Avaya Solution & Interoperability Test Lab

Application Notes for Tiger Communications' Hotel Pro with Avaya IP Office - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Tiger Hotel Pro to interoperate with Avaya IP Office 4.2. Tiger Hotel Pro is a hospitality package that allows hotel staff to carry out their day-to-day tasks.

Information in these Application Notes has been obtained through 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 compliance-tested configuration using a Tiger Communications' Hotel Pro and Avaya IP Office 4.2.
Tiger Hotel Pro is a graphical hospitality user interface. It is commonly used in hotels to provide a means of controlling usage of room facilities. Tiger utilizes XML based communication for hospitality control of Avaya IP Office. Hospitality features are translated into a set of XML commands which are passed via a secure IP port to Avaya IP Office.

The following main features were compliance tested.

- Check-In - This function is used to assign a new guest to a particular room with a telephone. The credentials of the guest are used to update the station configuration within Avaya IP Office. This includes the display name of the phone as well as calling restrictions and Message Waiting Indicator (MWI) updates.
- DDI - This function is used to allocate a DDI to a room telephone extension. When DDI is allocated to a checked-in room, the room can be called externally, by making an inbound external call to a DDI number.
- Update - A facility that updates the display name of the station in Avaya IP Office.
- Room Transfer - This allows a guest to transfer to a different unoccupied room and it results in a transfer of the guest's extension configuration.
- Telephone Service Class - Tiger allows two telephone service classes: "Barred" and "Unbarred" which refer to barring or permitting external calls. On check-in, user rights are set to "Unbarred" in Avaya IP Office, however this can be overridden to "Barred", if a guest wishes, through the Update facility. On check-out the user-rights are set to "Barred
- Message Waiting - Tiger Hotel Pro allows messages to be left for guests. The Message Waiting Indication (MWI) phone feature alerts the guest to a voice message.
- Check-out - Once a guest has vacated a room, this function resets the telephone to the default configuration and sets call barring of external calls.
- Maid Status - Maid Status is a mechanism allowing the room status to be updated in Hotel Pro by minimal telephone interaction. This is often used to indicate room ready status following cleaning.
- Link Failure/Recovery – Verification was done to ensure that there is suitable recovery of the Tiger Hotel Pro after a lost connection link to Avaya IP Office.

The configuration in **Figure 1** was used to compliance test Tiger Hotel Pro with Avaya IP Office.

- A TCP/IP link was established between the Tiger Hotel Pro server and Avaya IP Office. From the Tiger Hotel Pro, XML commands were passed via a secure IP port to Avaya IP Office for replication of the hospitality features.

- An E1 PRI Trunk card was connecting Avaya IP Office to another PBX which was simulating a PSTN environment for testing outbound external calls.
- IP412 Office was configured with analog and digital expansion modules
- Avaya 2420 digital telephones and Avaya 4620SW and 4621SW IP Telephones were used to answer and/or place the calls.

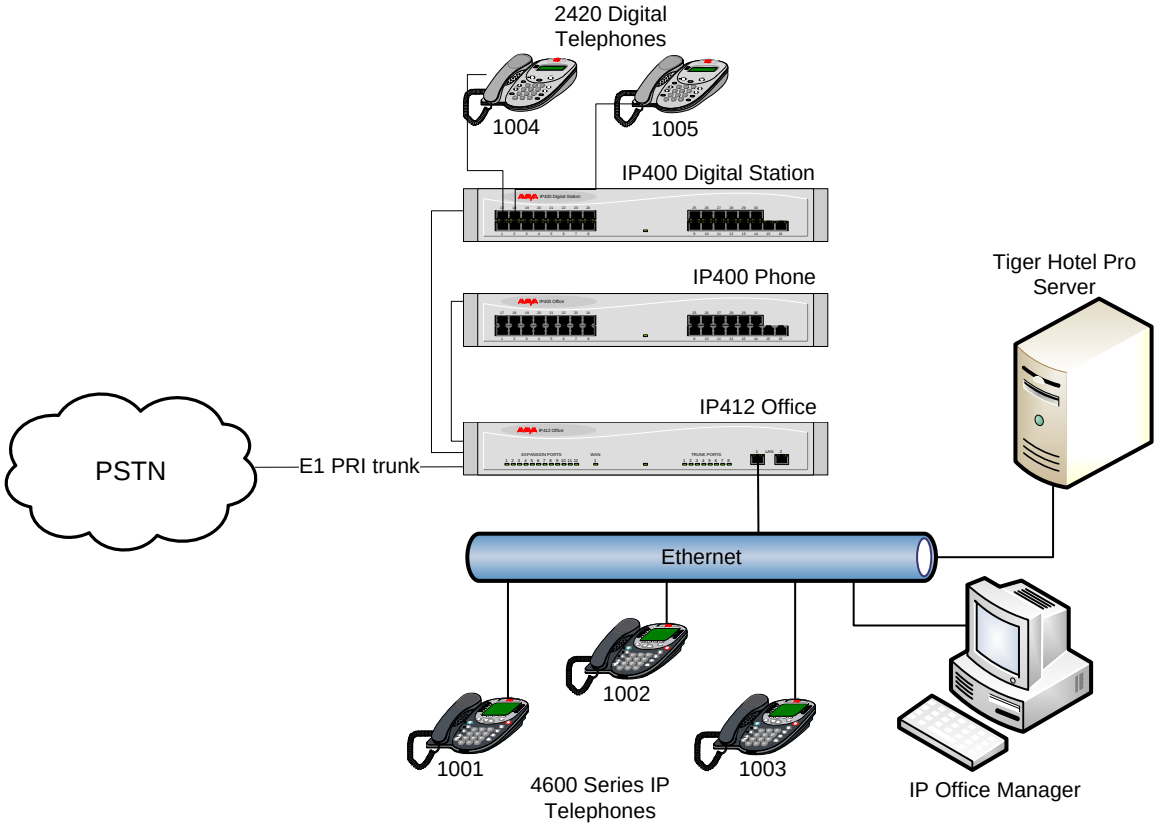


Figure 1 – Network Topology

Table 1 lists the Extensions, Users, Hunt Groups and Shot Codes required for this testing. The information in the table will be referenced at different stages during the configuration portion of these Application Notes in the sections that follow.

Extensions used as Room Stations		
Extension	**User Name**	**Notes**
1001	Extn 1001	IP Telephone
1002	Extn 1002	IP Telephone
1003	Extn 1003	IP Telephone
1004	Extn 1004	Digital Telephone
1005	Extn 1005	Digital Telephone
Hunt Groups required for DDI allocation to Room Stations		
Extension	**Name**	**Ring Mode**
501	DDI 501	Sequential

502	DDI 502	Sequential
503	DDI 503	Sequential
504	DDI 504	Sequential
Extensions required for Maid Status feature		
Extension	**User Name**	**Notes**
1901	Vacant Dirty	Virtual Extension
1902	Vacant Clean	Virtual Extension
1903	Vacant Inspected	Virtual Extension
1904	Occupied Dirty	Virtual Extension
1905	Occupied Clean	Virtual Extension
1906	Occupied Inspected	Virtual Extension
Short Codes required for Maid Status feature		
Short Code	**Telephone Number**	**Feature**
*71	1901	Dial Extn
*72	1902	Dial Extn
*73	1903	Dial Extn
*74	1904	Dial Extn
*75	1905	Dial Extn
*76	1906	Dial Extn

Table 1 – Extension, Users, Hunt Groups and Short Codes Setup

2. Equipment and Software Validated

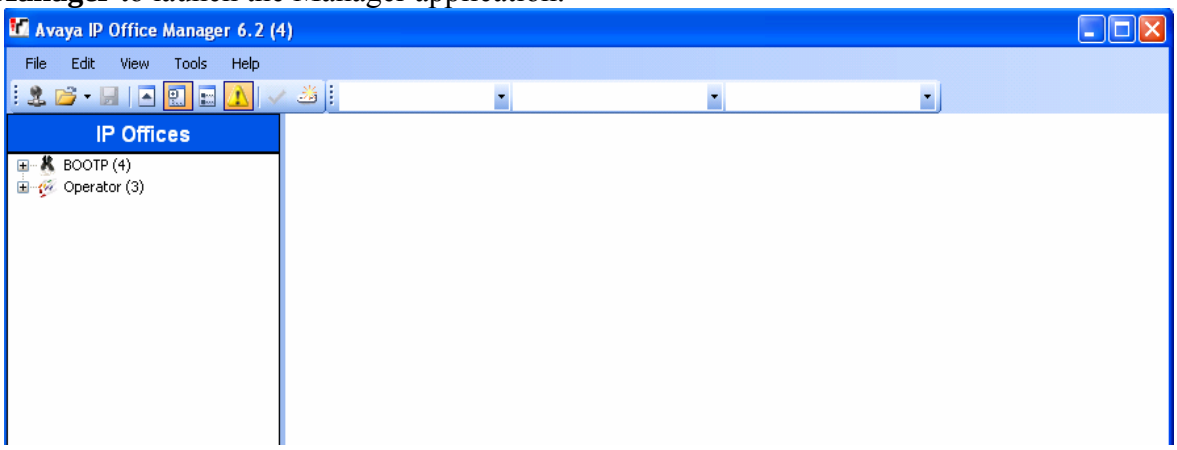
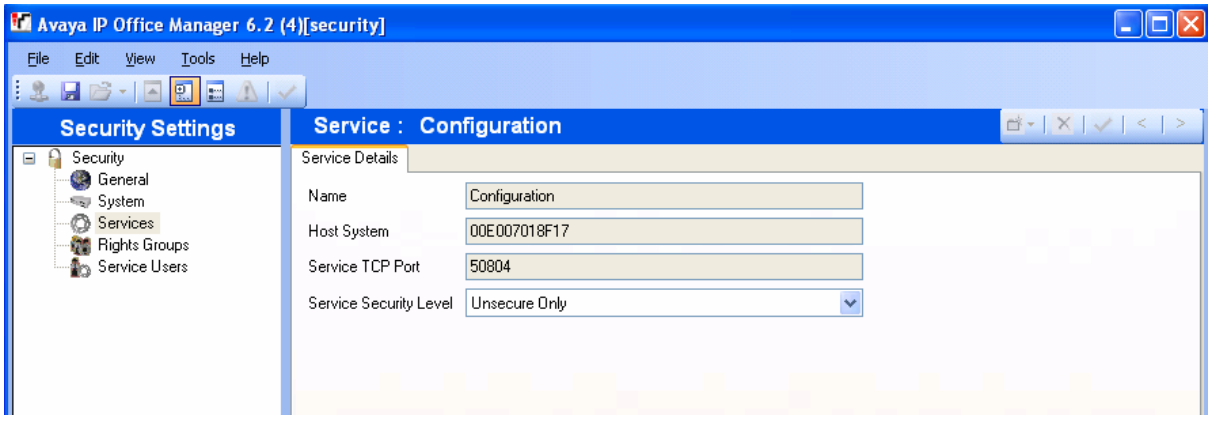
The following equipment and software/firmware were used for the sample configuration:

