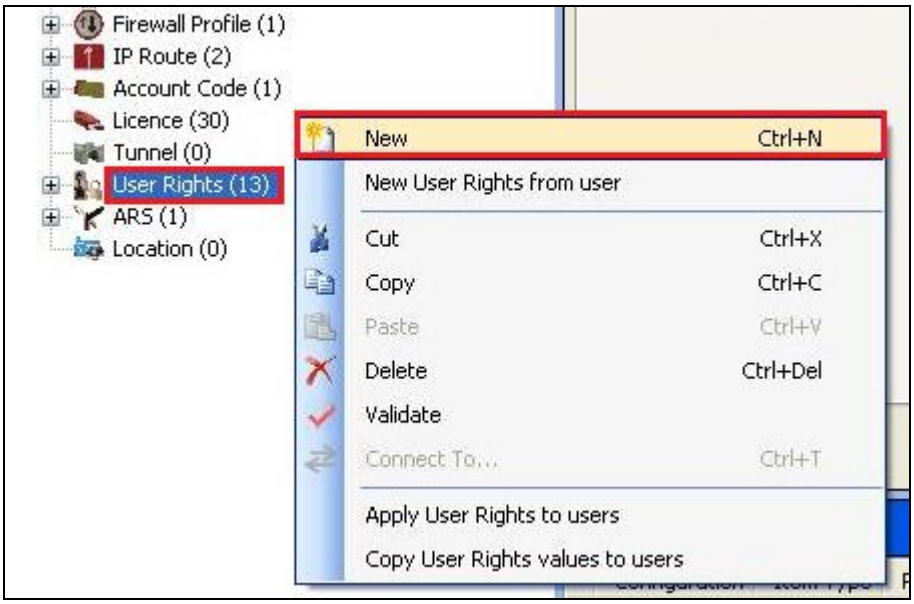
Defaults were used for the remaining fields. Click on the **OK** button (not shown) to save.




For configuration information for the remaining fields and tabs refer to the product documentation in **Section 9**. Repeat this section for each user required.

## 5.7. Modify User Rights

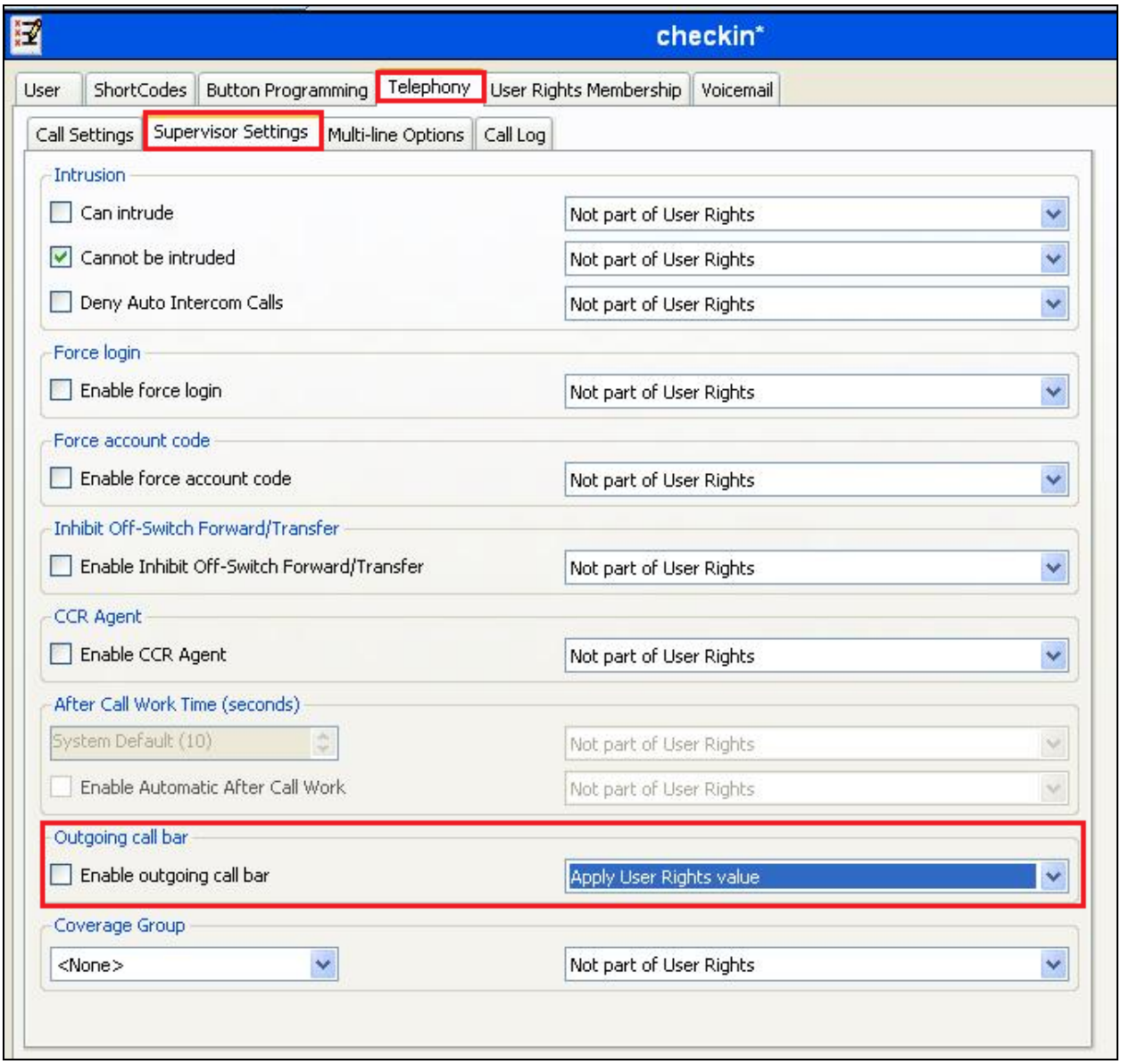
A number of user rights need to be configured on the IP Office. In the Manager window expand the Configuration Tree. Right click on **User Rights,** and select **New**.




### 5.7.1. Modify User Rights (Check in)

When the New User Rights window appears click on the **User** tab. In the **Name** field enter **Checkin**.

