Avaya Solution & Interoperability Test Lab

Application Notes for Configuring WinExpress 3.0 with Avaya IP Office R9.1 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for WinExpress 3.0 to interoperate with Avaya IP Office 9.1. WinExpress is a universal interface system which offers a real-time, multi-tasking, seamless interface between the hotel exchange and the hotel front office system. It comprises of two main components, i.e., Phoenix voicemail and Unicorn call accounting package and interface solution. In the compliance testing, WinExpress used SIP Users, TAPI, SMDR, and Configuration Web Service interfaces from Avaya IP Office to provide voicemail, wake-up call, room status, mini-bar posting, call billing, as well as name and user profile template change features.

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.

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1 of 44
WinExpressIPO91

1. Introduction

These Application Notes describe the configuration steps required for WinExpress 3.0 to interoperate with Avaya IP Office R9.1. WinExpress is a Windows-based hospitality system that provides a seamless interface with a hotel's Front Office System and Avaya IP Office. In the compliance testing, WinExpress used SIP Users, TAPI, SMDR, and Configuration Web Service interfaces from Avaya IP Office to provide voicemail, wake-up call, room status and mini-bar posting, call billing, name and user profile template change, and do not disturb features.

The SIP User and TAPI interfaces were used by WinExpress to provide hospitality features such as voicemail, wake-up call, do not disturb, room status and mini-bar posting. In the compliance testing, Phoenix registers as SIP users on Avaya IP Office for voice mail and wakeup services and posting of mini-bar and room status through the phones. The SIP users were configured as members of a hospitality hunt group. The TAPI interface sets the divert setting for Do Not Disturb for guest room phones when requested manually by the guests.

For the voicemail coverage scenarios, voicemail messages were recorded and saved on WinExpress. The TAPI lineDevSpecific capability was used to activate/deactivate the Message Waiting Indicator (MWI).

The Unicorn component was used in the compliance testing to initiate the room check-in, check-out, and move requests on WinExpress and Avaya IP Office. In the compliance testing, two user rights templates were set up on Avaya IP Office for use with check-in and check-out guests. Unicorn used the Configuration Web Service to send updates to Avaya IP Office on the guest name and user rights template as part of the check-in, check-out, and move process. Two other user rights templates were set up on Avaya IP Office for use with barring and unbarring of guest phones for outgoing calls.

The Station Message Detail Reporting (SMDR) interface was used by WinExpress to capture calls made from room phones for the purpose of call billing.

2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were made from the PSTN, and from local users, to the hospitality hunt group by dialing the different extensions for voice message recording/retrieval, mini-bar and room status posting and wake-up call schedule. The Unicorn was used to manually initiate check-in/check-out/move requests, to activate/deactivate the MWI for Voicemail and to set Do Not Disturb. For SMDR testing, incoming and outgoing calls were made to/from the PSTN and the WinExpress call billing reports were verified. The serviceability test cases were performed manually by disconnecting and reconnecting the Ethernet cable to WinExpress, and rebooting the Avaya IP Office and WinExpress server.

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 test included feature and serviceability testing. The feature testing focused on verifying the following on WinExpress:

- Registration of SIP users.
- Handling of voicemail messages and message waiting lamps for check-in, check-out and move requests.
- Voicemail recording and retrieval, with proper message waiting lamp activation/deactivation for users with analog, digital and IP telephone types.
- Scheduling and delivering of wake-up call requests, including retried attempts and escalation to Operator.
- Setting of MWI for both voice and text messages and do not disturb divert parameters using the TAPI interface.
- Posting of room status and mini-bar usage from the room phones.
- Use of Configuration Web Services to update guest name and user rights template associated with check-in, check-out, and move requests from the Unicorn.
- Capture calls made from room phones for the purpose of call billing.

The serviceability testing focused on verifying the ability of WinExpress to recover from adverse conditions, such as disconnecting and reconnecting the Ethernet cables to WinExpress and rebooting of IP Office and WinExpress server.

2.2. Test Results

All test cases were executed and passed. A point to note is that SIP registration with TCP is not successful due to the format of the URL request in the SIP Invite.

2.3. Support

Technical support on WinExpress can be obtained through the following:
- **Website: http://www.fcscs.com/**

3. Reference Configuration

The configuration used for the compliance testing is shown below. In the compliance testing, WinExpress was installed on a server. Unicorn initiate room check-in/check-out and move via an Opera Simulator, capture SMDR, and to set Do Not Disturb. Phoenix handles the voicemail reception, recording and playback, wake-up calls as well as room and mini-bar status setting and reporting.
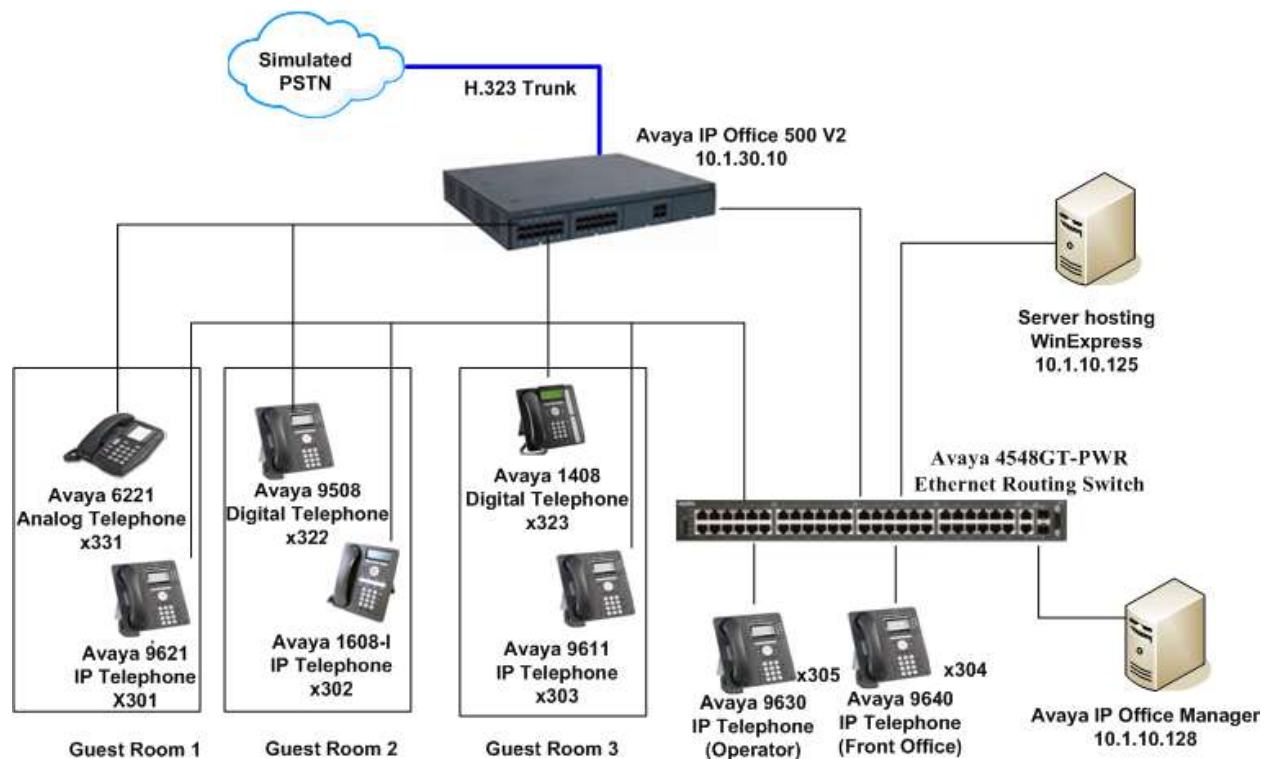
Figure 1: Test Configuration of WinExpress 3.0 and Avaya IP Office R9.1

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500 V2	9.1.300.120
Avaya IP Office Manager	9.1.300.120
Avaya IP Office TAPI2 Service Provider	1.0.0.42
Avaya 96x1 H323 IP Telephones	6.6029
Avaya 96x0 H323 IP Telephones	3.250A
Avaya 950x H323 IP Telephones	R55
Avaya 16xx H323 IP Telephones	1.360A
Avaya 14xx Digital Telephones	R40
Avaya 6221 Analog Telephone	-
FCS Phoenix running on Microsoft Windows 2012 R2 SP1 on VMware 5.x platform	2.1
FCS Unicorn running on Microsoft Windows 2012 R2 SP1 on VMware 5.x platform	1.2

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

5. Configure Avaya IP Office

This section provides the procedures for configuring Avaya IP Office. The procedures include the following:

- Verify Avaya IP Office license
- Obtain LAN IP address
- Administer SIP Registrar
- Administer SIP Extensions
- Administer SIP Users
- Administer Hospitality Hunt Group
- Administer Incoming Call Route
- Administer System Voicemail
- Administer Voicemail Users
- Administer Analog User MWI
- Administer User Rights
- Administer Security Service
- Administer System Password
- Administer SMDR

5.1. Verify Avaya IP Office License

From a PC running the Avaya IP Office Manager application, select **Start → All Programs → IP Office → Manager** to launch the Manager application. Select the correct IP Office system, and log in with the appropriate credentials.