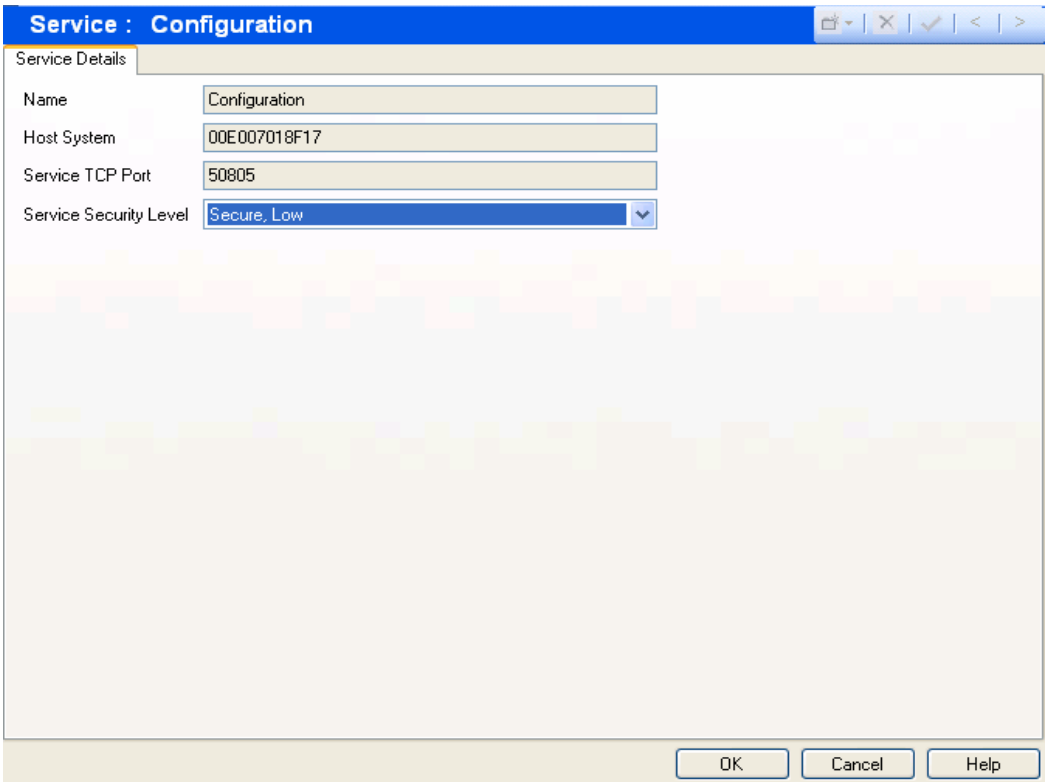
Equipment	Software /Firmware
Avaya IP412 Office	4.2(4)
Avaya IP400 Phone	6.2(4)
Avaya IP400 Digital Station	6.2(4)
Avaya IP Office Manager	6.2(4)
Avaya E1 PRI Trunk Card (PRI 30 E1)	-
Avaya 4600-Series IP Telephones (4620SW, 4621SW)	2.9
Avaya 2420 Digital Telephones	-
Tiger Hotel Pro	4.9.4.1
Tiger Hotel 2020	4.9.20.0
Tiger Hospitality Interface to Avaya IP Office	4.9.32.5

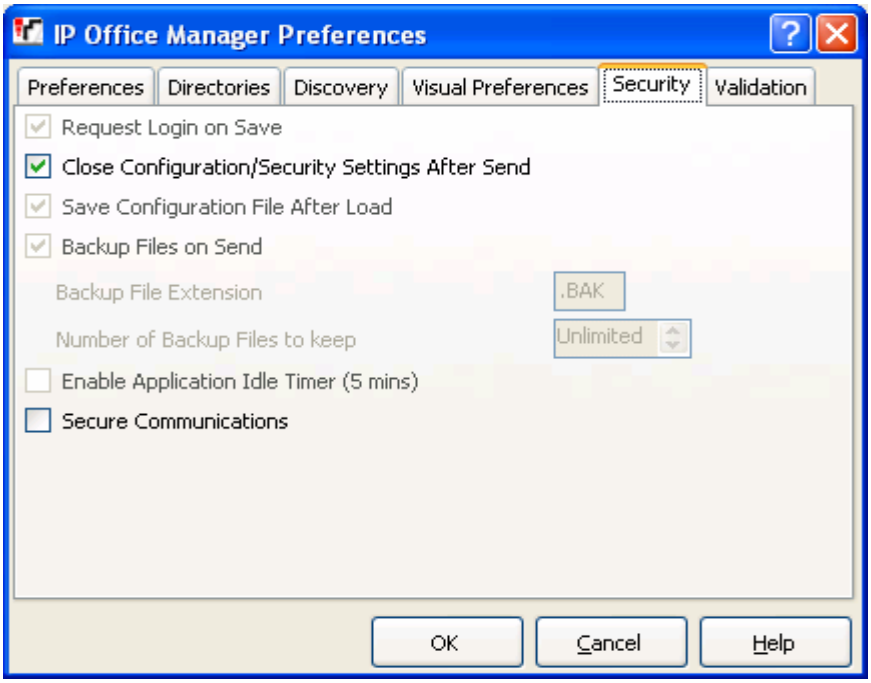
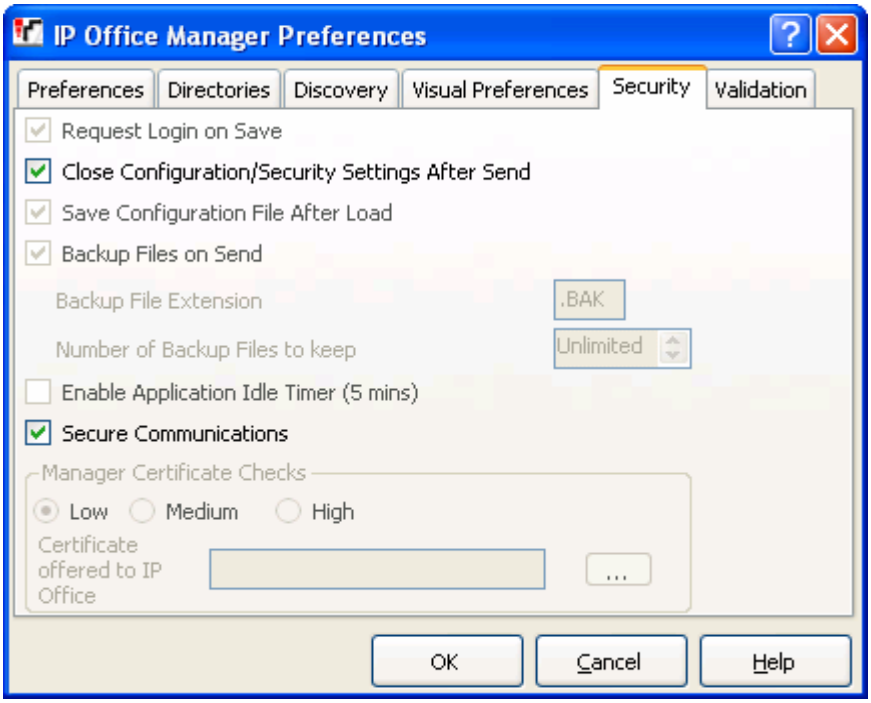
Table 2: Equipment and Software Validated