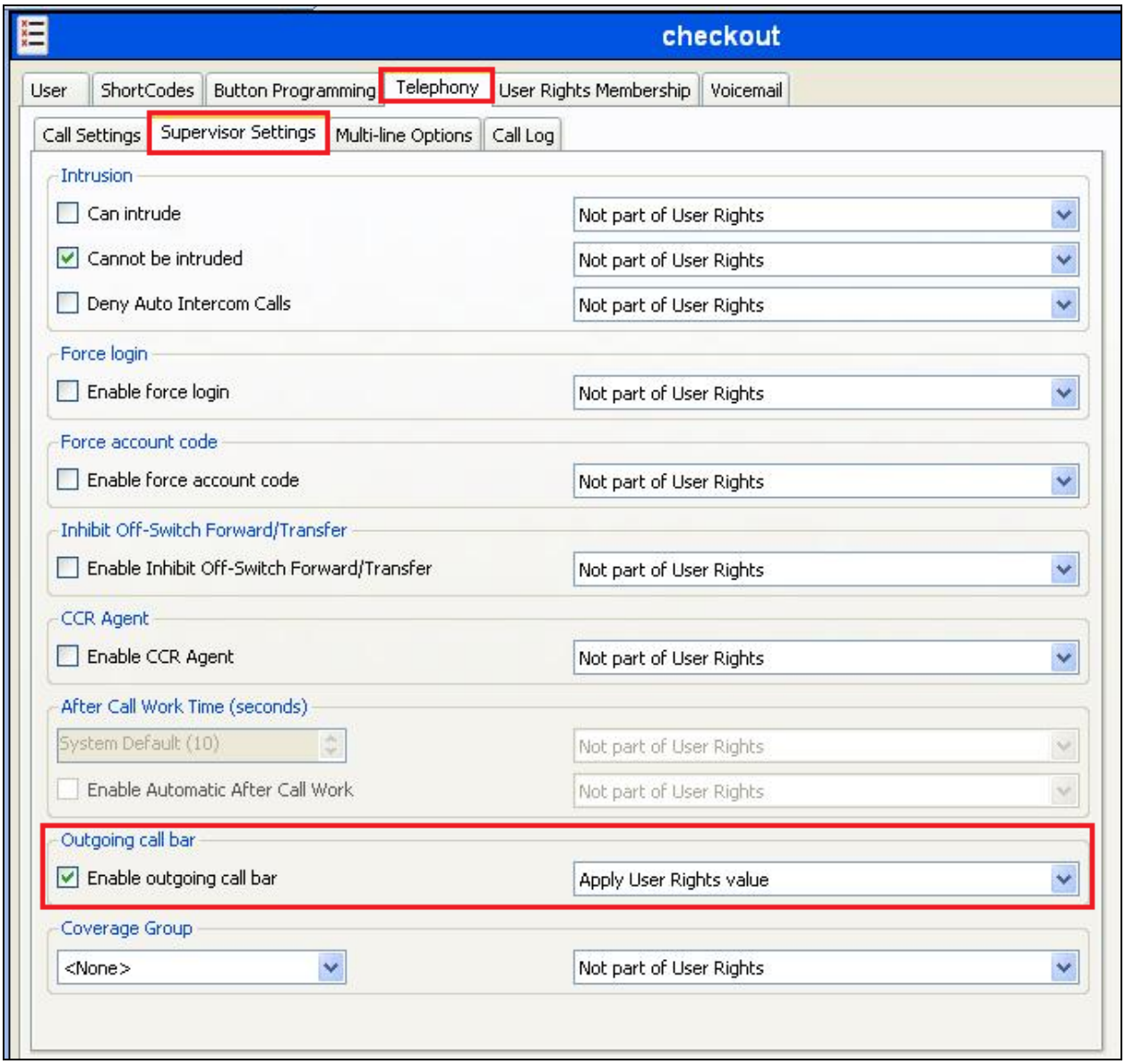
Click on the **Telephony** tab followed by the **Supervisor Settings** tab. In the **Outgoing call bar** section uncheck the **Enable outgoing call bar** check box and select **Apply User rights value** from the dropdown box. Defaults were used for the remaining fields and tabs. Click on the **OK** button (not shown) to save.



### 5.7.2. Modify User Rights (Check out)

When the New User Rights window appears click on the **User** tab. In the **Name** field enter **Checkout**.

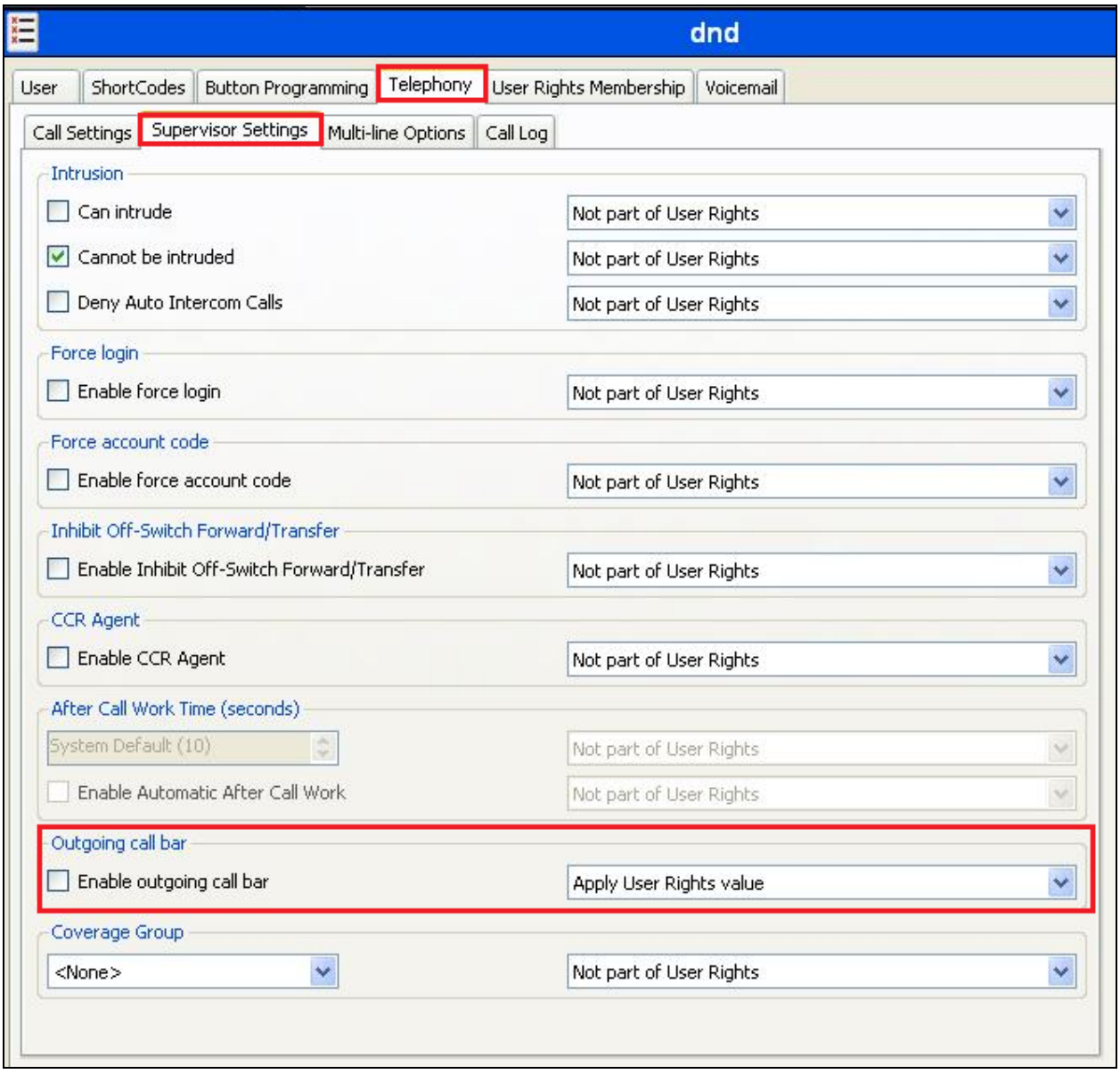
Click on the **Telephony** tab followed by the **Supervisor Settings** tab. In the **Outgoing call bar** section check the **Enable outgoing call bar** check box and select **Apply User rights value** from the dropdown box. Defaults were used for the remaining fields and tabs. Click on the **OK** button (not shown) to save.