From the home screen configuration tree in the left pane, select **License** and on the right pane scroll down to display the **3rd Party IP Endpoints**. Verify that the **License Status** is "Valid". This license is required for Phoenix to register to IP Office as a SIP User. The **CTI Link Pro** screen is also shown. Verify that the **License Status** is "Valid". This license is required for Unicorn to use third-party TAPI control mode on IP Office.

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SPOC 10/13/2015

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6 of 44
WinExpressIPO91

5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System → SGIP500V2** screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure WinExpress. Note that IP Office can support SIP on the LAN1 and/or LAN2 interfaces, in this compliance testing LAN1 interface is used.

5.3. Administer SIP Registrar

From the same screen in **Section 5.2**, select the **VoIP** sub-tab. Ensure that **SIP Registrar Enable** is checked. Enter a valid **Domain Name** for SIP endpoints to use for registration with IP Office. In this compliance testing, the **Domain Name** is left **blank** so that the LAN IP address is used for registration. Ensure the **UDP** and **TCP** is selected for Layer 4 Protocol with **UDP Port 5060**. In this compliance testing, the UDP port is used for SIP registration by Phoenix. TCP port was not successful in registration due to the format of the SIP Invite URL request that can be accepted in this IP Office version.

5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension** and select **New → SIP Extension** (not shown) from the pop-up list to add a new SIP extension. Enter the desired digits for **Base Extension**, and check **Force Authorization**, as shown below.

Click on the **VoIP** tab and select **RFC2833** from the drop down menu for the DTMF Support.
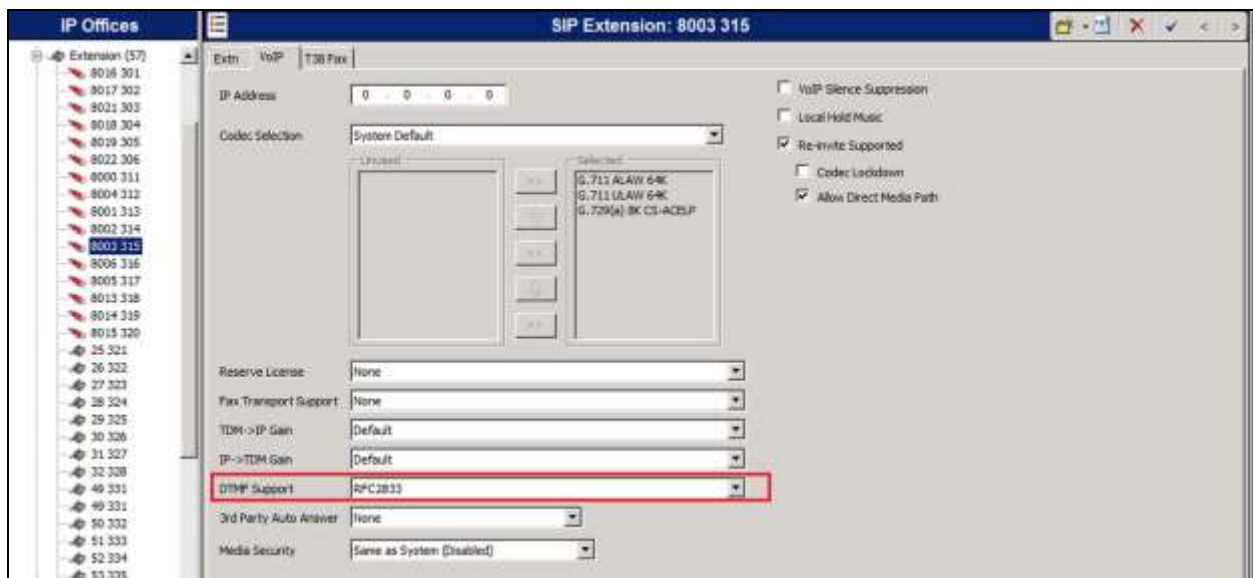
Repeat this section to add other SIP extensions.

In the compliance testing, the following SIP extensions, with base extensions of **311-313** and **315-317** were created. Phoenix used the called-party number 311-313 for various hospitality features.
Note: The number of SIP extensions required depends on the number of Phoenix SIP ports purchased by the customer as well as the number of services they would like to configure.

Call receive by Phoenix at 315-317 will detect the type of call based on the called-party number in the SIP INVITE to determine whether the call is routed from another phone or direct incoming. If it is direct hospitality hunt group 310, the caller is retrieving a voice message. But if it is indirect, where the called-party is user, the caller is leaving a voice message.

SIP Extension	Usage
315, 316 and 317	Phoenix registers to these extension for receiving voicemail calls
311	Post mini-bar/room status
312	Express leave voice message
313	Set wakeup call

5.5. Administer SIP Users

SIP users are administered for the SIP extensions created in **Section 5.4.** The primary SIP users "315", "316" and "317" are for receiving calls and the secondary SIP users "311", "312" and "313" are to forward calls to primary SIP users via a hospitality hunt group configured in **Section 5.6**.

5.5.1. Administer Primary SIP Users

From the configuration tree in the left pane, right-click on **User** and select **New** from the pop-up list (not shown). Enter the desired values for **Name** and **Full Name**. For **Extension**, enter the first Base Extension from **Section 5.4**. Phoenix registers using this primary SIP User to receive calls.

Select the **Voicemail** tab and uncheck **Voicemail On**, as shown below.

Select the **Telephony** tab, followed by the **Call Settings** sub-tab. Check **Call Waiting On**, as shown below.
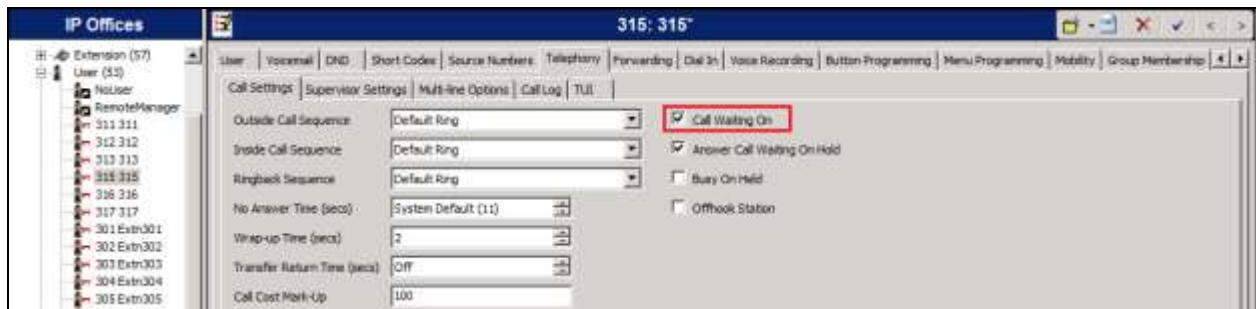
Select the **Supervisor Settings** sub-tab. Check the **Cannot be Intruded** field, as shown below. Specify the **Login Code** and **Confirm Login Code** field, which will be used by Phoenix to log in as the SIP User.
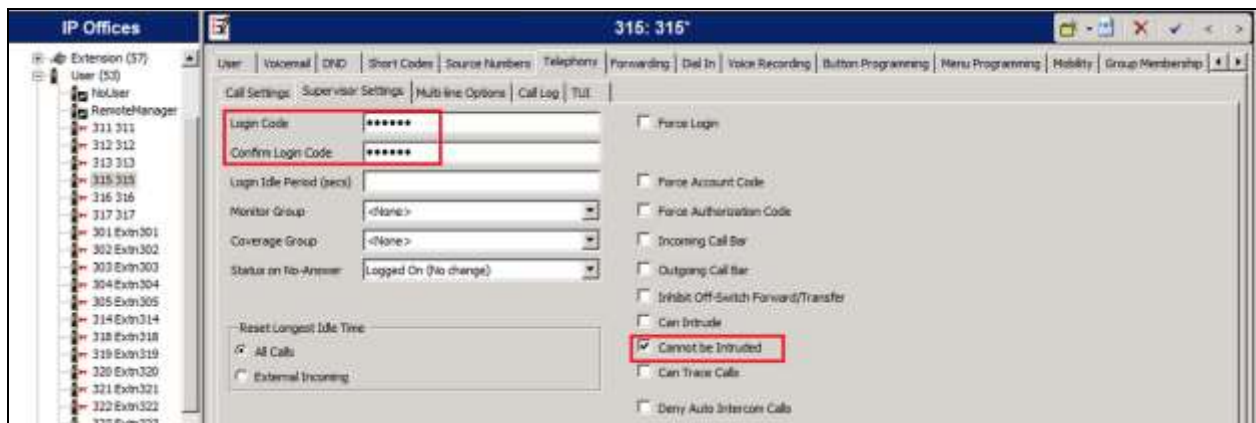
Repeat this section to add another two primary SIP Users associated with the last two primary SIP Extensions from **Section 5.4**. In this compliance testing, SIP Users 315-317 were created.