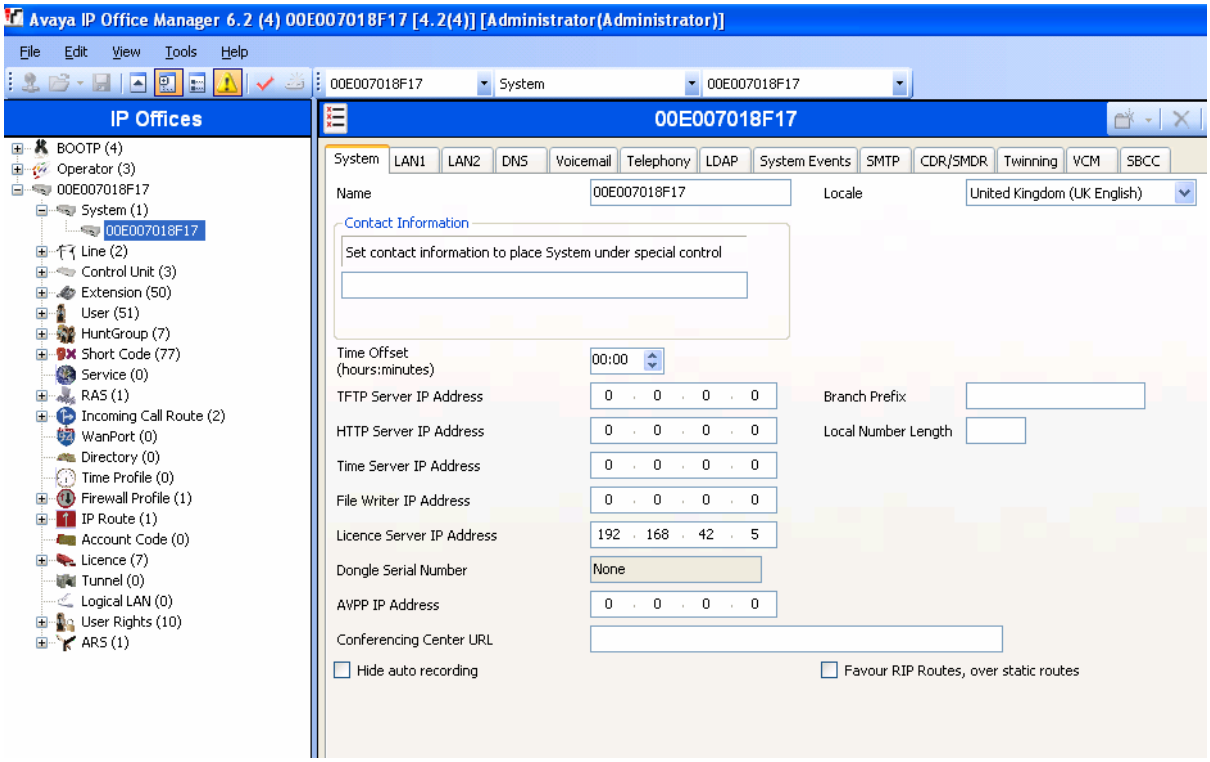
3. Configure Avaya IP Office

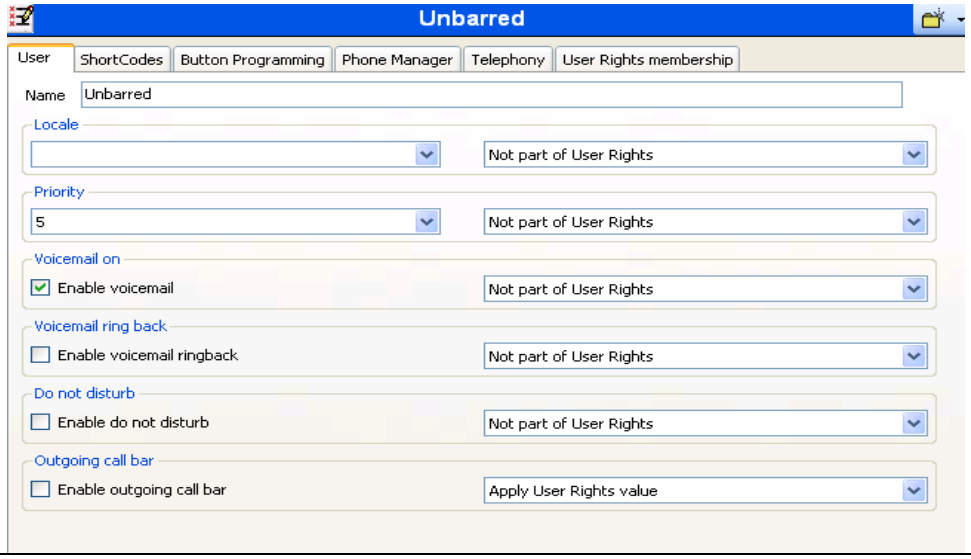
The configuration information provided in this section describes the steps required to set up Avaya IP Office for this solution.
For all other provisioning information, such as Avaya IP Office installation and configuration please refer to Avaya IP Office product documentation in reference [1].

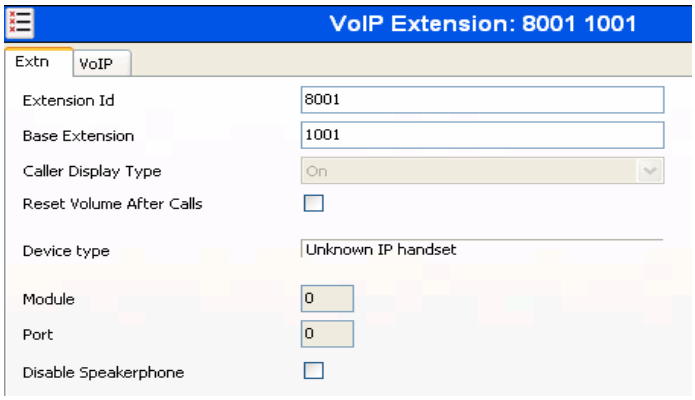
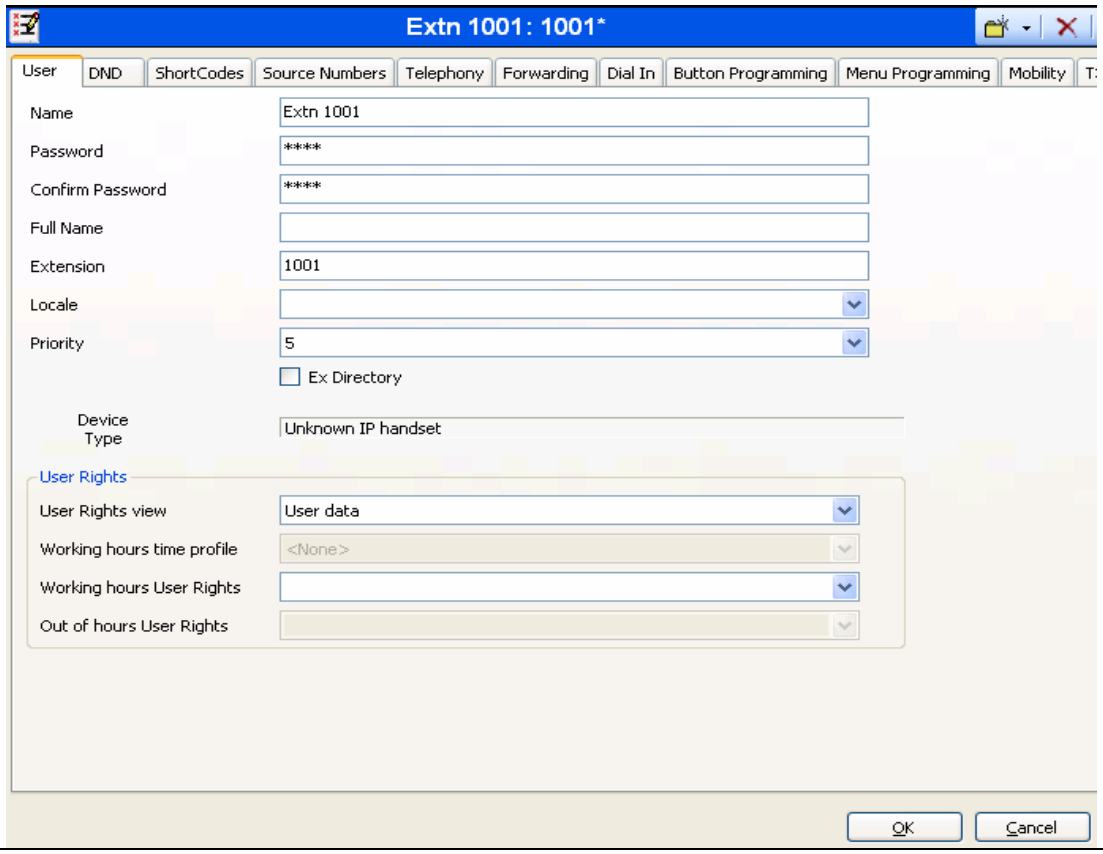
Step	Description
1.	Log into Avaya IP Office Manager PC and go to **Start** → **Programs** → **IP Office** → **Manager** to launch the Manager application. 
2.	In the Manager window, select **File** → **Advanced** → **Security Settings…** to search for IP Office in the network.
3.	Log into Avaya IP Office using the appropriate **Security Service User Login** credentials to receive its security settings.
4.	In the Security Settings General window that appears, click **Services** in the left pane. **Service Details** are displayed. 

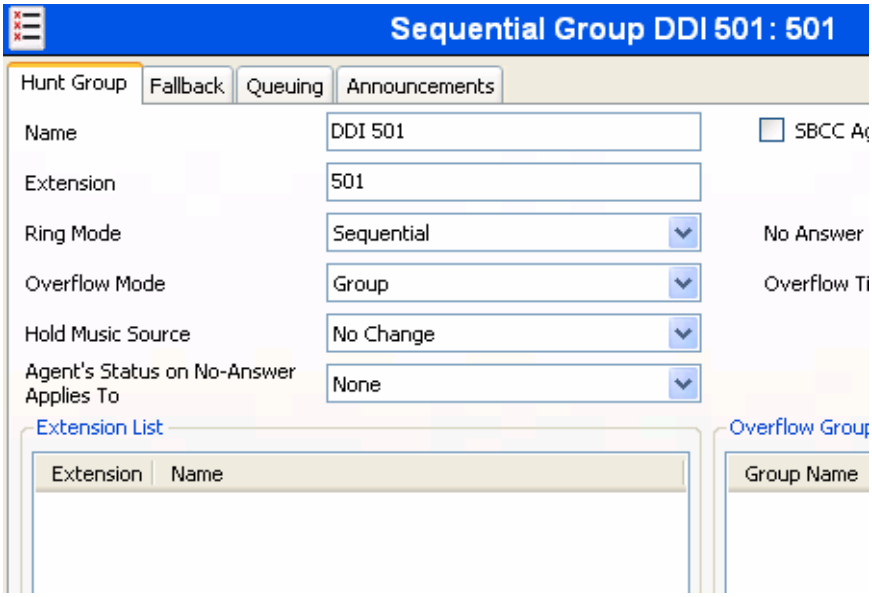
Step	Description
5.	In the **Service Details** tab, from the drop-down list of the **Service Security Level** select value "Secure Low" and click OK. 
6.	In the Manager window, select **File → Save Security Settings** and re-enter username and password of the security administrator.