### 5.7.3. Modify User Rights (Do not Disturb)

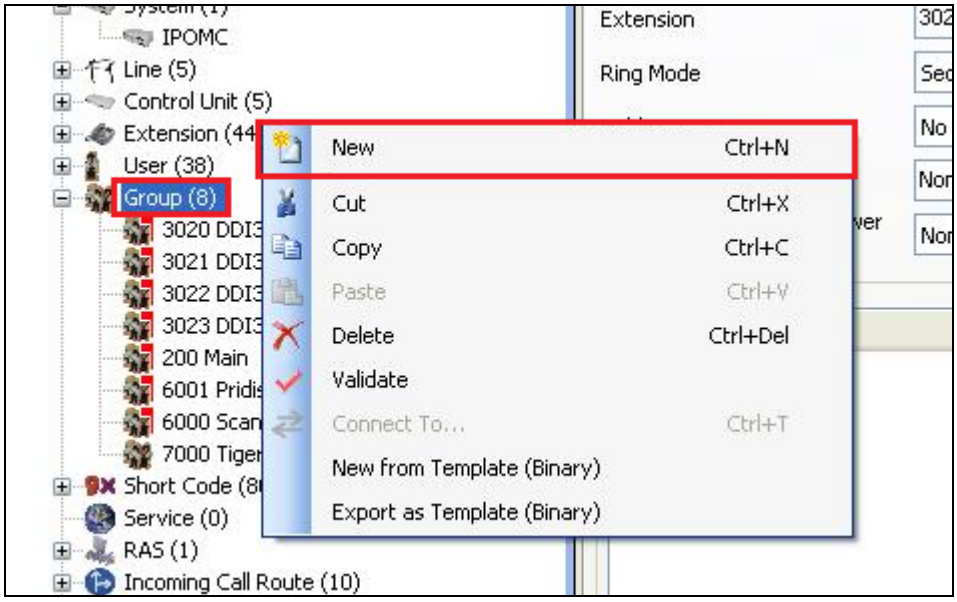
When the New User Rights window appears click on the **User** tab. In the **Name** field enter **dnd** and check on the **Enable do not disturb** check box.

Click on the **Telephony** tab followed by the **Supervisor Settings** tab. In the **Outgoing call bar** section uncheck the **Enable outgoing call bar** check box and select **Apply User rights value** from the dropdown box. Defaults were used for the remaining fields and tabs. . Click on the **OK** button (not shown) to save.



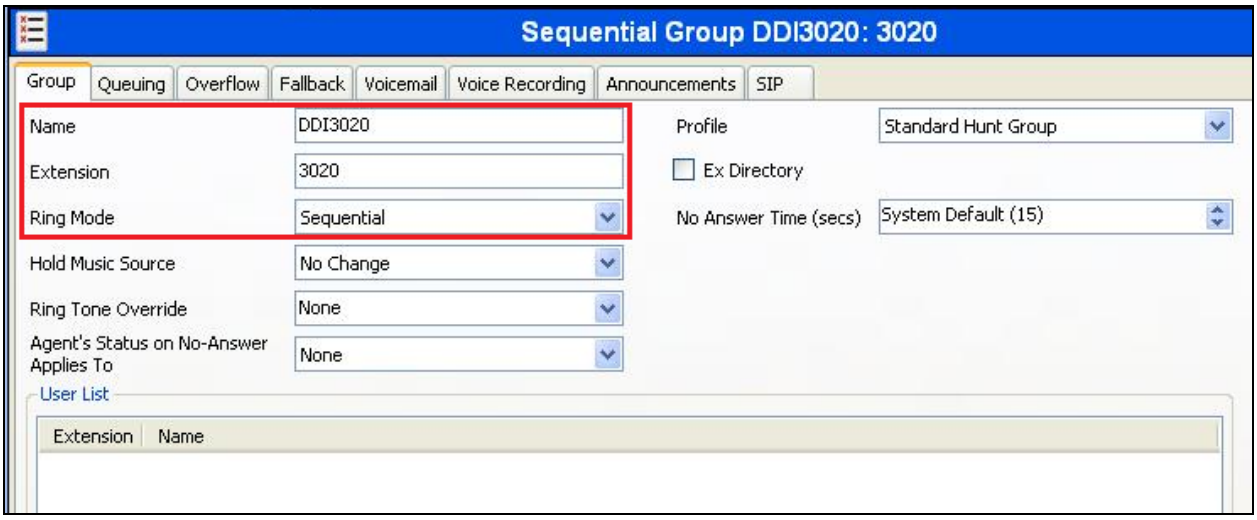
## 5.8. Create DDI Hunt Groups

In the Manager window, go to the Configuration Tree, right-click **Group** and select **New** in the popup that appears.



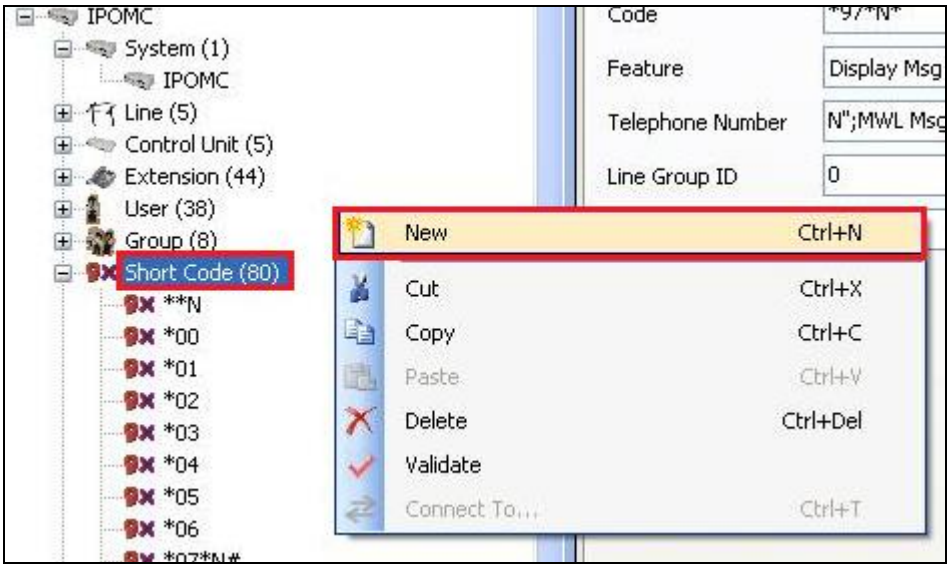

In the subsequent Hunt Group window, set **Name** to something appropriate (e.g. **DDI3020**). Enter an **Extension** (e.g. **3020**) and set the **Ring Mode** to **Sequential**. Ensure that no extensions are added to the **User List** as they will be automatically added by GT-HOSP once a DDI is allocated to an extension. Click the **OK** button (not shown) to save.