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11 of 44
WinExpressIPO91

5.5.2. Administer Secondary SIP Users

From the configuration tree in the left pane, right-click on **User** and select **New** (not shown) from the pop-up list. Enter desired values for **Name** and **Full Name**. For **Extension**, enter the secondary SIP users Base Extension from **Section 5.4**, in this case starting from "311".

Select the **Forwarding** tab. Check **Forward Unconditional** and set the **Forward Number** to the primary SIP Users hunt group, in this case "310", as shown below. Check **Forward Internal Calls**.

Repeat this section to add another two secondary SIP Users associated with the last two SIP Extensions from **Section 5.4**. In this compliance testing, SIP Users 311-313 were created.

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12 of 44
WinExpressIPO91

5.6. Administer Hospitality Hunt Group

From the configuration tree in the left pane, right-click on **Group** and select **New** (not shown) from the pop-up list to add a new hunt group. This hunt group will be used to deliver calls to Phoenix for the hospitality features and voicemail. Enter desired values for the **Name** and **Extension** fields, retain the default values in the remaining fields. Click on **Edit** in the **User List** section below the page to add members.

The **Select Members** screen is displayed. Select the SIP primary users from **Section 0**, and click the **Append** button to move the selected entries to the right.

The **Sequential Group** screen is displayed again and updated with the selected member.
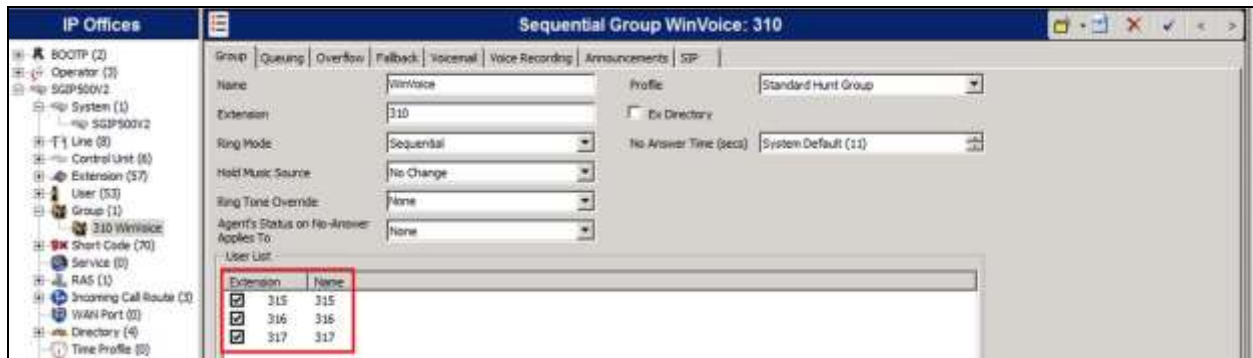
Select the **Voicemail** tab, and make sure **Voicemail On** is unchecked, as shown below.

Select the **Queuing** tab, and uncheck **Queuing On**, as shown below.

5.7. Administer Incoming Call Route

If necessary, create an incoming call route to route incoming calls to the desired phones. During compliance testing, an incoming call route was created to route incoming calls for the Trunk, to the front office phone.

As shown in the screen below, the **Incoming Number** for the ISDN PRI line "0" is "33100310".

In the **Destinations** tab, select the front office phone extension from the **Destination** drop-down menu to route all incoming trunk calls to it. During the compliance testing, Extension "304" was used, as shown below.

5.8. Administer System Voicemail

From the configuration tree in the left pane, select **System (1)** → **SGIP500V2** to display the **SGIP500V2** screen in the right pane. Select the **Voicemail** tab in the right pane.

For **Voicemail Type**, select "Group Voicemail" from the field drop-down list. For **Voicemail Destination**, select the name of the hospitality hunt group from **Section 5.6**.

5.9. Administer Voicemail Users

From the configuration tree in the left pane, select the first user that will be using WinExpress for voicemail – these can be Guests and/or Admin staff. In this case, the user is "301". Enter a descriptive **Name**. The **Full Name** can be completed as a template for identification or blank as it will be used by Unicorn to update the guest name through Configuration Web Services of IP Office.

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SPOC 10/13/2015

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16 of 44
WinExpressIPO91
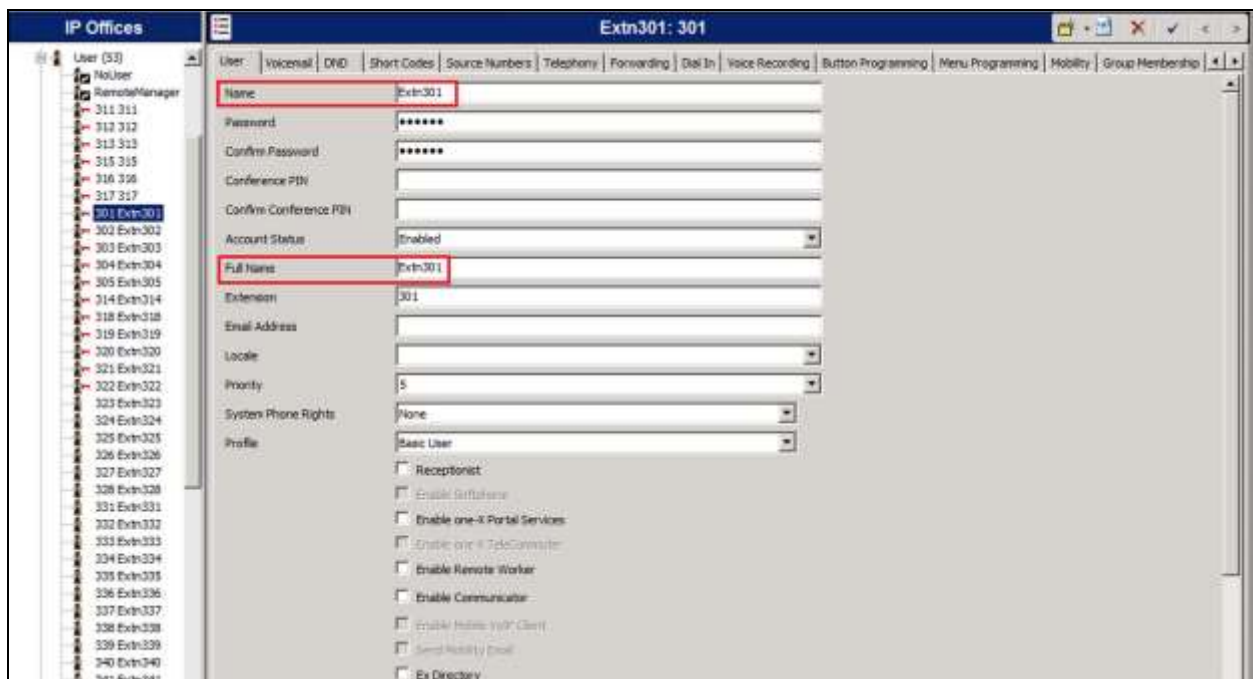
Select the **Voicemail** tab. Check **Voicemail On**, and uncheck **Voicemail Help**, as shown below.

Select the **Forwarding** tab. Uncheck and unselect all fields, as shown below.

Repeat this section for all users using Phoenix for voicemail, including all guest rooms, front desk, and staff. In the compliance testing, the voicemail users consisted of one front desk with extension "304" and four guest rooms with extensions "301, 302, 303, 322, 323 and 331", as shown in **Figure 1**.

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17 of 44
WinExpressIPO91

5.10. Administer Analog User MWI

For voicemail users with analog telephones, the MWI setting on the analog extension may need modification, depending on the type of analog telephone. Please refer to **Section 9** of these Application Notes for information on the specific analog telephone types requiring the MWI setting.

From the configuration tree in the left pane, select **Extension**, followed by the extension corresponding to the analog user. In this case, the extension is "331". In the **Message Waiting Lamp Indication Type** section, "51V Stepped" is selected from the drop-down list, as shown below.