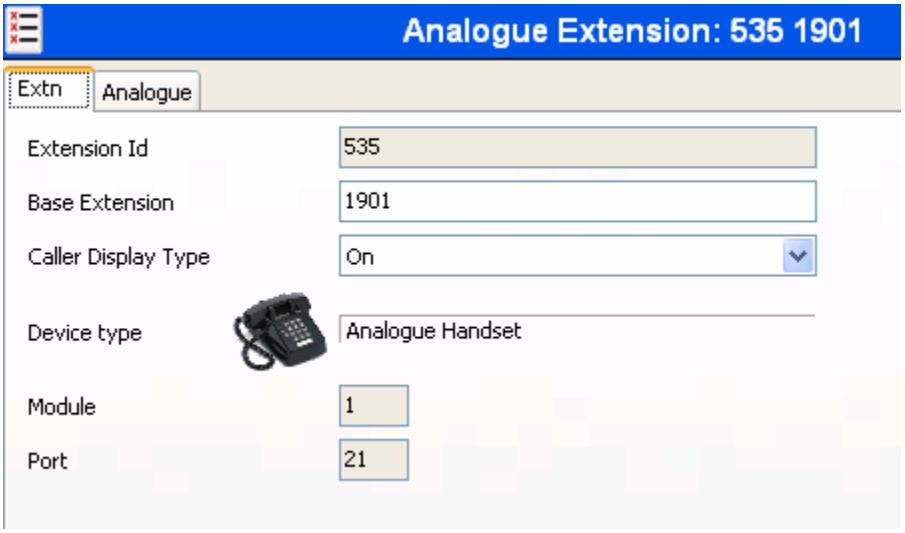
7.	In the Manager window, select **File → Preferences** and select the **Security** tab. The default Security tab is displayed. 
8.	In the **Security** tab, check the **Secure Communications** checkbox, and click OK. 
9.	In the Manager window, select **File → Configuration**.
10.	In the Manager window, select **File → Open Configuration** to search for IP Office in the

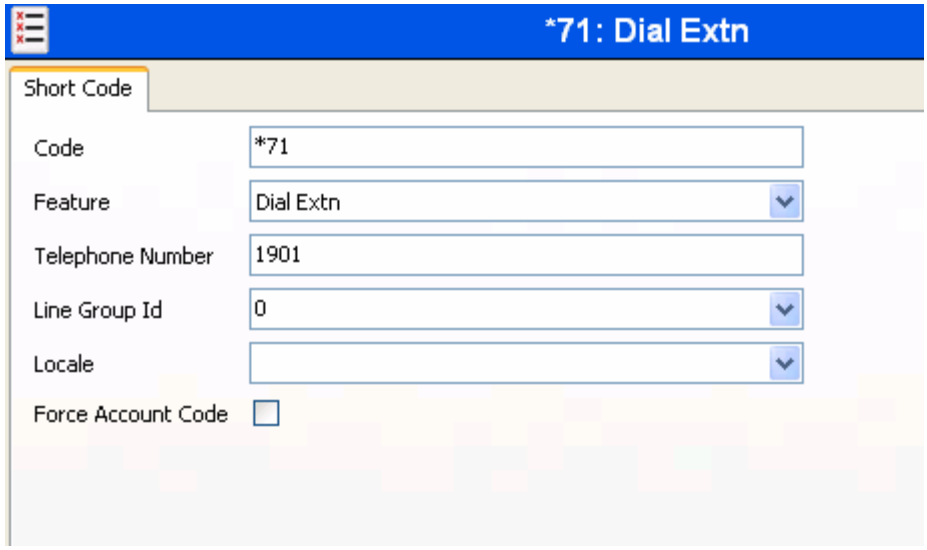
	network.
11.	Log into Avaya IP Office using the appropriate **Administrator Login** credentials to receive its configuration. 

Step	Description
12.	In the Manager window, expand Configuration Tree. Right click on **User Rights,** and select **New** option. New User Rights window appears on the right hand side. In the **Name** field set to "Barred". In the **Outgoing call bar** section, check **the Enable outgoing call bar** checkbox and from the drop down list select "Apply User Rights value" 
13.	Create new **User Rights** and in the **Name** field set to "Unbarred". In the **Outgoing call bar** section, ensure that the **Enable outgoing call bar** checkbox is unchecked and from the drop down list select "Apply User Rights value" 

14.	In the Manager window, go to the Configuration Tree, right-click **Extension** and select **New** in the popup that appears. In the Extension window that appears, set **Base Extension** to "1001" i.e. the first extension in **Table 1** and click **OK**. 
15.	In the Manager window, go to the Configuration Tree, right-click **User** and select **New** in the popup that appears. In the User window that appears, set **Name** to "Extn 1001", set **Password** to "1234", set the same password for **Confirm Password**, and set **Extension** to "1001" i.e. use the details of the first Extension specified as a room station in **Table 1** and click **OK**. 

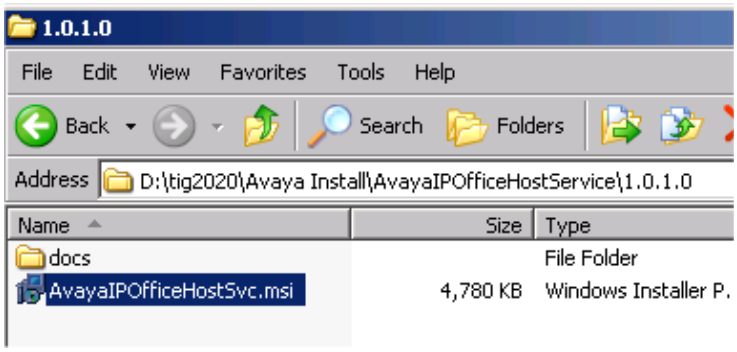
16.	Repeat steps 14 and 15 for each Room Station listed in **Table 1**. For these Application Notes, users for 1001-1003 VoIP extensions were created as well as for 1004-1005 Digital extensions.
17.	In the Manager window, go to the Configuration Tree, right-click **Hunt Group** and select **New** in the popup that appears. In the Hunt Group window that appears, set **Name** to "DDI 501", set **Extension** to "501", set the **Ring Mode** to "Sequential" i.e. use details of the first hunt group listed in **Table 1**. Ensure that no extension is added to the hunt group as they will be automatically added by the Tiger Hotel Pro, once a DDI is allocated to an extension. Click **OK**. 
18.	Repeat step 17 for each hunt group listed in **Table 1**. For these Application Notes, hunt groups 501-504 were created

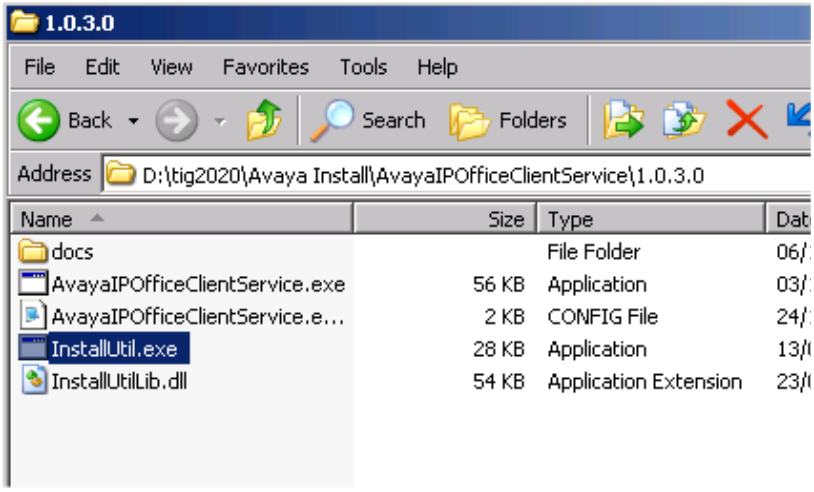
19.	In the Manager window, go to the Configuration Tree, and in the **Extension** area select one of the analog phones which are available by default when Avaya IP Office Analog Expansion Unit is present. Make a note of the selected analog extension and rename the **Base Extension** to "1901", i.e. the first Extension specified for Maid Status feature in **Table 1**. Click **OK**. 
20.	In the Manager window, go to the Configurations Tree, and in the **User** area select the User corresponding to the original analog extension that was renamed in previous step. Rename the **Name** to "Vacant Dirty" and **Extension** to "1901", i.e. use the details of the first Extension specified for Maid Status feature in **Table 1**. Click **OK**. 
21.	Repeat steps 19 and 20 for each extension and user listed in **Table 1** used for the Maid Status feature. For these Application Notes, the following Extensions were created 1901-1906.

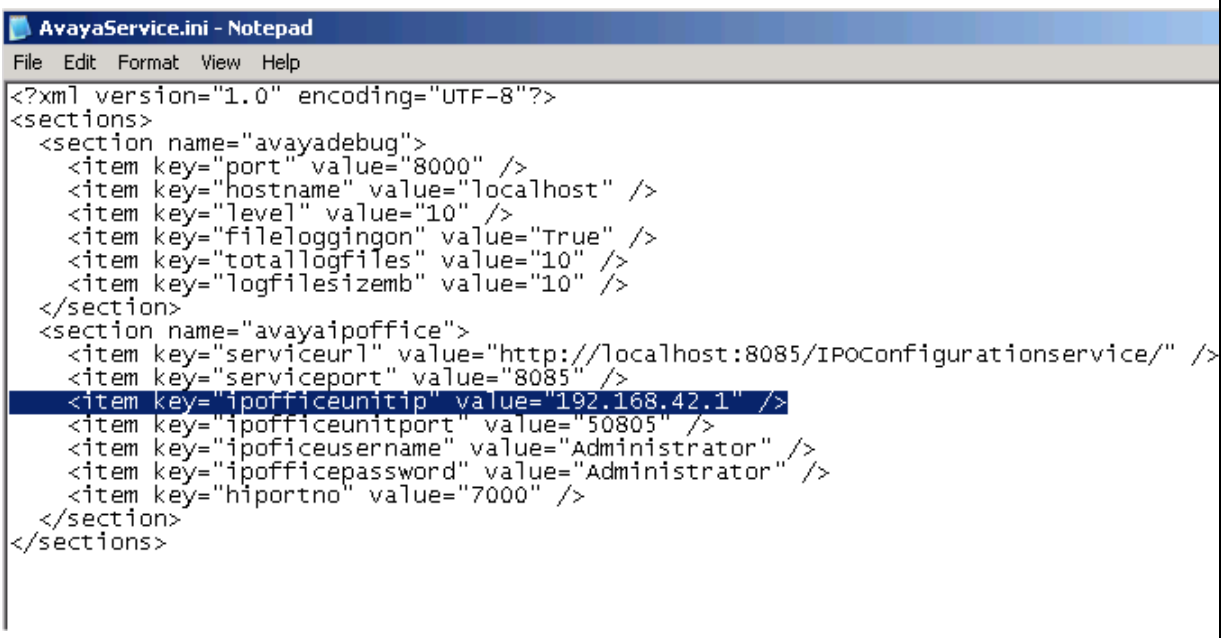
22.	In the Manager window, go to the Configuration Tree, right-click **Short Code** and select **New** in the popup that appears. In the Short Code window that appears, set **Code** to "*71", set **Feature** to "Dial Extn" and set **Telephone Number** to "1901", i.e. use the details of the first Short Code listed in **Table 1**. Click **OK**. 
23.	Repeat step 22 for each short code listed in **Table 1**. For these Application Notes, hunt groups *71-*76 were created
24.	In the Manager window, select **File** → **Save** to push the configuration to Avaya IP Office and wait for the system to update. This completes configuration of Avaya IP Office.