**Note:** Repeat this for each DDI required.



## 5.9. Create Short Codes

A number of Short Codes needs to be configured on the IP Office. In the Manager window expand the Configuration Tree. Right click on **Short Codes,** and select **New**.

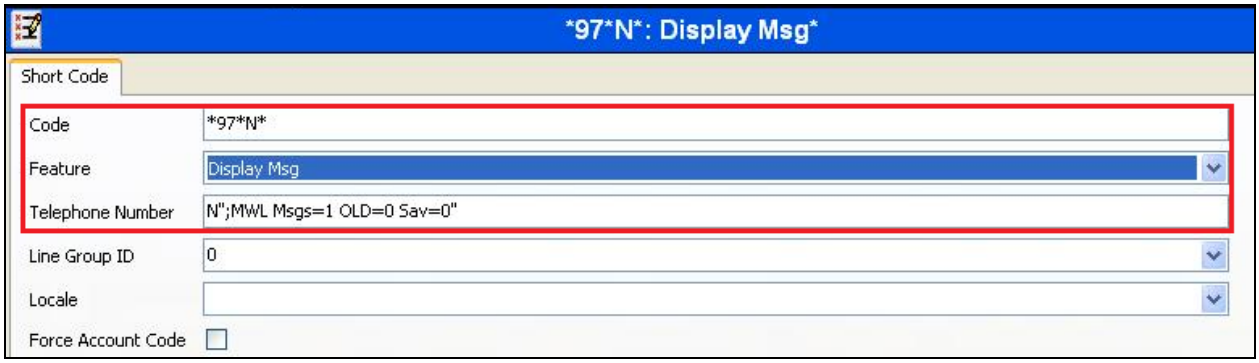



### 5.9.1. Create Short Code (Turn on Message Waiting Indication)

In the subsequent Short Code window, enter the following:

- **Code** Enter ***97*N***
- **Feature** Select **Display Msg** from the drop-down menu
- **Telephone number** Enter **N";MWL Msgs=1 Old=0 Sav=0"**

Defaults were used for the remaining fields. Click the **OK** button.

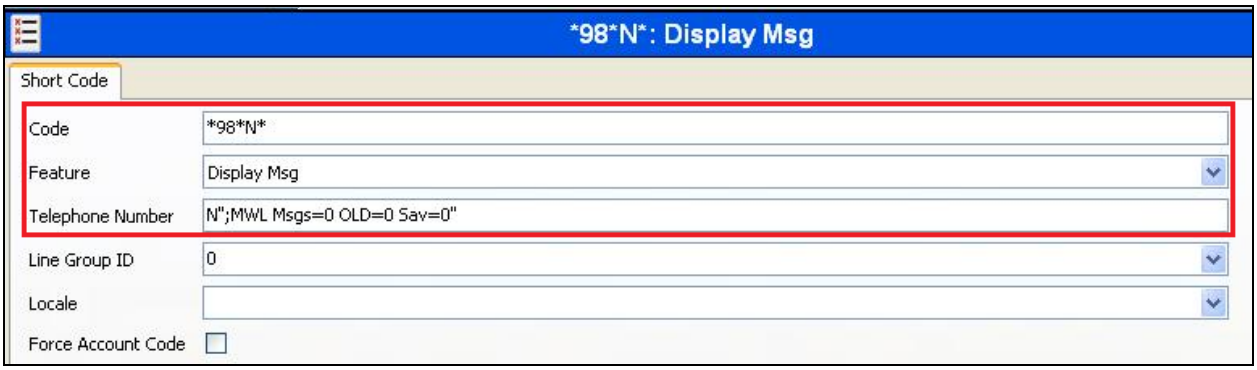


### 5.9.2. Create Short Code (Turn off Message Waiting Indication)

In the subsequent Short Code window, enter the following:

- **Code** Enter ***98*N***
- **Feature** Select **Display Msg** from the drop-down menu
- **Telephone number** Enter **N";MWL Msgs=0 Old=0 Sav=0"**

Defaults were used for the remaining fields. Click the **OK** button (not shown) to save.



### 5.9.3. Create Short code (Room Status)

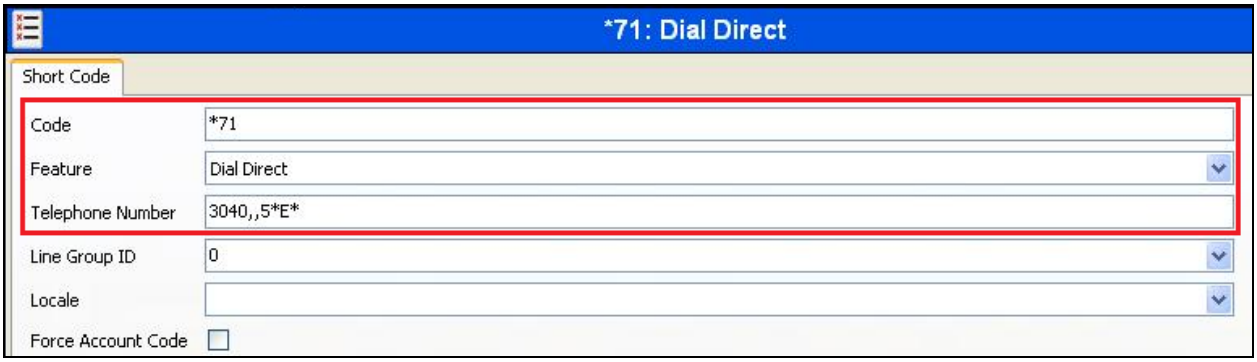
A short code is required for the following Room Status:

- Vacant Dirty
- Vacant Clean
- Vacant Inspected
- Occupied Dirty
- Occupied Clean
- Occupied Inspected

The screen shot below shows the procedure to create the short code for **Vacant Dirty**.
In the subsequent Short Code window, enter the following:

- **Code** Enter ***71**
- **Feature** Select **Dial Direct** from the drop-down menu
- **Telephone number** Enter **3040,,5*E***. 3040 is a Virtual Extension configured in **Section 5.5**.

Repeat these step for the remaining Room status, see **Appendix A** for a list of Short codes and Virtual Extensions used during compliance testing. Defaults were used for the remaining fields.
Click the **OK** button (not shown) to save.