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SPOC 10/13/2015
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18 of 44
WinExpressIPO91
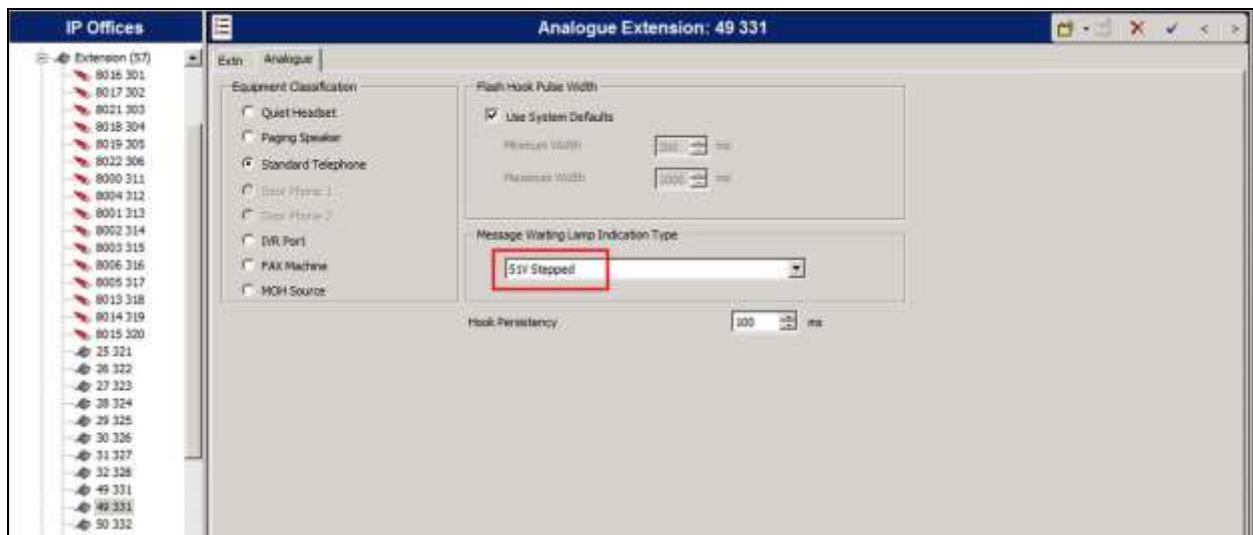
5.11. Administer User Rights

From the configuration tree in the left pane, right-click on **User Rights** and select **New** (not shown) to create a new user rights template. Enter a desired **Name** to designate user rights for guests in the check-in state. In the compliance testing, the name was set to "**CheckIn**" as shown below.

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SPOC 10/13/2015

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19 of 44
WinExpressIPO91
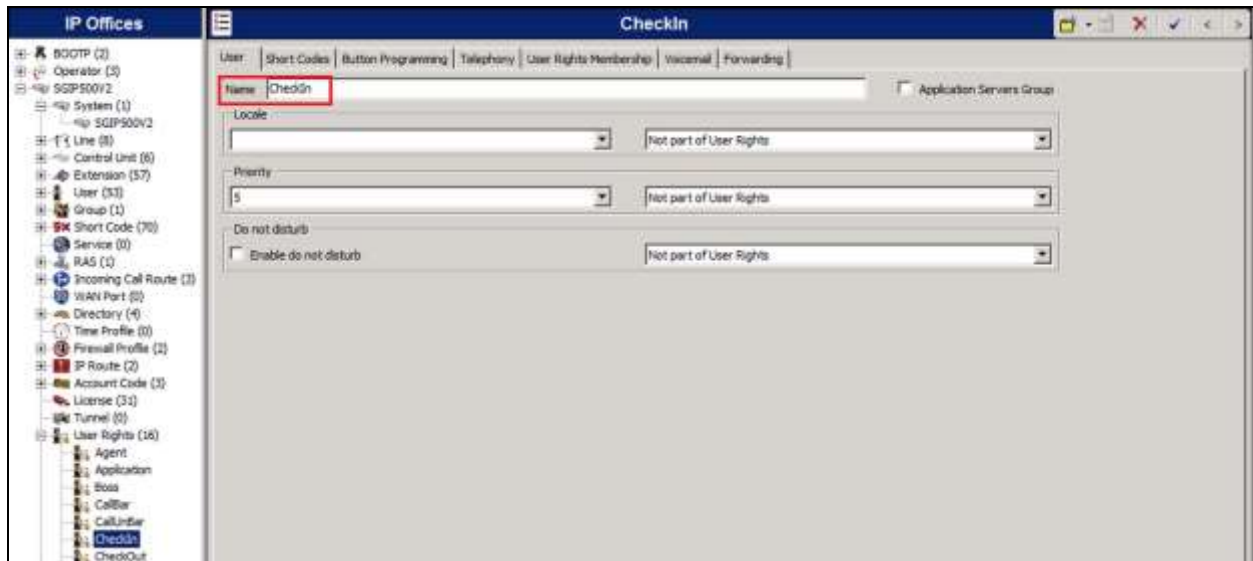
Select the **Telephony** tab and then the **Supervisor Settings** sub-tab. Uncheck **Enable outgoing call bar** field towards the bottom, and select "Apply User Rights Value" from the corresponding drop-down box, as shown below.

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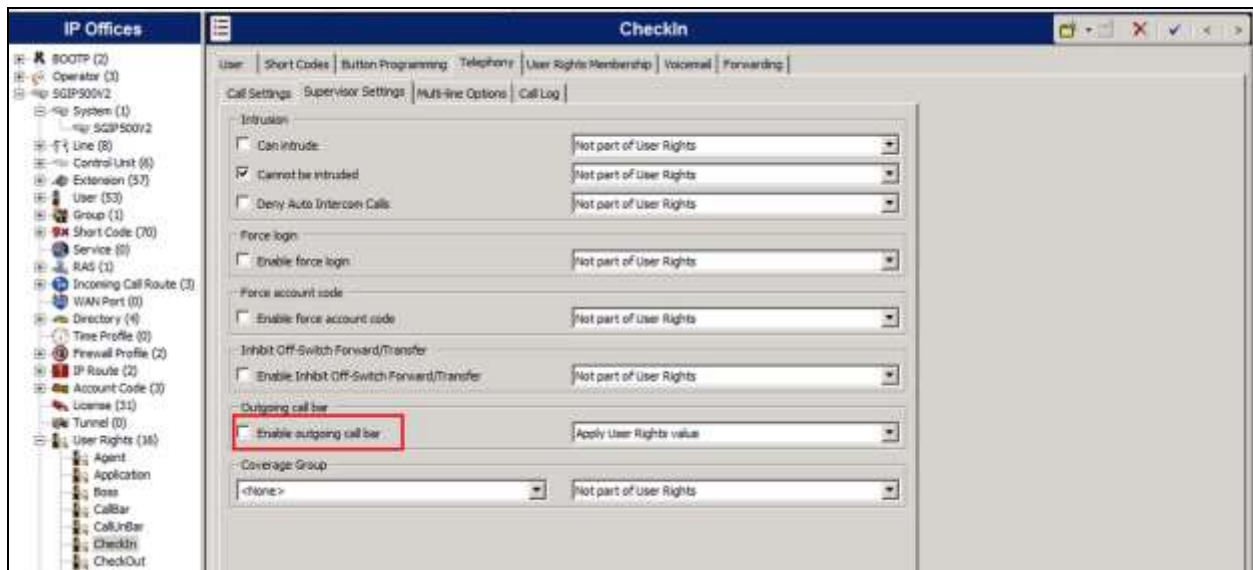
Repeat this section to create the desired number of user rights templates for guests in various states. In the compliance testing, four user rights templates with names of "CheckIn", "CheckOut", "CallBar" and "CallUnBar" were created, as shown below in the left pane. During this compliance testing, the **Enable outgoing call bar** field was checked for the user rights "CheckOut" and "CallBar" to prevent the guest room users from making calls out to the PSTN when either of these user rights is applied.
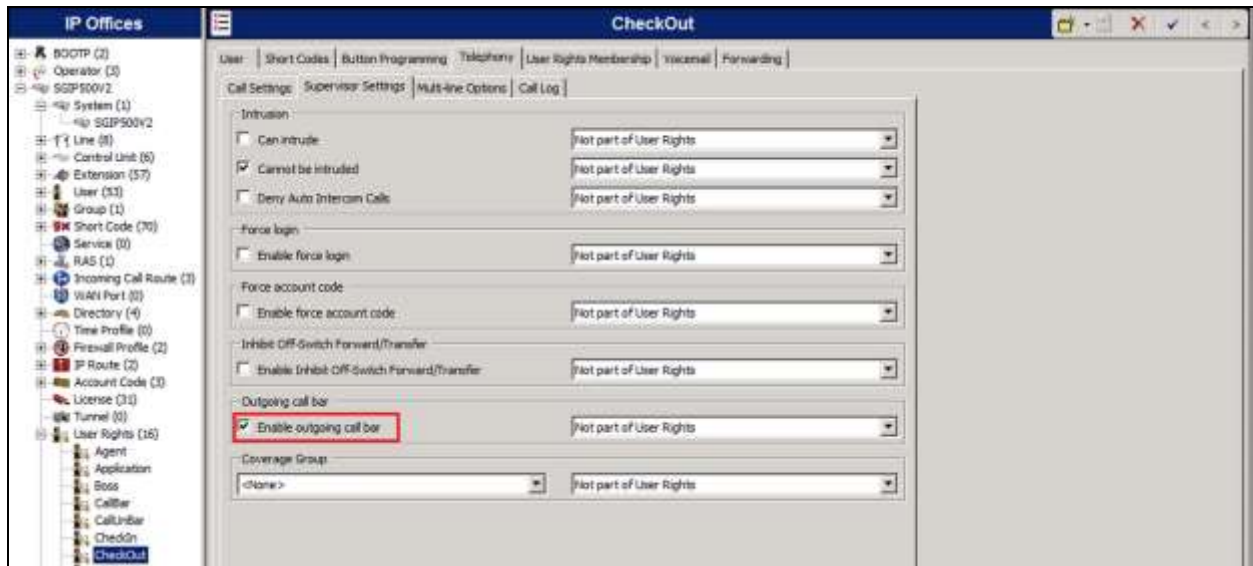
5.12. Administer Security Service

From the **Avaya IP Office Manager** screen, select **File → Advanced → Security Settings** from the top menu. Select the correct IP Office system and log in with the appropriate security user credentials.