4. Configure Tiger Hotel Pro

The configuration information provided in this section describes the steps required to set up Tiger Hotel Pro to interoperate with Avaya IP Office 4.2. Tiger Hotel Pro utilizes XML based communication for hospitality control of Avaya IP Office. Hospitality features are translated into a set of XML commands which are passed via a secure IP port to Avaya IP Office.
For all other provisioning information, such as software installation, installations of optional components, and configuration of Tiger Hotel Pro, please refer to the Tiger Communications' product documentation in reference [2].

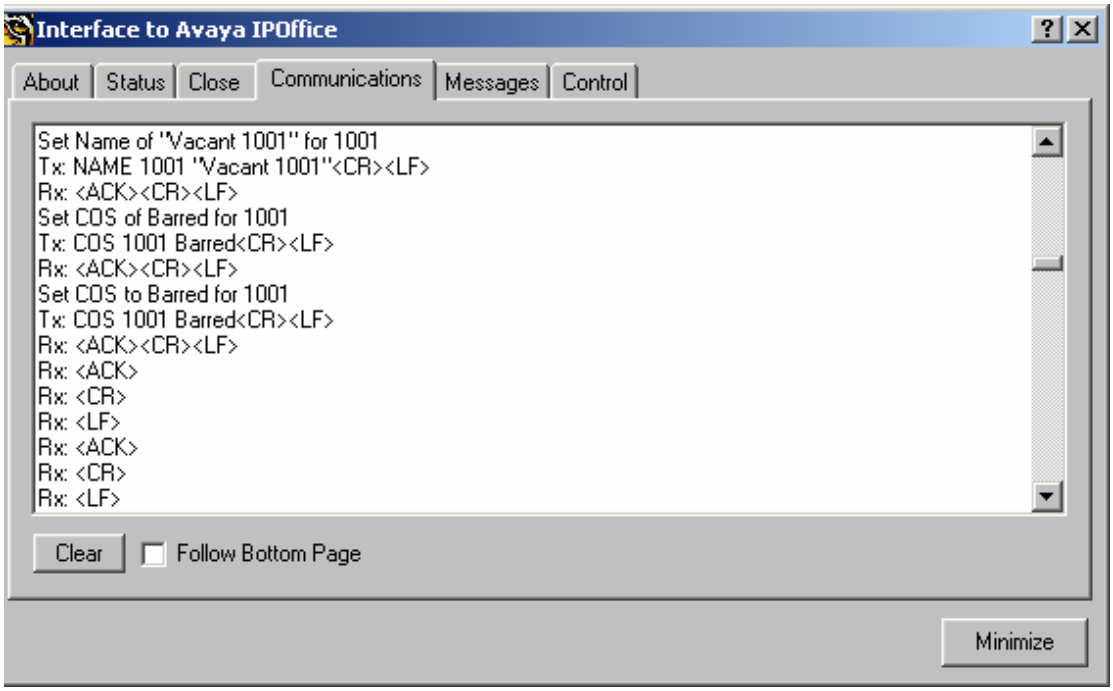
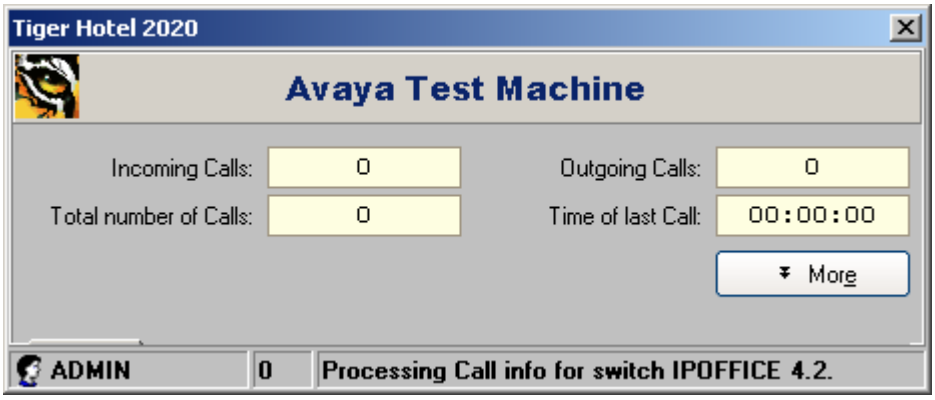
Step	Description
1.	Install **AvayaIPOfficeHostService** by running AvayaIPOfficeHostSvc.msi installer, which can be found in folder: D:\tig2020\Avaya Install\AvayaIPOfficeHostService\1.0.1.0\. AvayaIPOfficeHostService should be installed in the following location D:\tig2020\Avaya\Host\ and it will startup automatically after installation. 

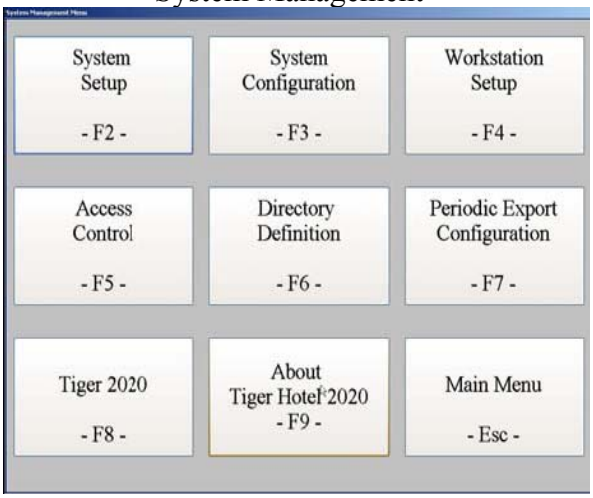
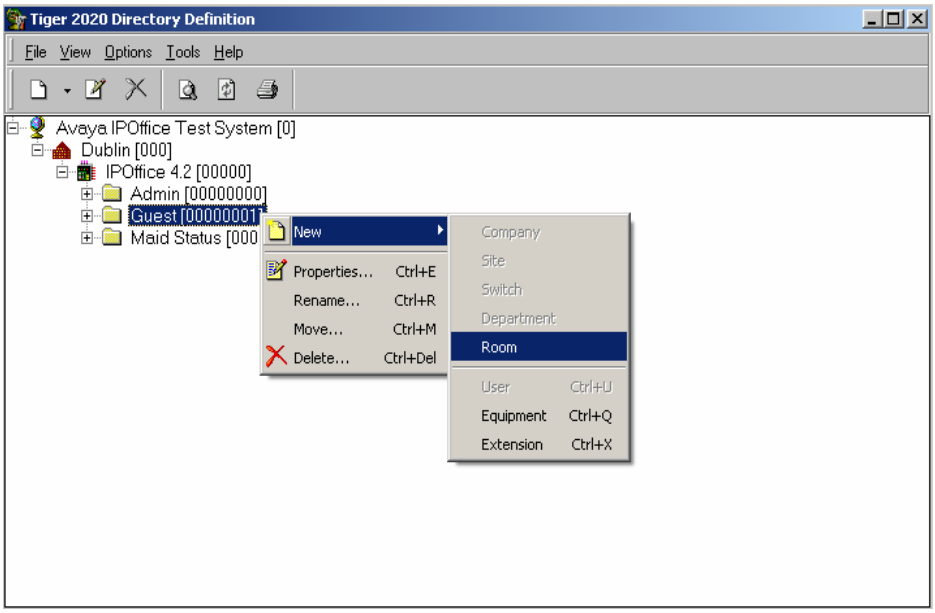
Step	Description
2.	Install **AvayaIPOfficeClientService** 1. Installation software for the Client service can be found in folder: D:\tig2020\Avaya Install\AvayaIPOfficeClientService\1.0.3.0\  2. Copy the files from the install folder 1.0.3.0 into directory where you want Avaya IP Office client service to be installed: d:\tig2020\Avaya\Client 3. Start a command prompt and go to folder where you want the client service to be installed: d:\tig2020\Avaya\Client and type the following: InstallUtil.exe AvayaIPOfficeClientService.exe 4. Once the installer is run, the AvayaIPOfficeClientService will be installed and it can be started from Windows Services, under Administrative tools.