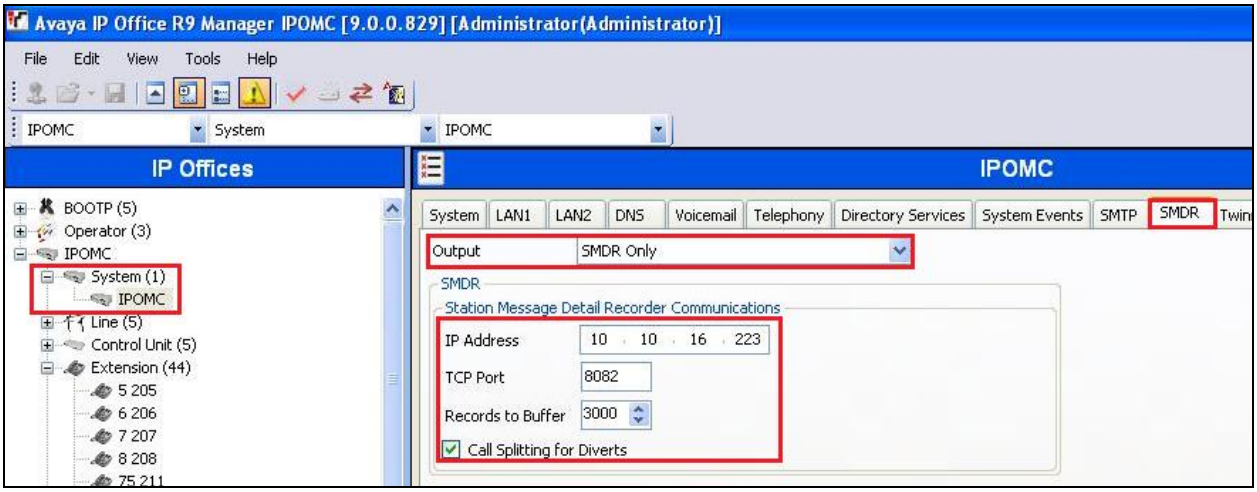


## 5.10. SMDR configuration

Select **System** from the IP Office Configuration Tree followed by the **SMDR** tab and enter the following information:

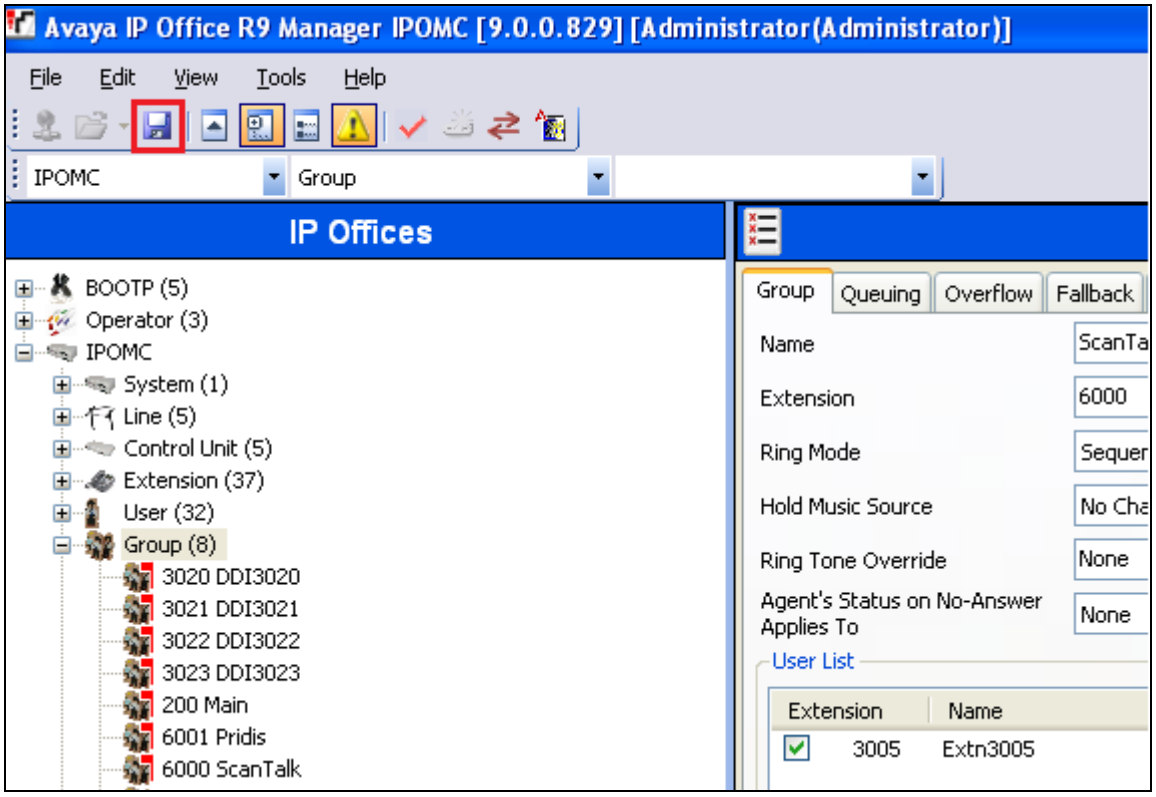
- **Output** Select **SMDR Only** from the drop box
- **IP Address** Enter the IP Address of the GT-HOSP Server
- **TCP Port** Enter **8082**
- **Records to buffer** Enter **3000**. This is maximum available
- **Call Splitting for Diverts** Click the check box.

Click the **OK** button (not shown) to save.

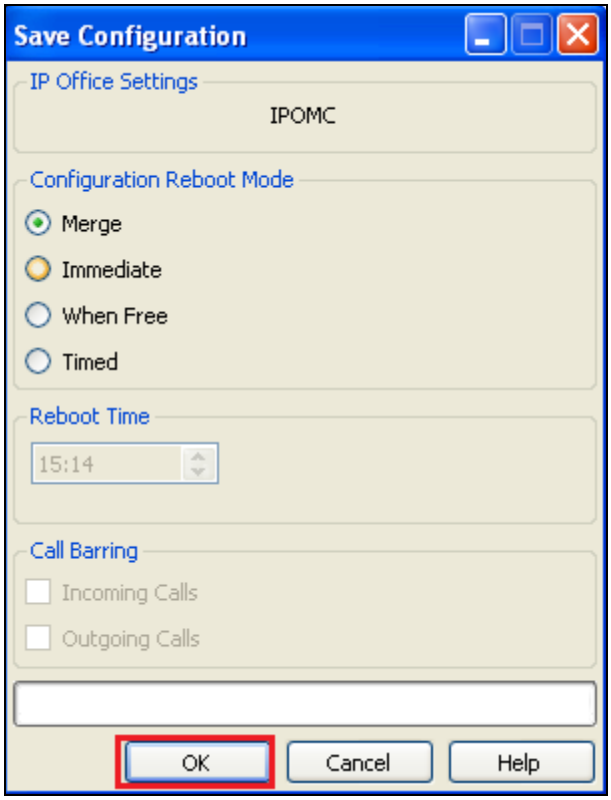


## 5.11. Save Configuration

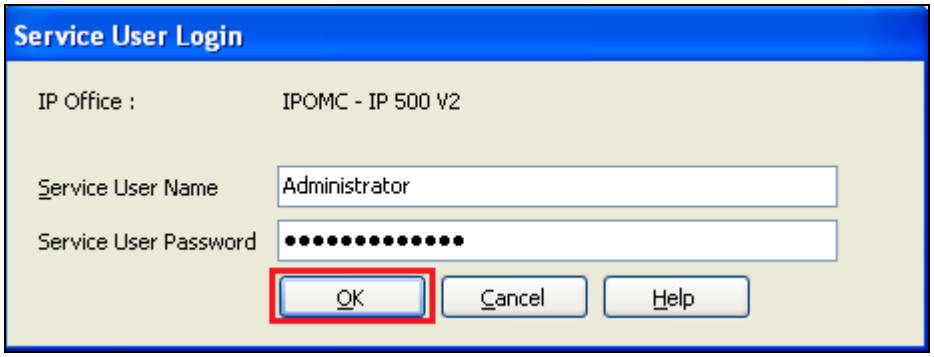
Once all the configurations have been made it must be sent to the IP Office. Click on the Save Icon as shown below.