The **Avaya IP Office Manager - Security Administration** screen is displayed. From the configuration tree in the left pane, select **Security → Services → Configuration** to display the **Service: Configuration** screen in the right pane. For **Service Security Level**, select "**Unsecure + Secure**" as shown below. In this compliance testing, Unicorn used the "Unsecure" level for the Configuration Web Service interface.

5.13. Administer System Password

From the **Avaya IP Office Manager – Security Administration** screen, select **Security → System** from the configuration tree in the left pane to display the **System: SGIP500V2** screen in the right pane. In the **Unsecured Interfaces** tab, click the **Change** button next to the **System Password** to configure the IP Office System Password. The System Password is used in **Section 6.1** to configure the TAPI Driver. Also ensure that **TAPI** interface is enabled by checking the box.

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SPOC 10/13/2015
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22 of 44
WinExpressIPO91
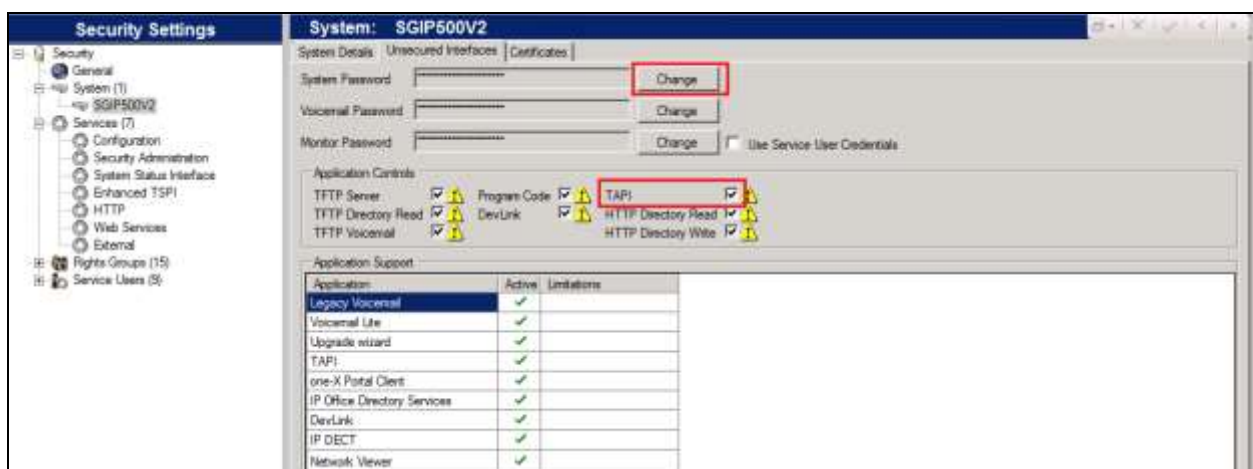
5.14. Administer SMDR

From the configuration tree in the left pane, select **System** to display the **SGIP500V2** screen in the right pane, next select the **SMDR** tab. For the Output field, select "**SMDR Only**" from the drop-down box. Set **IP Address** to the WinExpress server IP address, and set the **TCP Port** to "**5050**". Optionally, you can increase the **Records to Buffer** field to "3000" and check **Call Splitting for Diverts**.

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23 of 44
WinExpressIPO91

6. Configure WinExpress

This section provides the procedures for configuring WinExpress. WinExpress comprises of 2 main components, i.e., Phoenix guest voicemail and Unicorn call accounting package and interface solution. The procedures include the following:

- Administer TAPI driver
- Obtaining IP Office Configuration Web Service SDK
- Configuring Unicorn
- Configuring Phoenix
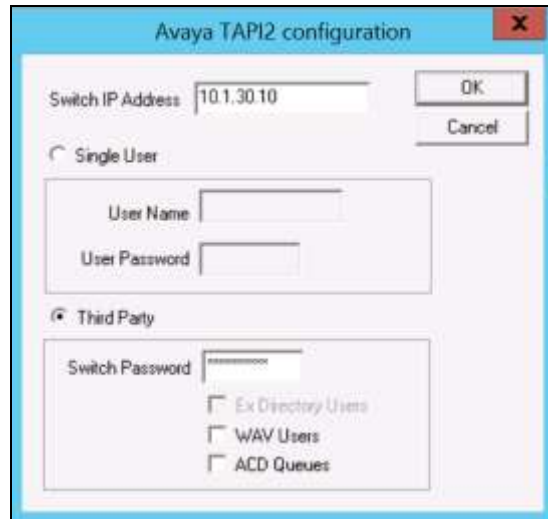
6.1. Administer TAPI Driver

Download and install the Avaya IPO TAPI Driver first (not shown). From the WinExpress server as shown in **Figure 1**, select **Start → Control Panel**, and click on the **Phone and Modem** icon (not shown). In the **Phone and Modem** screen, select the **Advanced** tab. Select the **Avaya IP Office TAPI2 Service Provider** entry, and click **Configure**.
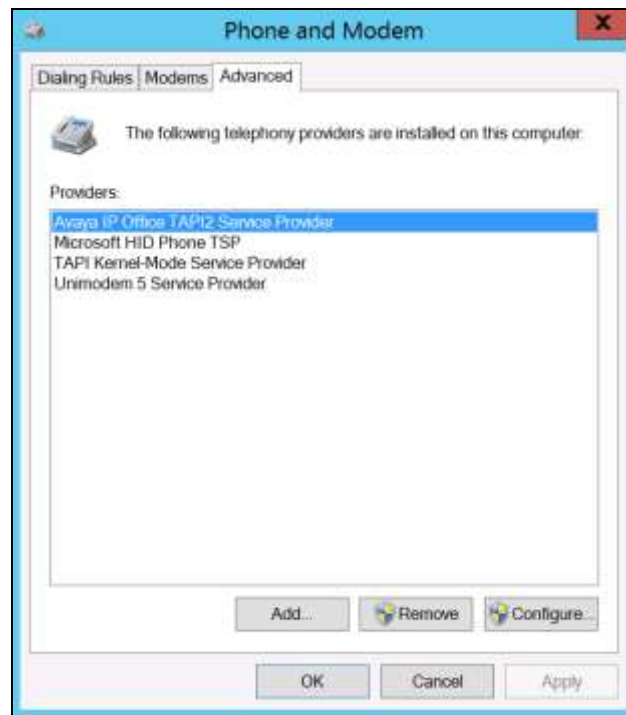
The **Avaya TAPI2 configuration** screen is displayed. For **Switch IP Address**, enter the LAN1 IP address of IP Office defined in **Section 5.2**. Select the radio button for **Third Party**, and enter the IP Office **System Password** configured in **Section 5.13** into the **Switch Password** field. Reboot the WinExpress server.

6.2. Obtaining Avaya IP Office Configuration Web Service SDK

Avaya provides the IP Office Configuration Web Service SDK for DevConnect members to incorporate IP Office configuration changes in their solutions. The Configuration Web Service SDK must match the release of the IP Office that is deployed, in this case Release 9.1. To obtain the IP Office Configuration Web Service SDK, browse to http://www.devconnectprogram.com/ using a web browser and login using a valid DevConnect member account. Then click **Downloads → IP Office™ → Configuration Web Services.** Locate and download the latest Configuration Web Service SDK which in this case is 9.1.1.0. An FCS implementation engineer will then deploy the files from the Configuration Web Service SDK onto the WinExpress server.