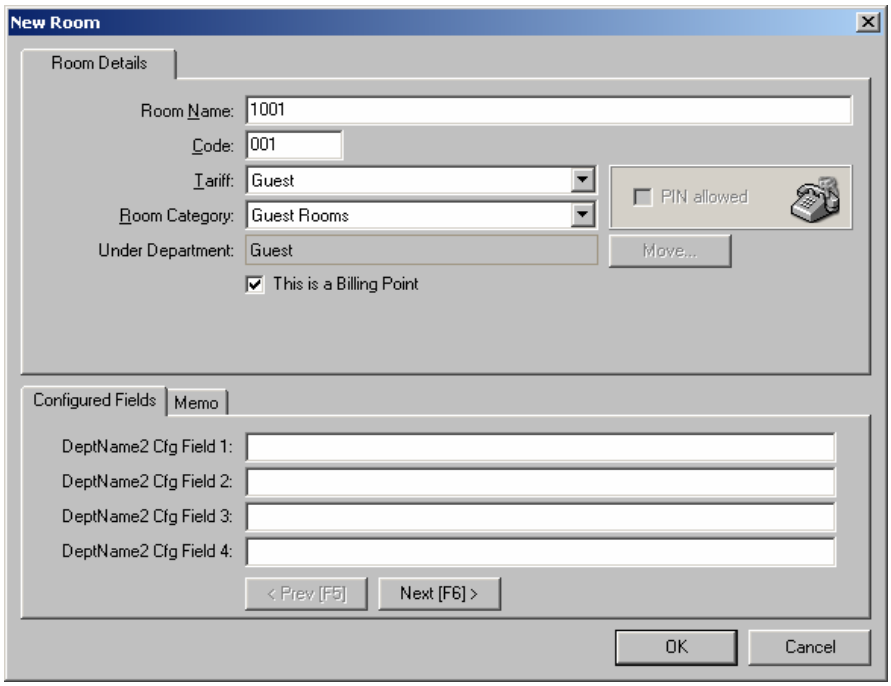
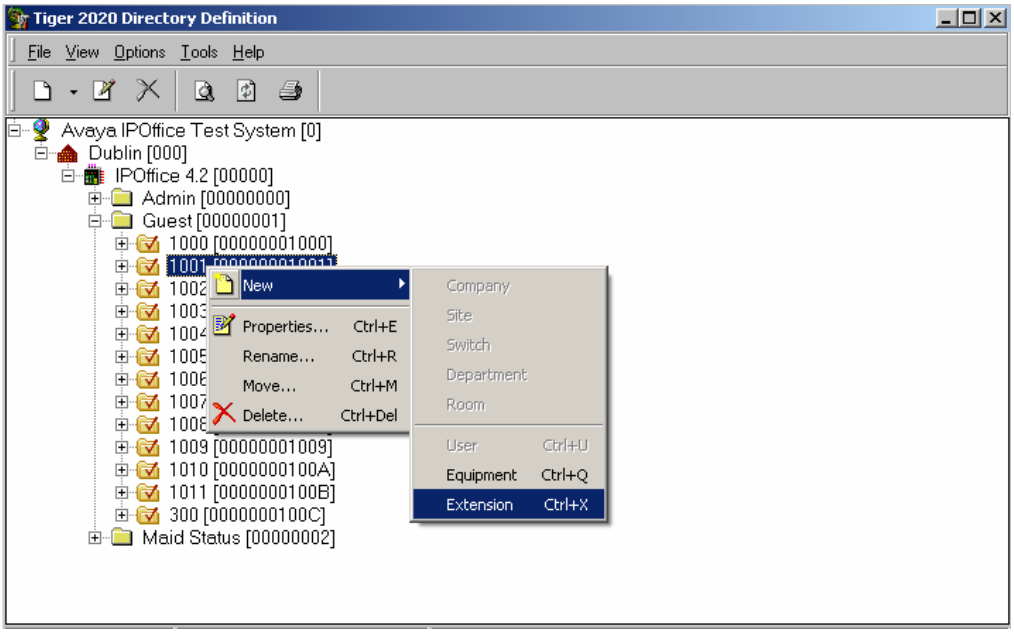
Step	Description
3.	Configure the **AvayaService.ini** file which is located in the install directory of the AvayaIPOfficeClientService D:\tig2020\Avaya\Client\. Set **ipofficeunitip** with Avaya IP Office's IP address e.g. "192.168.42.1", and also ensure that **ipofficeunitport** is set to "50805", the secure port. 

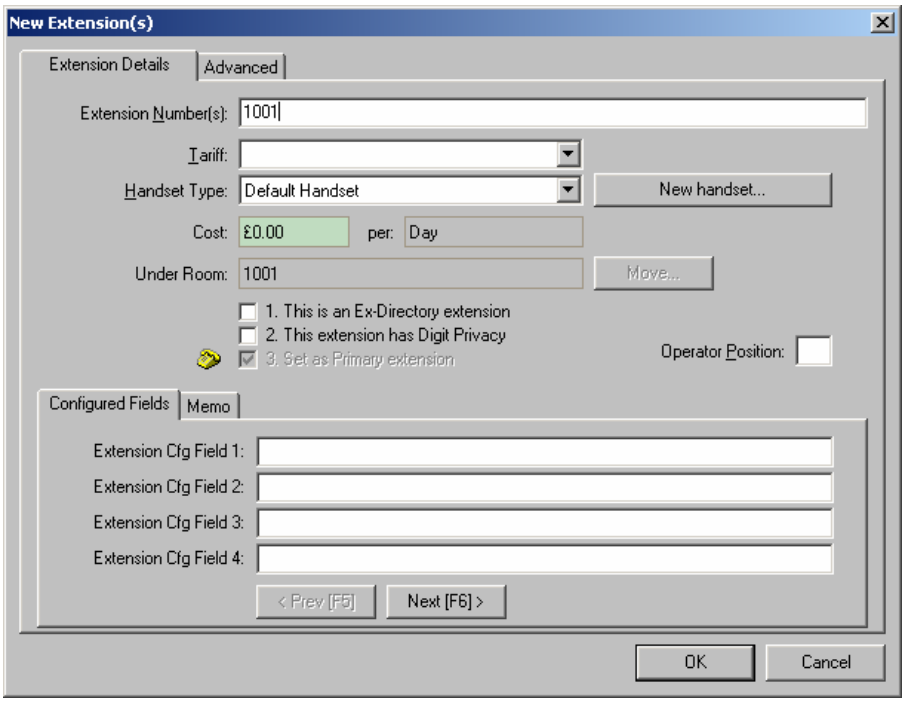
Step	Description

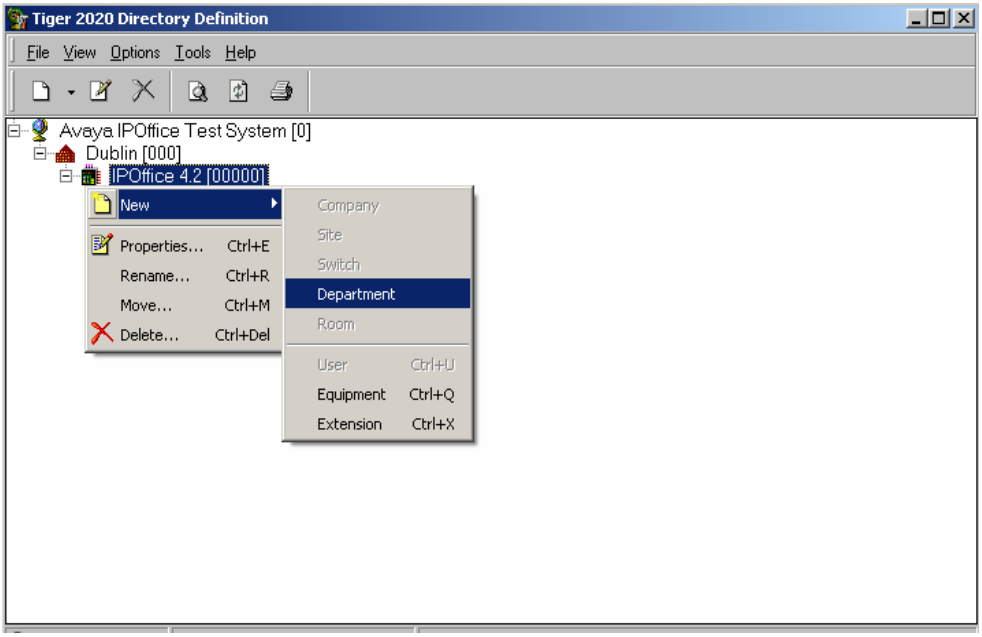
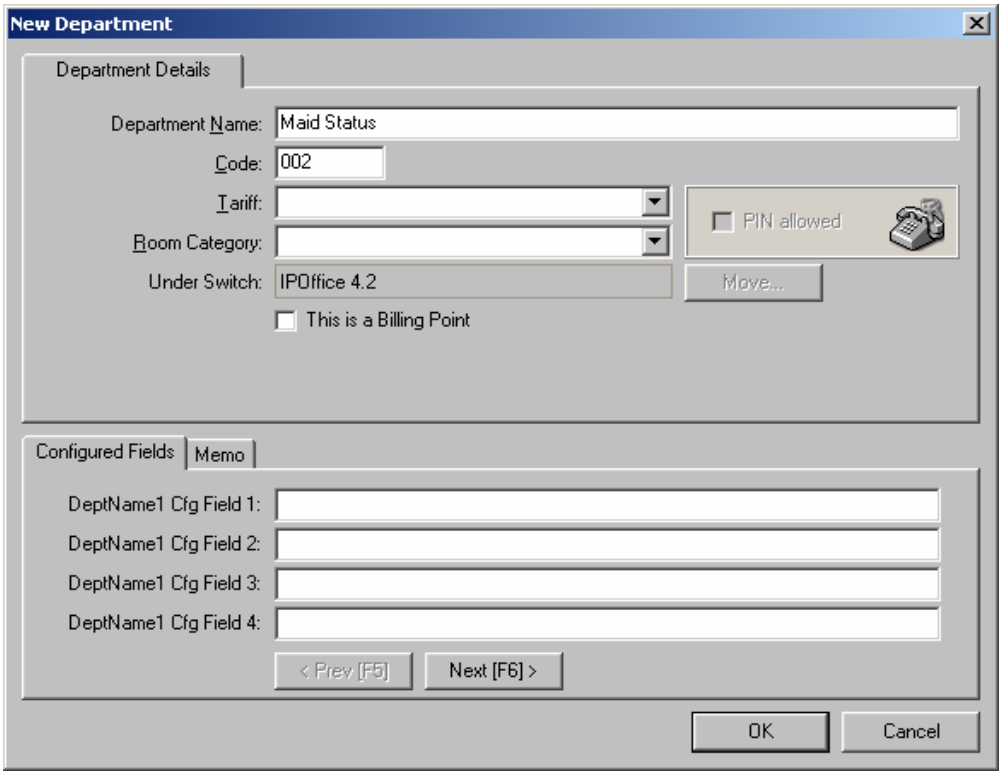
4.	Ensure that the Tiger Hospitality Interface INI file, **pbx_AvayaIPOffice.ini,** is pointing at the "pbx_AvayaIPOffice.his" script. The pbx_AvayaIPOffice.ini file is located in: d:\tig2020\Scripts\SwitchPMS\.
	