Once the **Save Configuration** Window opens, click the **OK** button.




When the **Service User Login** Window opens enter the appropriate credentials and click the **OK** button.



# 6. Configure GT2F GT-HOSP

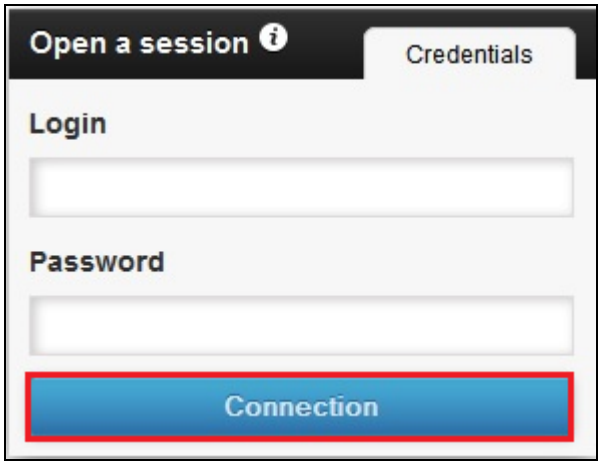
This section describes the steps preformed to configure GT-HOSP to connect to the IP Office. It is implied that the GT-HOSP Server software is already installed and has the appropriate licences. It is also implied that a Site is configured, an Operator is imported, and Tariffs are set. For all other 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:

- Logging in to GT2F Server
- GT Connector Configuration
- Advanced Settings
- Links Setup
- Register the GT Connector

## 6.1. Logging in to GT2F Server

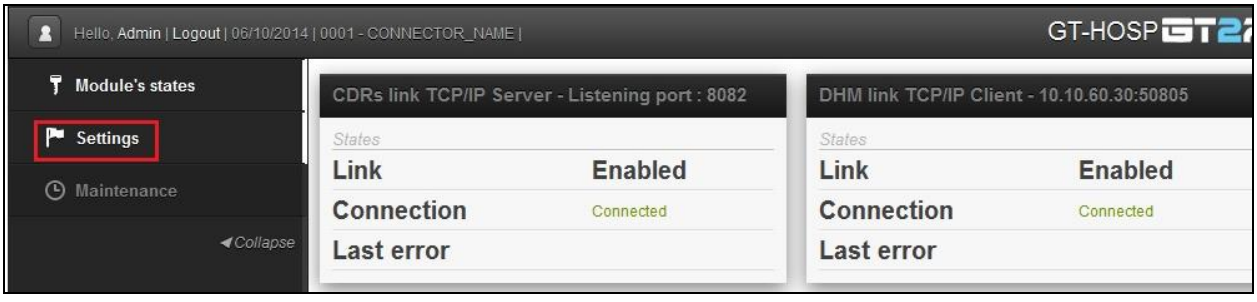
To access the OAM web-based interface of the GT2F Server use the URL **http://x.x.x.x:43001**, where **x. x. x. x** is the selected IP address of the GT2F Server. When the **Open a session** window opens is log in using the appropriate credentials and click on the **Connection** button.

**Note:** If logging for the same server that GT2F is installed use the URL 172.0.0.1:43001.

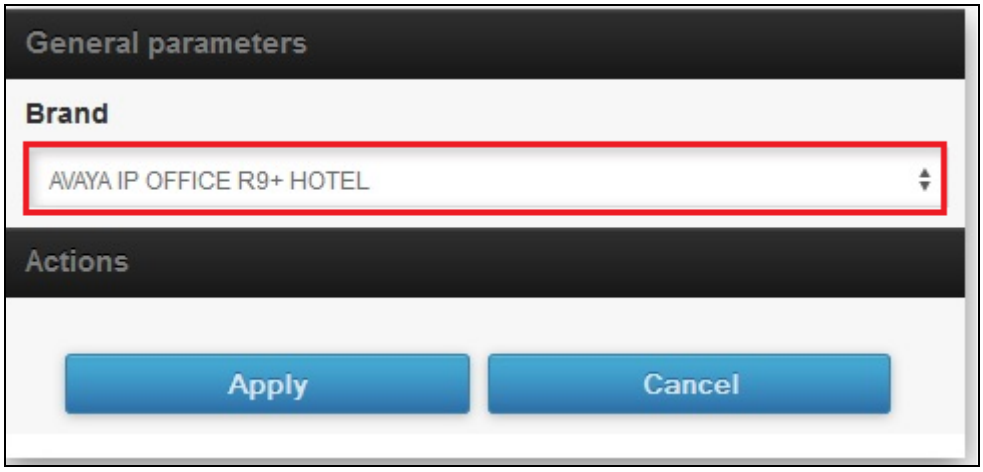



## 6.2. GT Connector Configuration

Once logged in, click on **Settings**.



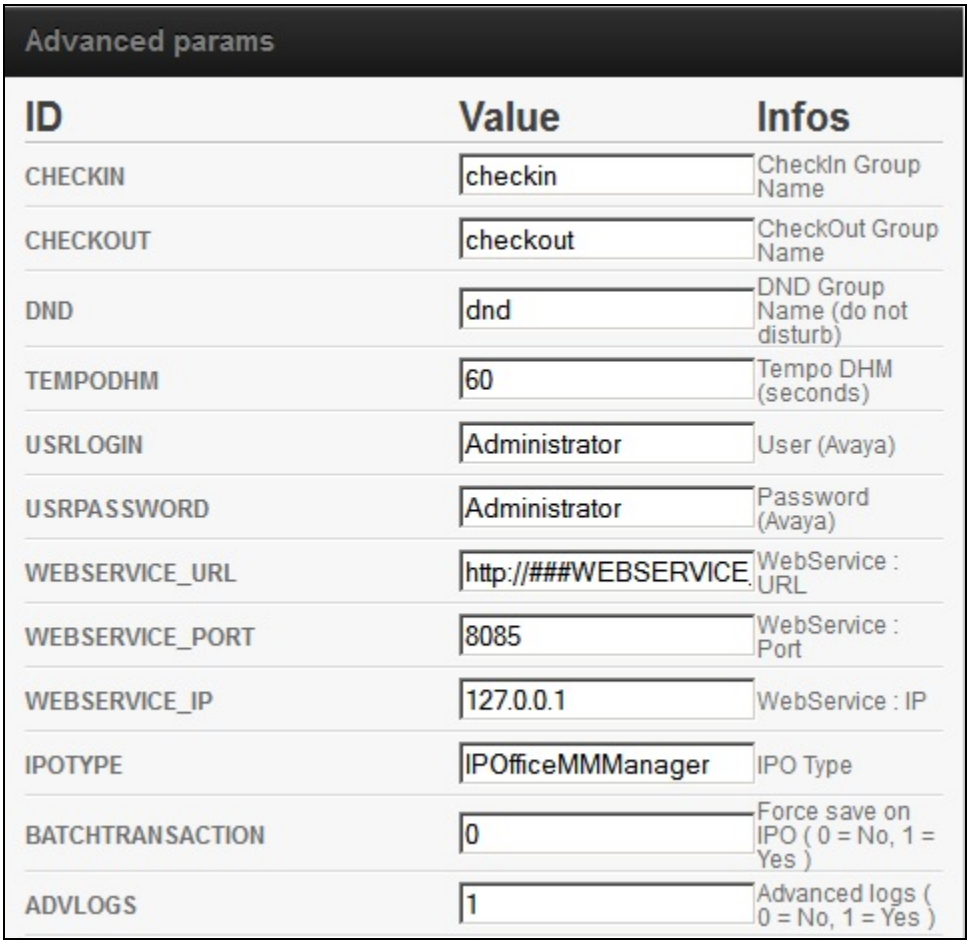
In the **General parameters** window select **AVAYA IP OFFICE R9 + HOTEL** from the **Brand** drop down box.



