

### **Avaya Solution & Interoperability Test Lab**

### **Application Notes for Configuring Avaya IP Office 9.0 with TigerTMS iCharge - Issue 1.0**

#### Abstract

These Application Notes describe the configuration steps required for Avaya IP Office 9.0 with TigerTMS iCharge 50.0.0.1

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

TigerTMS iCharge (iCharge) is a graphical hospitality user interface. It is commonly used in hotels to provide a means of controlling usage of room facilities. iCharge utilizes XML based communication for hospitality control of the IP Office. Hospitality features are translated into a set of XML commands which are passed via a secure IP port to the IP Office.

The following main features provided by iCharge interface with Avaya IP Office:

- **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.
- **Direct Dialling in (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 accessed 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 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 IP Office, however this can be overridden to "Barred" if guest wishes so through Update facility. On check-out, the user-rights are set to "Barred.
- **Message Waiting** Tiger iCharge 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 default configuration and sets call barring of external calls.
- **Maid Status** Maid Status is a mechanism allowing the room status to be updated in iCharge by minimal telephone interaction. This is often used to indicate room ready status following cleaning.

### 2. General Test Approach and Test Results

The general test approach was to configure the iCharge to communicate with the Avaya IP Office (IP Office) as implemented on a customer's premises. Feature functionality testing was performed manually.

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 TigerTMS iCharge to carry out hospitality functions through XML based communication with IP Office. The serviceability testing introduced failure scenarios to see if Tiger iCharge could resume after a link failure with IP Office. The testing included:

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

#### 2.2. Test Results

Tests were performed to insure full interoperability between TigerTMS iCharge and IP Office. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully.

#### 2.3. Support

Technical support from TigerTMS can be obtained through the following:

Phone: Technical Support Department +44 1425 891 090 E-mail: support@tigertms.com

### 3. Reference Configuration

**Figure 1** illustrates the network topology used during compliance testing. The Avaya solution consists of an IP Office which has a TCP/IP link established to the TigerTMS iCharge server. From the iCharge server, XML commands were passed via secure IP port on the IP Office for replication of the hospitality features. Digital, H323 and Softphones were configured on the IP Office to generate outbound/inbound calls to/from the PSTN and also simulate Hotel room phones. A QSIG trunk was configured to connect to the PSTN.



Figure 1: Avaya IP Office and TigerTMS iCharge 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 500 v2	9.0 (829)
Avaya IP Office Manager	9.0 (829)
Avaya 9630 H323 Telephone	Ha96xxua3_2_0_s.bin
Avaya 2420 Digital Telephones	
Avaya IP Office softphone	3.2.3.49
TigerTMS Equipment	Software / Firmware Version
Generic Server running Windows 7 SP1	TigerTMS iCharge 50.0.0.1

**Note:** Testing was performed with IP Office 500 v2 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 the Avaya IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of the Avaya IP Office for this solution. It is implied a working system is already in place and all Users/Extensions are configured including DDI, and Room Status. 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)
- Modify User Rights (Barred)
- Modify User Rights (Unbarred)
- Create DDI Hunt Groups
- 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  $\rightarrow$  Programs  $\rightarrow$  IP Office  $\rightarrow$  Manager to launch the Manager application. Select File  $\rightarrow$  Open Configuration then select the appropriate IP Office. Log in to IP Office 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.