6.3. Configuring Unicorn

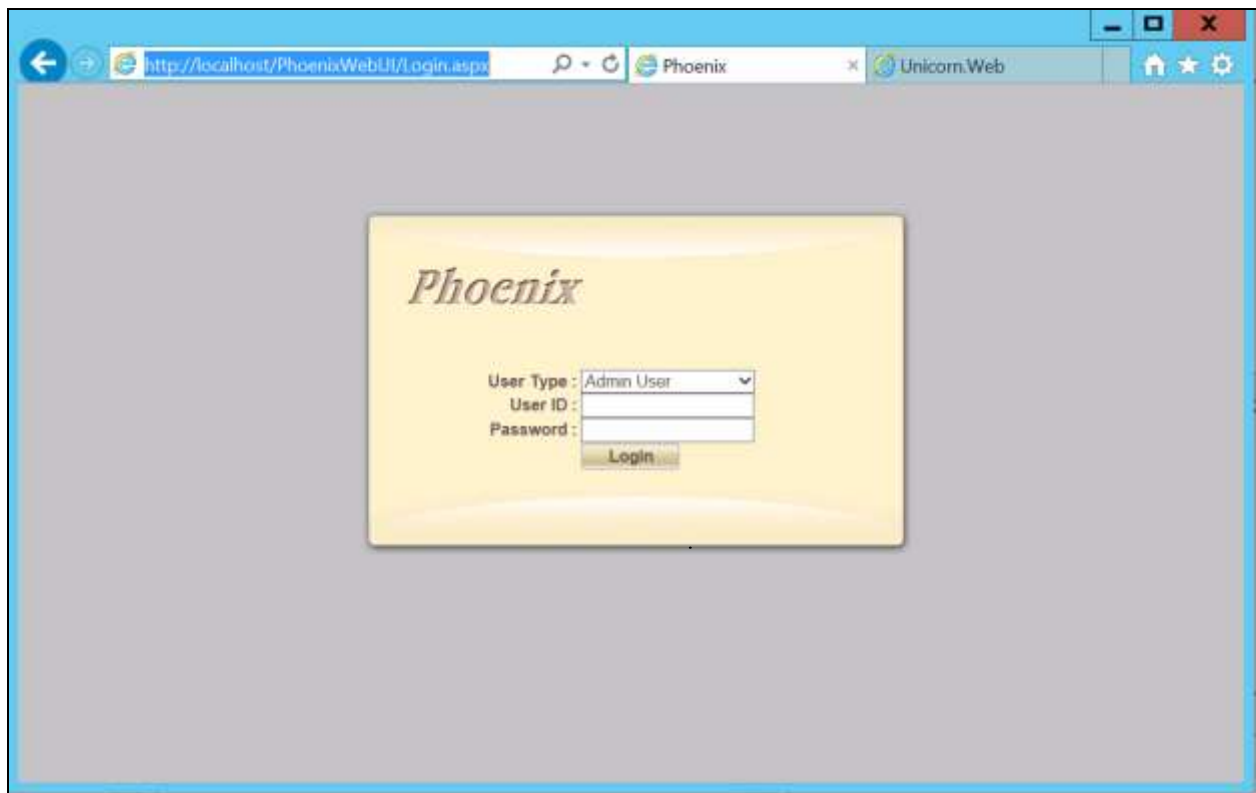Unicorn is a Windows-based integrated billing and interface solution. This section details the essential portion of the Unicorn configuration to interoperate with IP Office. These Application Notes assume that the Unicorn application has already been properly installed by FCS service personnel.

1. Unicorn Interface configuration to enable Phoenix, Avaya IPO PMS WS, Avaya IPO TAPI and Avaya IPO CDR in **Unicorn.xml** located is in the "C:\Program Files(x86)\FCS\Unicorn\Control\" directory.

   In the <Children> section of the xml, the configuration highlighted in bold below indicates what needs to be added.

```
Child Id="VMS1">
                    <PropertyId>MY99</PropertyId>
                    <EXEName>Phoenix.VMS.exe</EXEName>
                    <LogFilePattern>VMS\VMS1-</LogFilePattern>
                    <Description>Phoenix.VMS</Description>
                    <XMLFile>Phoenix-VMS.xml</XMLFile>
                    <IntfInQueueName>.\Private$\VMS1In</IntfInQueueName>
                    <IntfOutQueueName>.\Private$\VMS1Out</IntfOutQueueName>

        <IntfOutQueueFilterThresholdInHour>99999</IntfOutQueueFilterThresholdInHour>
                    <UnicornMotherIPPort>4017</UnicornMotherIPPort>
                    <MemoryPage>7</MemoryPage>
            </Child>

            <Child Id="PBX1">
                    <PropertyId>MY99</PropertyId>
                    <EXEName>AvayaIPOPMS.PBX.exe</EXEName>
                    <LogFilePattern>PBX\PBX1-</LogFilePattern>
                    <Description>AvayaIPOPMS</Description>
                    <XMLFile>AvayaIPOPMS-PBX.xml</XMLFile>
                    <IntfInQueueName>.\Private$\PBX1In</IntfInQueueName>
                    <IntfOutQueueName>.\Private$\PBX1Out</IntfOutQueueName>

        <IntfOutQueueFilterThresholdInHour>99999</IntfOutQueueFilterThresholdInHour>
                    <UnicornMotherIPPort>4018</UnicornMotherIPPort>
                    <MemoryPage>10</MemoryPage>
            </Child>

            <Child Id="PBX2">
             <PropertyId>MY99</PropertyId>
             <LogFilePattern>PBX\PBX2-</LogFilePattern>
             <EXEName>AvayaIPOTAPI.PBX.exe</EXEName>
             <Description>AvayaIPOTAPI PBX Interface</Description>
             <XMLFile>AvayaIPOTAPI-PBX.xml</XMLFile>
             <IntfInQueueName>.\Private$\PBX2In</IntfInQueueName>
             <IntfOutQueueName>.\Private$\PBX2Out</IntfOutQueueName>
             <IntfOutQueueFilterThresholdInHour>99999</IntfOutQueueFilterThresholdInHour>
```

```
            <UnicornMotherIPPort>9302</UnicornMotherIPPort>
            <MemoryPage>11</MemoryPage>
        </Child>

        <Child Id="CDR1">
                <PropertyId>MY99</PropertyId>
                <LogFilePattern>CDR\CDR1-</LogFilePattern>
                <EXEName>AvayaIPO.CDR.exe</EXEName>
                <Description>AvayaIPO CDR Interface </Description>
                <XMLFile>AvayaIPO-CDR.xml</XMLFile>
                <IntfInQueueName>.\Private$\SMDRIn</IntfInQueueName>
                <IntfOutQueueName>.\Private$\SMDROut</IntfOutQueueName>

    <IntfOutQueueFilterThresholdInHour>99999</IntfOutQueueFilterThresholdInHour>
                <UnicornMotherIPPort>4001</UnicornMotherIPPort>
                <MemoryPage>9</MemoryPage>

        </Child>
```

2. FCS Unicorn provides a web interface for configuration, posting and reporting. An administrator can log in with the appropriate credentials from http://<server name or ip address/Unicorn.Web/Login.aspx as shown below by substituting the appropriate server IP address. Select the property and login with the appropriate credentials.
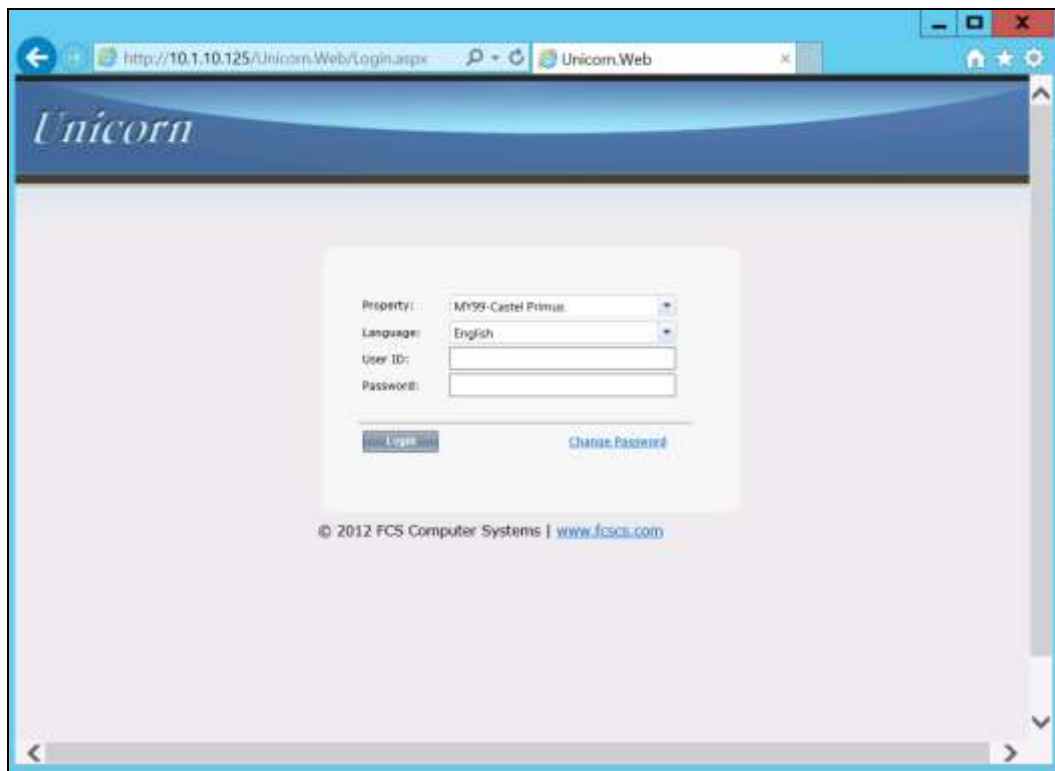
3. Click **Home → System → Interface Listing** to show the interface integrated and their status which should show up ⬆. Below is the **Device ID** list and their purpose.

   a. **FOS1** – Front Office System

   b. **VMS1**- Phoenix Voicemail

   c. **PBX1** – IP Office PMS

   d. **PBX2** – IP Office TAPI

   e. **CDR1** – IP Office SMDR

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4. The Unicorn Avaya PMS interface module port and data configuration is defined in the **AvayaIPOPMS-PBX.xml** located in the "C:\Program Files(x86)\FCS\Unicorn\Control\" directory. **Webservice** is configured for interfacing with Configuration Web Services of IP Office.