## 6.3. Advanced Settings.

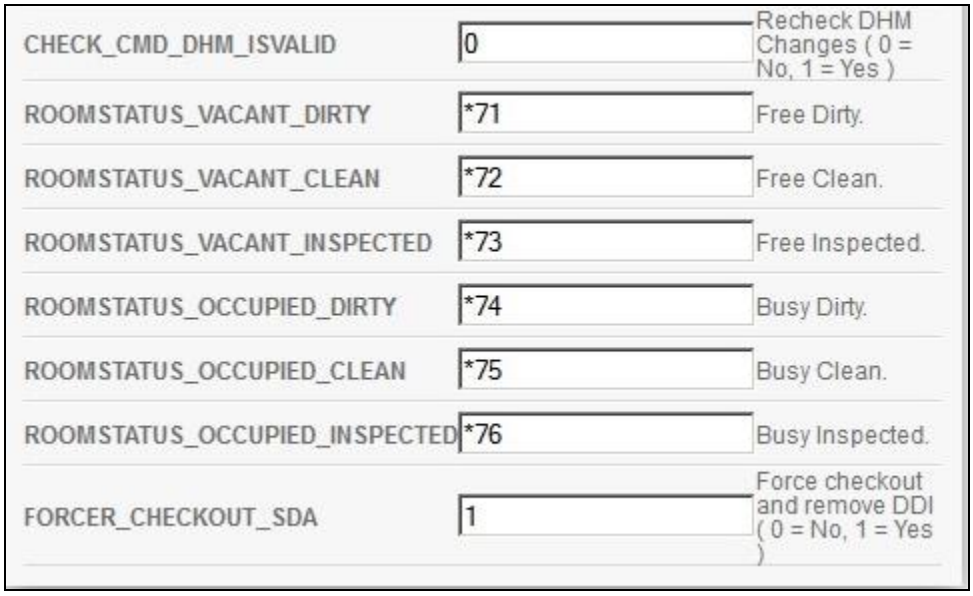
In the **Advanced parms** window enter the following:

- **CHECKIN** Enter **checkin**
- **CHECKOUT** Enter **checkout**
- **DND** Enter **dnd**
- **TEMPODHM** Enter **60**
- **USRLOGIN** Enter **Administrator**
- **USRPASSWORD** Enter **Administrator**
- **WEBSERVICE_URL** Enter **http://###WEBSERVICE_IP###:###WEBSERVICE_PORT###/IPOConfigurationService?wsdl**
- **WEBSERVICE_PORT** Enter **8085**
- **WEBSERVICE_IP** Enter **127.0.0.1**
- **IPOTYPE** Enter **IPOfficeMMManager**
- **BATCHTRANSACTION** Enter **0**
- **ADVLOGS** Enter **1**



Scroll to the down along the page and enter the remaining information:

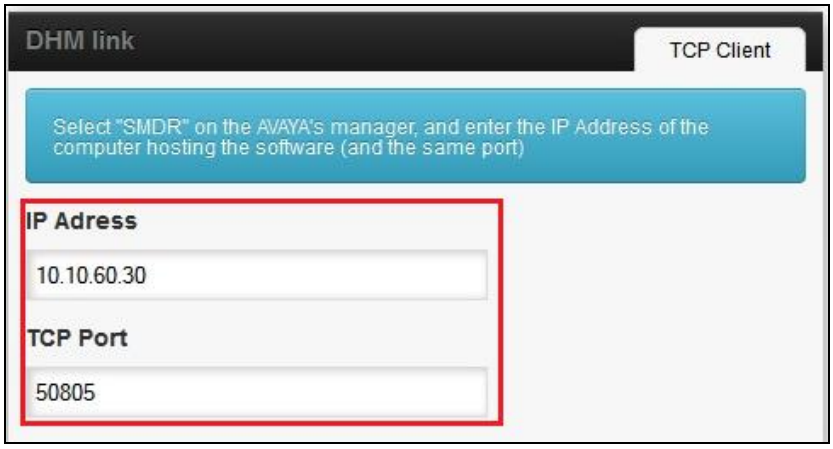
- **CHECK_CMD_DHM_ISVALID** Enter **0**
- **ROOMSTATUS_VACANT_DIRTY** Enter ***71** (See Appendix A)
- **ROOMSTATUS_VACANT_CLEAN** Enter *72 (See Appendix A)
- **ROOMSTATUS_VACANT_INSPECTED** Enter *73 (See Appendix A)
- **ROOMSTATUS_OCCUPIED_DIRTY** Enter *74 (See Appendix A)
- **ROOMSTATUS_OCCUPIED_CLEAN** Enter *75 (See Appendix A)
- **ROOMSTATUS_OCCUPIED_INSPECTED** Enter *76 (See Appendix A)
- **FORCER_CHECKOUT_SDA** Enter 1




## 6.4. Links Setup

In the DHM Link window enter the following:

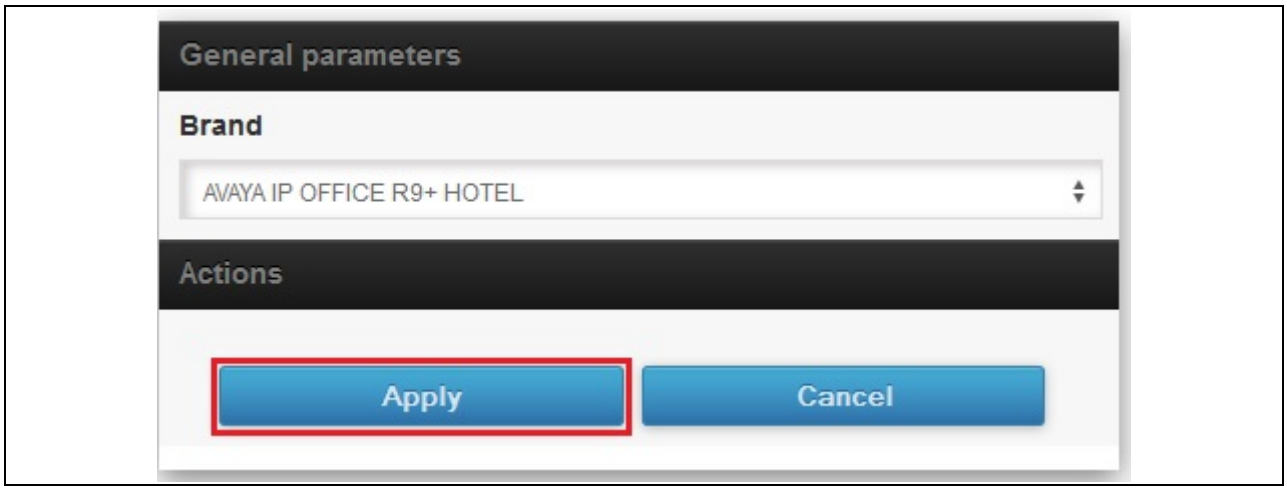
- **IP Adress** Enter the IP address of the IP Office
- **TCP Port** Enter **50805**



In the **CDRs link** window enter the **TCP Port** as configured in **Section 5.1.0 (8082**.


## 6.5. Apply GT Connector Configuration

Return to the **General Parameters** window and click on the **Apply** button.




## 6.6. Register the GT Connector

After applying the GT Connector configuration, the connection must be registered. When the **Register the connector** window opens, enter the ID of the site that will be linked to the connector (i.e. **0001** was used during compliance testing). Click on the **Register** button to launch the process. Wait for the process to end to be redirected to the main page of the GT-CONNECTOR module.

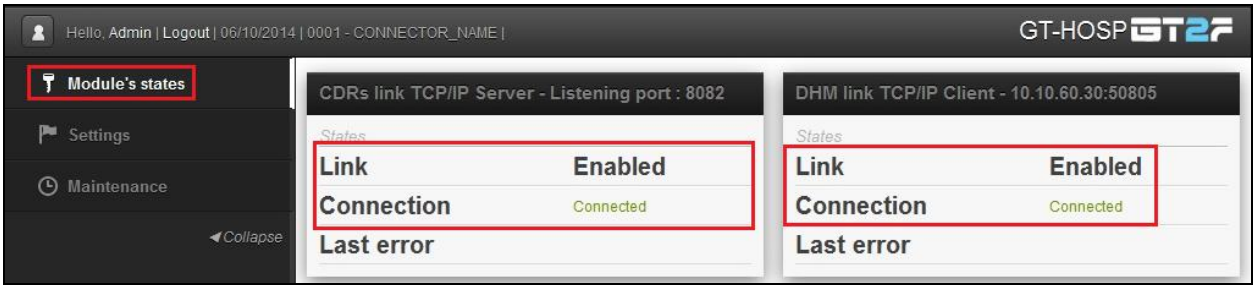
# 7. Verification Steps

The following steps may be used to verify the configuration:

- Verify the connection status of GT-HOSP
- Verify data collection

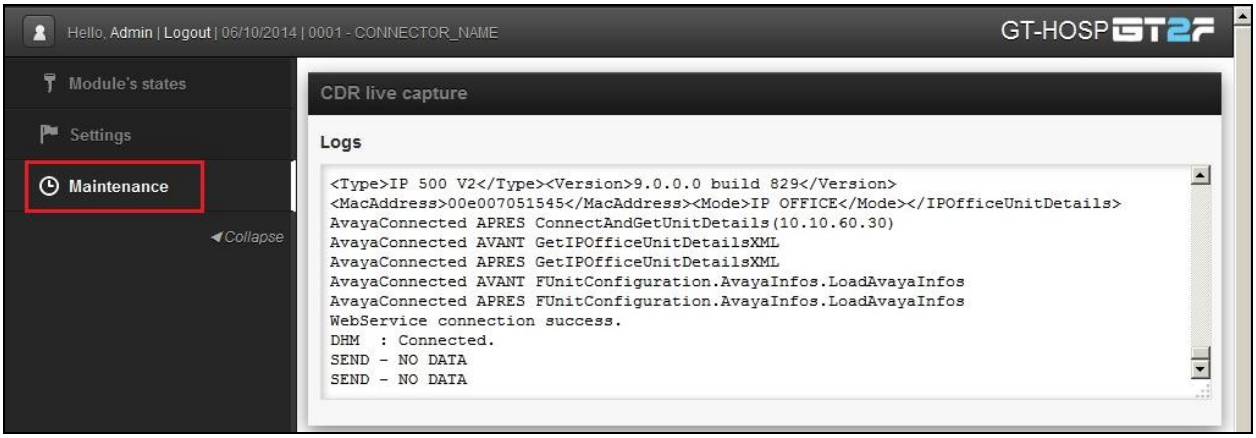
## 7.1. Verify the connection status of GT-HOSP

Log on with the appropriate credentials to the GT-HOSP Server, using the URL **http://x.x.x.x/43001**, where **x. x. x. x** is the IP address of the GT2F Server. Select **Modules status** and verify that the **CDRs** and **DHM** links are **Enabled** and **Connected**.




## 7.2. Verify data collection

Log on with the appropriate credentials to the GT-HOSP Server, using the URL **http://x.x.x.x/43001**, where **x. x. x. x** is the IP address of the GT2F Server., Select **Maintenance** and verify that data is collected in the **CDR live capture** window.



### 7.3. Verify Hospitality feature

Using the **Checkin Assistant** of GT-HOSP check in a new customer and ensure that the name of the customer is updated on the telephone display and external calls are allowed.

**Note:** For information on using the **Checkin Assistant** refer to the product documentation in **Section 9**. The **Checkin Assistant** can be found by selecting **Customer Checkin** after logging on to the GT-HOSP Server.

## 8. Conclusion

A full and comprehensive set of feature and functional test cases were performed during Compliance testing. GT2F GT-HOSP is considered compliant with Avaya IP Office 500v2 9.0. All test cases have passed and met the objectives with one observation stated in **Section 2.2**.

## 9. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information may be had from *http://support.avaya.com* or from the local Avaya representative.

*[1] Avaya IP Office Manager 9.0, Document 15-601011, Issue 9.01, September 2013*

Product Documentation for GT2F can be obtained in the installed software or at: www.gt2f.com

# Appendix A

| Room Status | Virtual Extension/Users | Short code |
|---|---|---|
| Vacant Dirty | 3040 | *71 |
| Vacant Clean | 3041 | *72 |
| Vacant Inspected | 3042 | *73 |
| Occupied Dirty | 3043 | *74 |
| Occupied Clean | 3044 | *75 |
| Occupied Inspected | 3045 | *76 |

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.