摿 Select IP Office					
Name	IP Address	Туре	Version	Edition	
Release 8.1					
ArtsFest_IP500	192.168.42.100	IP 500	8.1 (63)	IP Office	
Release 9.0					
IPOMC	10.10.60.30	IP 500 V2	9.0.0.0 build 829	IP Office	
			Configuration S	Service User Login	
			IP Office :	IPOMC - IP 500 V2	
			Service User Nan	ne Administrator	
			Service User Pas	sword	
				OK Cancel Help	
TCP Discovery Progress					)
Unit/Broadcast Address		_			
255.255.255.255	Refresh	]		ОК	Cancel

Ŧ	Δ Αν	aya IP Office R9 Manager IPOMC	[9.0.0.829] [Administrator(Administrator)]
	File	Edit View Tools Help	
		Open Configuration Ctrl+O	≵ 1
2		Close Configuration	• IPOMC •
È		Save Configuration Ctrl+S	
L		Save Configuration As	
		Change Working Directory	System LAN1 LAN2 DNS Voicemail Telephony Directory Service
		Preferences	Name IPOMC
		Offline •	
		Advanced •	Erase Configuration (Default)
		Backup/Restore	Reboot
		Import/Export	System Shutdown
		Exit	Upgrade
		Service (0)	Change Mode
	Đ	- 2 RAS (1)	Audit Trail
	Ð	Incoming Call Route (10)	Security Settings
		WanPort (0)	Erase Security Settings (Default)

Once the Configuration is opened select File  $\rightarrow$  Advanced  $\rightarrow$  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.

s	Security Service User Login					
	IP Office :	IPOMC - IP 500 V2				
	Service User Name	security				
	Service User Password	•••••••				
		OK Cancel Help				

#### 5.2. Security Level

Once the Security Administration page opens, select Services  $\rightarrow$  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  $\square$  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).

🜃 Avaya IP Office R9 Manager - Security Administration - IPOMC [9.0.0.0 build 829] [security]						
File Edit View Help						
Security Settings	Service : Conf	īguration				
□     Security       □     General       □     System (1)       □     O Services (7)       □     O Configuration	Service Details Name Host System	Configuration IPOMC				
Sustem Status Interface	Service Port	50804, 50805				
Enhanced TSPI	Service Security Level	Unsecure + Secure 🗸 🗸 🗸				
	Service Access Source	Unrestricted				

M 🔤	vaya IP Office R9 Manager -	Security Administration - IPOMC [9.0.0.0 build 829] [security]
File	Edit View Help	
	Open Security Settings	
	Close Security Settings	5
Г	Save Security Settings	
	Reset Security Settings	
	Preferences	
	Configuration	
	Exit	

To log out of the **Security Administration** click **File**  $\rightarrow$  **Exit**.

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

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

🖬 Avaya IP Office R9 Manager IPOMC [9.0.0.829] [Administrator(Administrator)]								
File Edit View Tools Help								
i 2 🖻 - 🖬 🖪 💽 🖬 🚹 🗸 🗳 🥏	2 👔							
IPOMC System	<ul> <li>IPOMC</li> </ul>			•				
IP Offices	××× 						IPOMC	
■ # BOOTP (4)	System LAN1	LAN2	DNS	Voicemail	Telephony	Directory Services	System Events	SMTP SMDR
· ∰·· ∰ Operator (3) · ···································	Name			IPO	MC		Locale	e Uni
System (1)							Locati	ion <n< td=""></n<>
	-Contact Infor	mation —						
💼 🛶 Control Unit (5)	Set contact ir	formation	to place	System und	er special cor	ntrol		
🖶 🎆 Group (6)								
🗄 📲 Short Code (72)								

#### 5.4. Modify User Rights (Barred)

In the Manager window, expand the Configuration Tree. Right click on **User Rights**, and select the **New** option (not shown). When the New User Rights window appears, click on the **User** tab. In the **Name** field set value **Barred**. Select **Apply User Rights value** from the appropriate drop-down boxes.

📶 Avaya IP Office R9 Manager IPOM	C [9.0.0.829] [Administrator(Administ	rator)]	_ @ <mark>×</mark>
File Edit View Tools Help	≝ ≄ 1∎		
IPOMC User Rights	Barred		
IP Offices		Barred*	📸 • 🔤   🗙   •   <   >
■ 8 BOOTP (4)	User ShortCodes Button Programming	Telephony User Rights Membership Voicemail	
	Name Barred		<u>^</u>
	Priority     S     Do not disturb     Israble do not disturb	Apply User Rights value     Apply User Rights value     Apply User Rights value     Apply User Rights value	

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 drop-down box. Click the **OK** button.