	`[General]`
	`RunInstance=2000`
	`ConnectedTo=Avaya IPOffice`
	`QuitFile=d:\tig2020\Scripts\SwitchPMS\pbx_AvayaIPOffice.QIT`
	
	`[Script]`
	`FileName=d:\tig2020\Scripts\SwitchPMS\pbx_AvayaIPOffice.his`
	
	`[Port]`
	`PortType=IP`
	`ClientServer=Client`
	`IPAddress=127.0.0.1`
	`IPPortNumber=7000`
	`IPPersistentSocket=1`
	
	`[Display]`
	`FormTop=275`
	`FormLeft=121`
	`MsgFollowBottom=1`
	`CommsFollowBottom=1`
	`DebugFollowBottom=1`

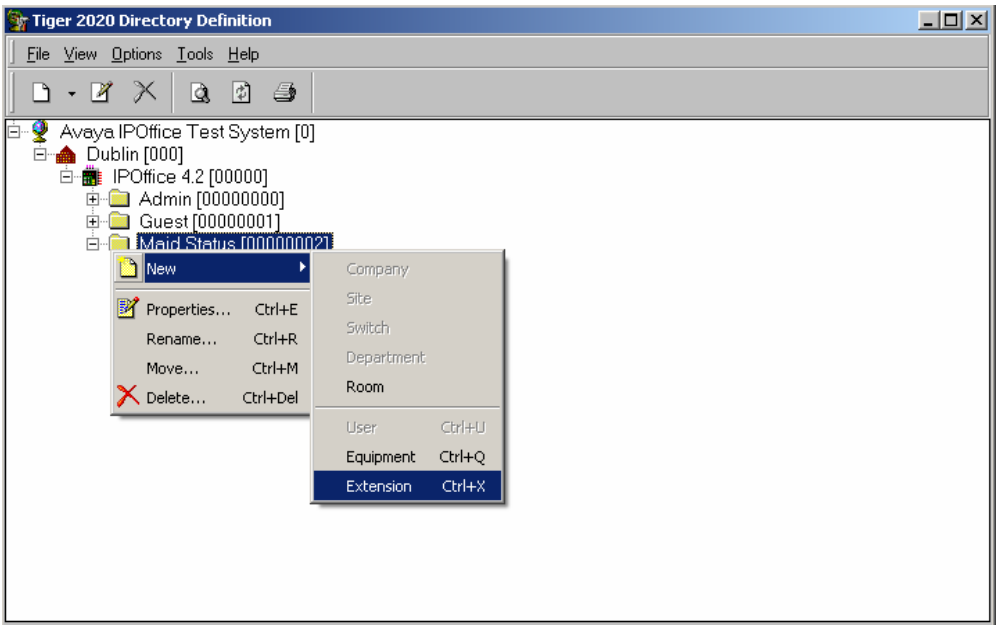
Step	Description
5.	Start the **Interface to Avaya IP Office**: On the Tiger Hotel Pro server run the batch file by clicking on **Start → Programs → Startup → Start Interfaces**. Once the batch file has been executed the Interface to Avaya IP Office dialog box will be displayed. The interface shown below will display events that are passed from the Tiger Hotel Pro to Avaya IP Office using the XML service. 
6.	On the Tiger Hotel Pro server, click on **Start → Programs → Tiger 2020 Hotel Pro → Tiger Hotel 2020**. In the Tiger Hotel 2020 screen that appears, click anywhere within this screen to launch the username and password dialog box (not shown) enter the appropriate user name and password to launch the Main Menu options screen shown in next step. 

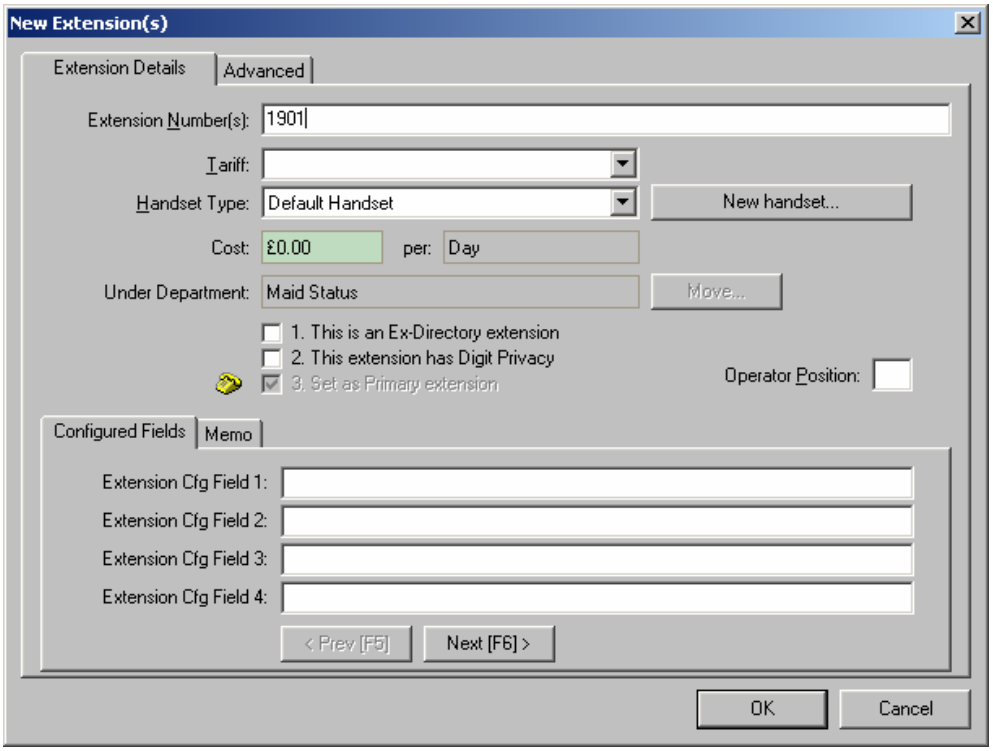
Step	Description
7.	In the Main Menu screen, click on **System Management (F9)** then **Directory Definition (F6)**. Main Menu  System Management 
8.	Expand the tree by clicking **Company (Avaya IPOffice Test System) → Site (Dublin) → Switch (IPOffice 4.2) → Guest**. Right click on **Guest → New → Room**, as shown in the screen below. 

Step	Description
9.	Enter the room extension in the **Room Name** field. For the **Tariff** field select "Guest" from the drop down list and for the **Room Category** field select "Guest Room" from the drop down list. Tick the checkbox for **This is a Billing Point** option. Click **OK**. 
10.	In the Tiger 2020 Directory Definition screen, right click on the new room created in the previous step and select **New** → **Extension** to assign an extension to the room. 

Step	Description
11.	In the **Extension Number(s)** field enter the extension number for the new room created in step 9. Click **OK**. 
12.	Repeat steps 8-11 for each Room Station listed in **Table 1**.

13.	Go to **Directory Definition** as described in step 7. Expand the configuration tree by clicking **Company (Avaya IPOffice Test System) → Site (Dublin) → Switch (IPOffice 4.2)** and right click on **IPOffice 4.2 → New → Department**, as shown in the screen below. 
14.	For the **Department Name** specify "Maid Status". Click **OK**. 

15.	In the Tiger 2020 Directory Definition screen, right click on the new Maid Status department created in the previous step and select **New** → **Extension** to create the new extensions for the Maid Status. 

16.	In the **Extension Number(s)** field enter the extension number 1901, i.e. the first number listed for the Maid Status feature in **Table 1**. Click **OK**. 
17.	Repeat steps 15 and 16 for each extension used for the Maid Status feature listed in **Table 1**.

5. Interoperability Compliance Testing

The interoperability compliance testing included feature and serviceability testing. The feature testing evaluated the ability of Tiger Hotel Pro to carry out hospitality functions through XML based communication with Avaya IP Office. The serviceability testing introduced failure scenarios to see if Tiger Hotel Pro could resume after a link failure.

5.1. General Test Approach

The general test approach was to validate correct operation of typical hospitality functions including

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

Feature functionality testing was performed manually. The Tiger Hotel Pro interface was used to exercise hospitality features like check-in, check-out, and room transfer. These activities would cause the following to occur: User's name in IP Office was updated with specified value or with "Vacant", outbound external calls on an extension were barred/unbarred, Hunt Groups which were used for DDI allocation were updated with correct extensions. Internal and external calls were made by using digital and IP Telephones, and external inbound and outbound calls were made through an E1/PRI trunk.

5.2. Test Results

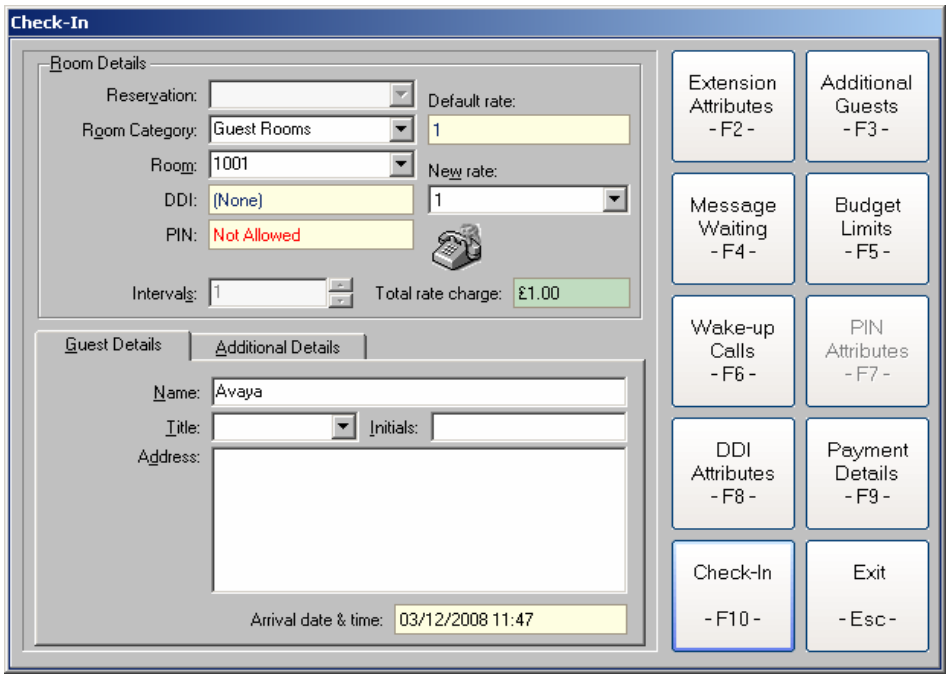
All test cases that were executed have successfully passed. Observations made during testing are noted below.