In the same configuration file at the lower portion, the host is set as **tcp.ip** type listening to port **50805** which corresponds with the IP Office port at **Section 5.12** and the appropriate **AccountName** and **password** administered. The password is not revealed for security reasons.

5. The Unicorn Avaya CDR interface module port & data configuration is defined in the **AvayaIPO-CDR.xml** located in the "C:\Program Files (x86)\FCS\Unicorn\Control\" directory. The host is set as **tcp.ip** type listening to port **5050.** This corresponds with the setup of IP Office SMDR port at **Section 5.14**.

```
<PBX ID="CDR1">
    <!-- need to match with the XML filename -->
    <CommunicationSetting>
    <Name>Avaya IPO</Name>

        <ProtocolFormat>2</ProtocolFormat>
    <!--1 =[STX]xxxxx[ETX], 2=xxxxxxx[13][10]  3=[13][10]xxxxxxxx, 4=Fixed Lenght-->
        <InterfaceType>2</InterfaceType>
    <!--1 = RS232, 2=tcp.ip  3=udp, 4=telnet,5=bisync 6=file sharing-->
        <InterfaceSetting>H,192.168.42.10:5050</InterfaceSetting>
    <!-- if tcp.ip, interfaceSetting could be "X,192.168.1.12:5600" , where X = H = host, C=client-->
<!-- 3,9600,n,8,1 - com. port 3, baud rate 9600,n,8,1 -->
        <UDPSvrInterfaceSetting></UDPSvrInterfaceSetting>
        <InterPacketDelay>100</InterPacketDelay>
        <CheckRTSSignal>No</CheckRTSSignal>
```

6. The **Posting** tab below shows the various PMS features such as Check In/Out, Edit Guest Profile, etc. that can performed from the web interface. The screenshot below shows the **Check In/Out** page for checking a guest with name, date, room number and check in/out date etc.

7. Click **Configuration → Extensions** and select **Primary Extension Numbering** and **Slave Extension** to view the extensions configured with each room.
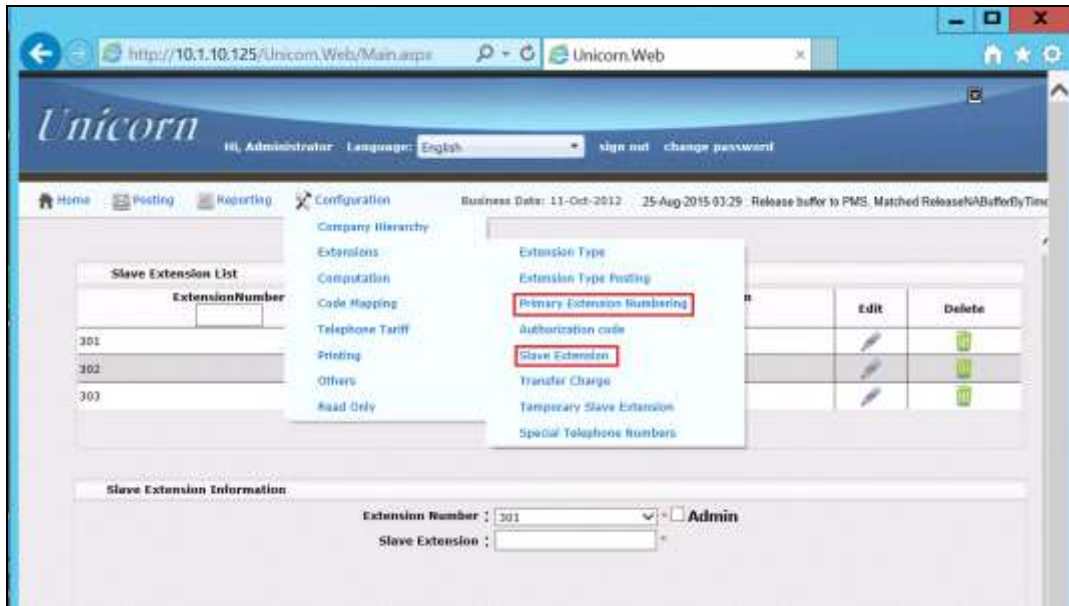
The screenshot below shows the **Slave Extension** page which also lists the primary extension number on the left column.

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SPOC 10/13/2015

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31 of 44
WinExpressIPO91
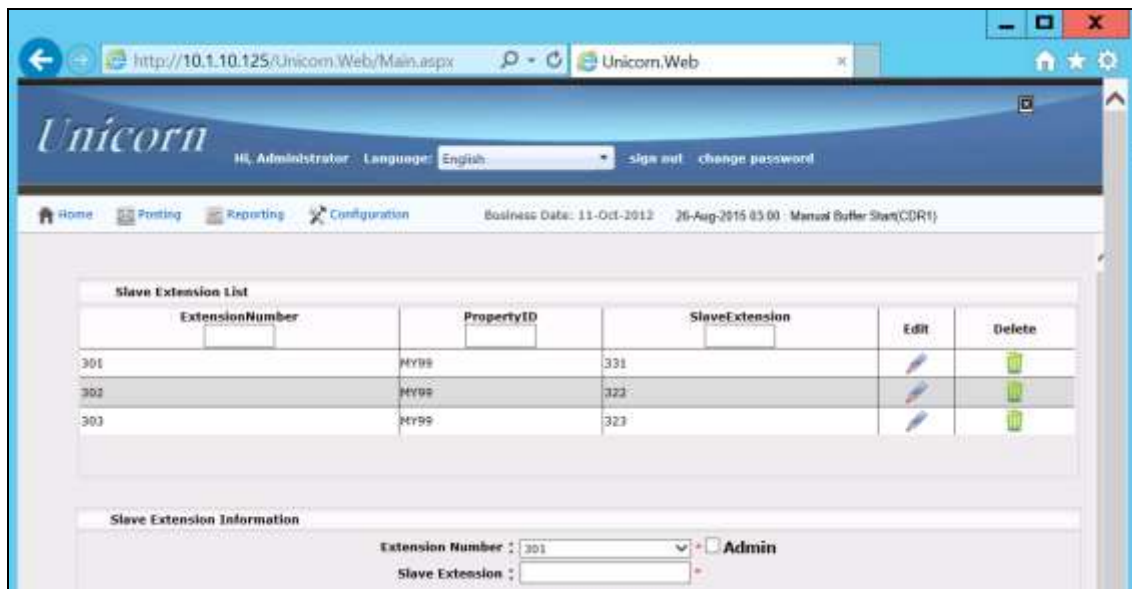
6.4. Configure Phoenix

This section details the essential portion of the Phoenix configuration to interoperate with IP Office. These Application Notes assume that the Phoenix application has already been properly installed by FCS professional services personnel.

The following settings will be verified:
- License Verification
- PBX setting
- Server setting
- Service Numbers

6.4.1. License Verification

To log into the Phoenix System, launch Microsoft Internet Explorer and type in the Phoenix Configuration URL, in this case http://<server name or ip address>/PhoenixWebUI/Login.aspx as shown below by substituting the appropriate server ip address. At the login screen, log in using an account with administrative privileges.

Select **License → Active Licenses**. Ensure that the License has not expired.

Click on the pen under **Action** and view the details. Ensure that the appropriate license parameters are enabled.