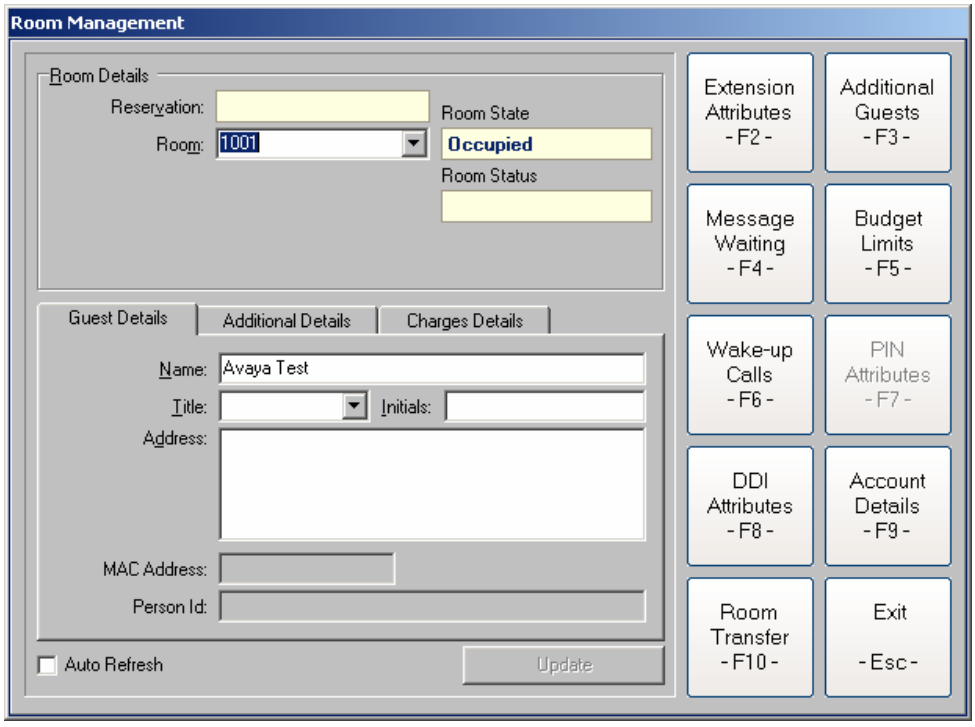
Note: Tiger Hotel Pro sends names in reversed order: Tiger Hotel Pro reverses names which are specified during check-in and sends them in reversed order to Avaya IP Office. This might be an issue for Tiger Hotel Pro but it doesn't affect compliance testing with Avaya IP Office.

Checked in Name: Avaya Test One
Name sent to Avaya IP Office: One Test Avaya

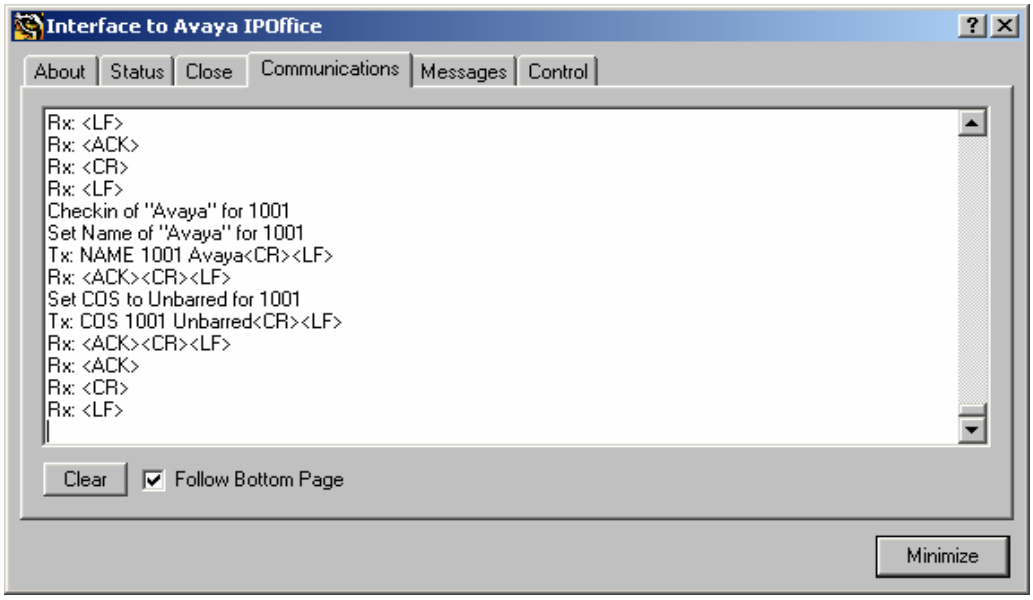
Status: According to developers in Tiger Communications, this is working as designed.

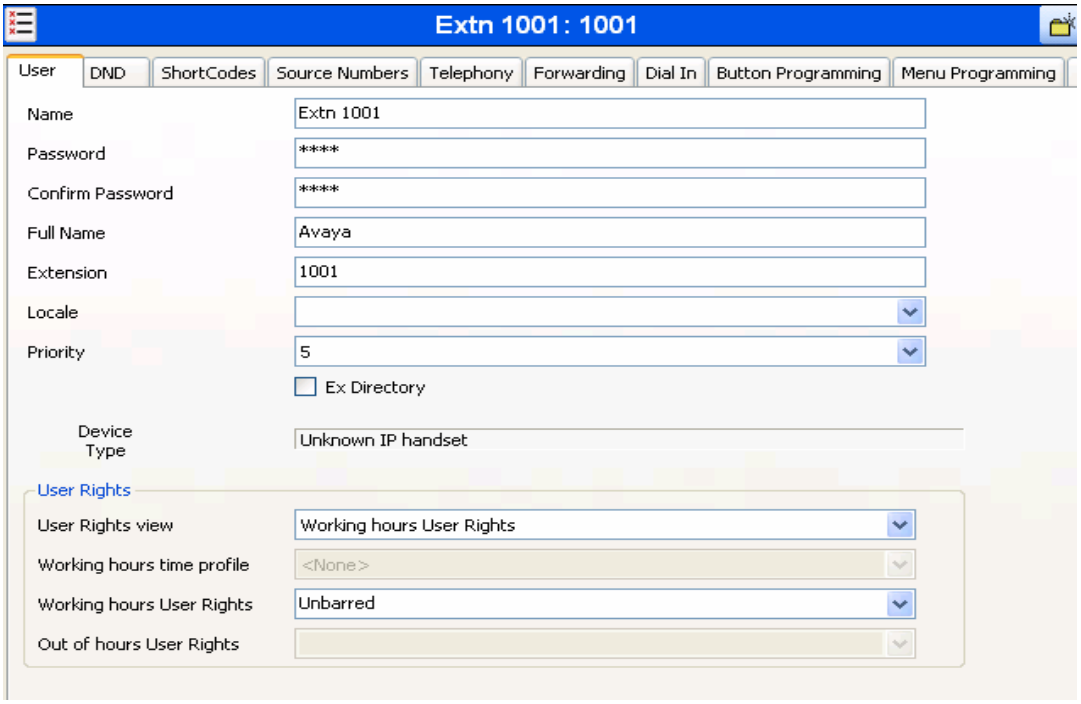
6. Verification Steps

Step	Description
1.	Using the Tiger Hotel Pro Check-in hospitality function, assign room 1001 with extension to 1001 to a guest. In the Main Menu screen, click on **Check-In (F2)**. 
2.	In the Check-In dialog box, select "Guest Rooms" from the drop down list for **Room Category**. In the **Room** select a room 1001 from the drop down list. Enter a descriptive name for the Guest Details **Name** field and then click on the **Check-In (F10)** button. 

Step	Description
3.	In the Main Menu screen, click on **Room Management (F4)**. 
4.	In the Room Management screen, select room "1001" from the **Room** field drop down list. Verify the **Room state** is "Occupied". 

Step	Description
5.	Verify that Tiger Hotel Pro has passed correct details to Avaya IP Office in the window "Interface to Avaya IP Office**"**



Step	Description
6.	Verify that details of the **User** corresponding to extension 1001 in Avaya IP Office are correctly updated: -Verify User's Full Name is updated with specified guest's name - Verify "User Rights view" is set to "Working hours user rights" - Verify "Working hours user rights" is set to "UNBARRED" - Verify you can make external calls from this extension 

7. Support

If technical support is required for the Tiger Communications' Hotel Pro, contact the Technical Support Department.

Email: support@tigercomms.com

Phone: +44 1425 891 000

8. Conclusion

These Application Notes describe the required configuration steps for the Tiger Hotel Pro to execute hospitality functions with Avaya IP Office.
All test cases that were executed have successfully have passed and Tiger Hotel Pro was successfully executing hospitality functions with Avaya IP Office.
Tiger Hotel Pro version 4.9.4.1 was successfully compliance tested with Avaya IP Office version 4.2(4)

9. Additional References

[1] Product documentation for Avaya products may be found at http://support.avaya.com
Avaya IP Office 4.2 Manager 6.2, Issue 22d, 14th July 2008

[2] Product documentation for Tiger Communications' products may be found at:
www.tigercomms.com

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.