6.4.2. PBX Setting

From the home screen, select **System Wide Setting** from the drop down menu.
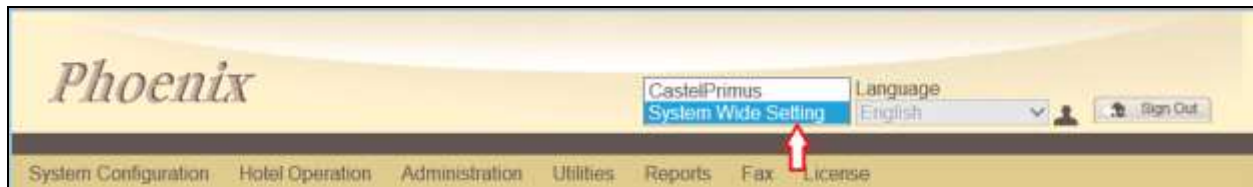
Select the **PBX** tab below. Click on the **pen** and view the PBX settings. Ensure that the following settings are configured:

- **PBX Name**:   Enter the appropriate name

- **PBX Type**:   Select **Avaya_IPOffice_v6.1** from the drop down menu

- **PBX Version**:   Enter 9.1 for the version number

- **DTMF Type**:   Select **RFC2833** from the drop down menu as configured in **Section 5.4** for Primary SIP Extensions

- **FAX Protocol**:   Select **None** as fax feature is not offered

- **Trunk Type**:   Enter **SIP** for SIP type of signaling with IP Office

6.4.3. Server Setting

Select the **Server** tab below and select the 'Edit' icon next to the **App Server** name **Phoenix**.
Check the box next to Avaya IPO under **PBX Assigned** and select the appropriate property from
the drop down **Property** list. Then click on the **Pencil** icon to edit the settings

A pop-up form appears, below is a sample of the SIP User settings configured.

- **Connection Type**:   Select **SIP Register**
- **SIP Registration Name:**   Provide an appropriate name
- **PBX IP**:   Enter Avaya IP Office IP address
- **Local IP**:   Enter WinExpress server IP address
- **Transport protocol**:   Select **UDP**
- **Client Extension:**   Enter the SIP User in a URL form: "**316@10.1.30.10**"
- **Contact:**   Enter the SIP contact as: "**316@10.1.10.125**"
- **Time Alive:**   Enter a time less than 180 seconds (default expiry time for SIP registration)
- **Authentication:**   Select **Yes**
- **Identity:**   Enter the SIP Identity as in **Client Extension** above
- **Realm:**   Leave it as default, i.e., **ipoffice**
- **User Name:**   User name in **Section 5.5.1**
- **Password:**   Login Code in **Section 5.5.1**

Note: The input of the other SIP Users can only be done via the DB at this point in time

6.4.4. Service Numbers

Select **System Configuration** → **Hardware Settings** → **Channels** → **Entry Point** from the home screen. Check that the Service Numbers tally with the Secondary SIP users created in **Section 5.4**. Create an entry with W_W mapped to Busy/No Answer Call Flow and one more with the Pilot Number (in this case, that's 310) to Direct. The Entry Points configured are shown at the bottom of the home screen.

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37 of 44
WinExpressIPO91

7. Verification Steps

This section provides the tests that can be performed to verify the correct configuration of Avaya IP Office and WinExpress.

7.1. Verify SIP User Integration

From a PC running the Avaya IP Office Monitor application, select **Start → All Programs → IP Office → Monitor** to launch the application. Select **Status → SIP Phone Status** from the top menu. The **SIPPhoneStatus** screen is displayed. Verify that there are entries for the 3 Primary SIP Extensions 315, 316 and 317 from **Section 5.4** and the **Status** shown is "SIP: Registered" for each, as shown below.

7.2. Verify TAPI Integration

Place a call to a guest room and leave a voice message or call the express leave message number to leave a voice message directly. Verify that the MWI is turned on for the guest room. Place a call from the guest room to the Hospitality Hunt Group number. Verify that Phoenix recognizes the calling party as a voicemail user. Verify that the voice message can be retrieved and that MWI is turned off after message is reviewed.

7.3. Verify Configuration Web Service Integration

Use the Opera Simulator to perform a guest check-in request. Verify from IP Office Manager that the guest name on the phone display or User Full Name and user rights template shown on IP Office Manager User, is updated correctly on IP Office as part of the check-in process.

7.4. Verify SMDR

On the Unicorn web interface, click **Home → System → Billing**. Place a few outbound calls to an internal, local, mobile, toll free and international location. Verify that the calls are all processed correctly as shown below:

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SPOC 10/13/2015

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40 of 44
WinExpressIPO91

7.5. Verify Phoenix Voicemail Integration

From the FCS Phoenix Server, launch **Phoenix** from the desktop shortcut to run the main program. Verify on the left pane that the Voice Engine status shows '**VoiceEngine Started'** and the voice channels under **Status Since** column are **Idle**. Once the Unicorn communication has been successfully established, the Unicorn status will show up as 'Connected'.

Dial one of the guest room or front office phone and let it cover to voicemail. Observe that one channel of the SIP Channel is busy as shown below. Verify that leaving a voice mail message to either a guest or front office mailbox works. Also, to verify the Operator transfer function, call any checked-in guest room and let it go to coverage on the voicemail. Press the DTMF digit '0' to select for call to be routed to Operator. Verify call is connected to Operator.
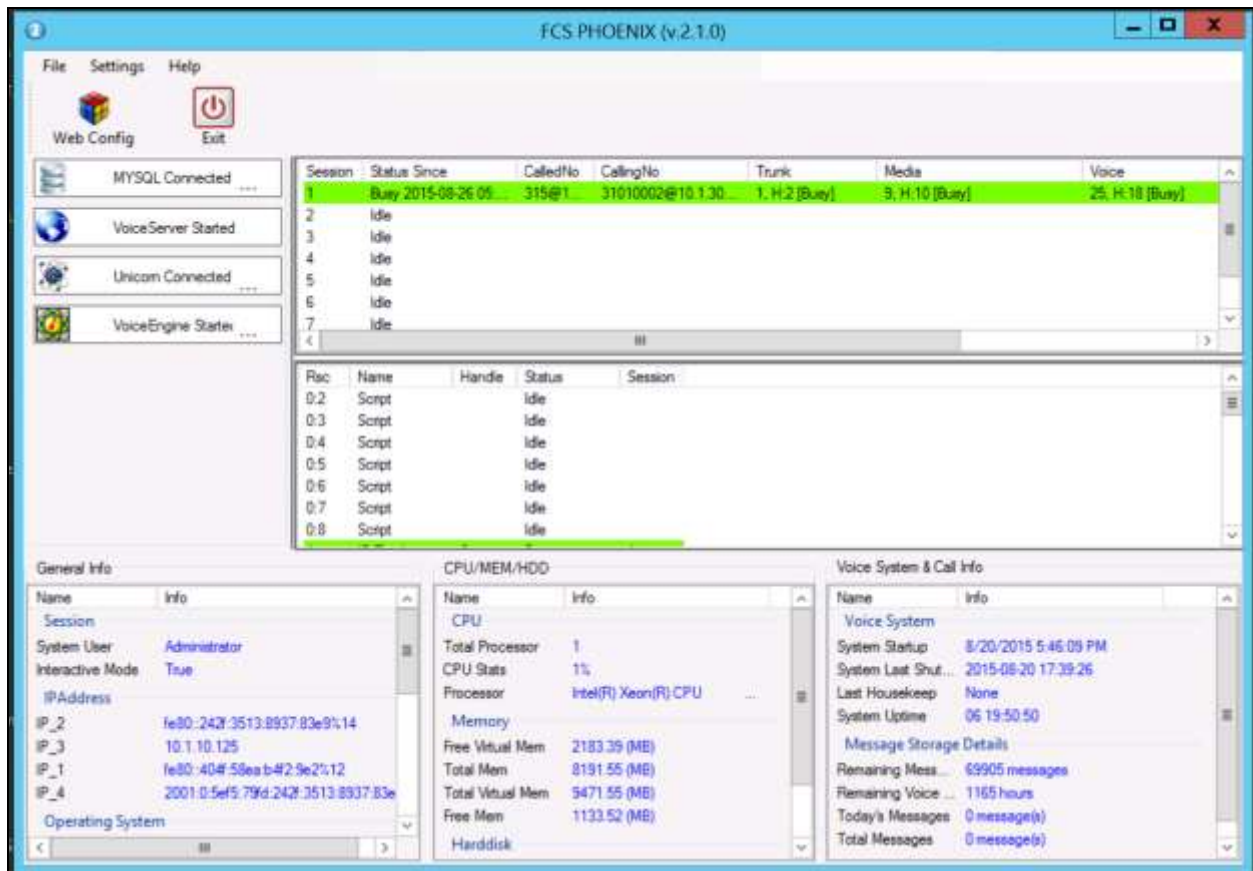
8. Conclusion

These Application Notes describe the configuration steps required for WinExpress 3.0 to successfully interoperate with Avaya IP Office R9.1. All feature and serviceability test cases were completed with observation noted in **Section 2.2**.

9. Additional References

This section references the product documentation relevant to these Application Notes.

[1]   *IP Office KnowledgeBase 9.1 Documentation Library*, Apr 2015, available at
       http://support.avaya.com

Product information and documents for WinExpress Phoenix and Unicorn can be obtained from FCS Computer Systems Sdn Bhd.

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