🔚 Avaya IP Office R9 Manager IPOM	C [9.0.0.829] [Administrator(Administrator)]		
File Edit View Tools Help			
i 🚨 🗁 - 😹 🖪 💽 📰 🚺 🗸 🥥	⊴ 之 1		
IPOMC User Rights	Barred		
IP Offices	2	Barred*	<b>☆</b> - 🖻   🗙   🗸   <   >
IP Offices BOOTP (4) Operator (3) IP OMMC IP OMMC IP OMMC IP OMMC IP OMMC IP Control Unit (5) IP Co	User ShortCodes Button Programming Telephony Call Settings Supervisor Settings Multi-line Options Intrusion Can intrude Can intrude Can intrude Can intrude Can intrude Can intrude Can intrude Can intrude Can intrude Deny Auto Intercom Calls Force login Force account code Enable force login Force account code Enable force account code Enable Cre Agent After Call Work Time (seconds) System Default (10) Enable Automatic After Call Work Courgoing call bar Coverage Group (None>	Barred* User Rights Membership Voicemal Call Log Not part of User Rights Not part of User Rights	
			OK Cancel Help

#### 5.5. Modify User Rights (Unbarred)

In the Manager window, expand the Configuration Tree. Right click on **User Rights**, and select the **New** option (not shown). When the New User Rights window appears click on the **User** tab. In the **Name** field set value **Unbarred**. Select **Apply User Rights value** from the appropriate drop-down boxes.

📶 Avaya IP Office R9 Manager IPOMC	C [9.0.0.829] [Administrator(Administra	ator)]	
File Edit View Tools Help	i ≄ *		
IP Offices	E	Unbarred	<b>☆</b> - <sup>•</sup>   ×   <   >
	User ShortCodes Button Programming T Name Unbarred Locale Priority 5 Do not disturb Enable do not disturb	elephony User Rights Membership Volcemal	
WanPort (0)     WanPort (0)     Wine Profile (0)     Time Profile (0)     Wine Profile (1)     Wine Profile (1)     Wine Provide (2)     Wine Account Code (1)     Wine Licence (30)     Wine Turnel (0)     Wine Turnel (0)		C1 ist	OK Cancel Help

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 drop-down box. Click the **OK** button.

🕼 Avaya IP Office R9 Manager IPOM	C [9.0.0.829] [Administrator(Administrator)]		
File Edit View Tools Help			
i گ 🗁 - 🔜   🛋 💽 🖬 🚺 🛹 🗉	ä <b>≈ ′</b> 🔞		
IPOMC 🔹 User Rights	Unbarred		
IP Offices	12	Unbarred*	<u>m</u> i - <u>m</u> i   X   √   <   >
B - K BOOT (4) B - G <sup>2</sup> Operator (3) B - G <sup>2</sup> System (1) B - G <sup>2</sup> System (1) B - G <sup>2</sup> Control Unit (5) B - G <sup>2</sup> Control Unit (7) B - G <sup>2</sup> Control Unit (7) B - G <sup>2</sup> Control Unit (7) B - G <sup>2</sup> Control Control (7) B - G <sup>2</sup> Control (7) C - G <sup>2</sup>	Use: ShortCodes Button Programming Telephony Call Setting: Supervisor Setting: Multi-Ine Options ( Intruse Can intrude Can intrude Can intrude Can on the intruded Deny Auto Intercom Calls Force login Enable force login Force account code Enable force account code Enable for Enable for Enable for Enable for Enable CCR Agent After Call Work Time (seconds) Eystem Default (10) Enable Automatic After Call Work Outpoing call bar Elizable outpoing call bar: Coverage Group elizable Section ac Call Bar:	User Rights Membership Voicemall Edl Log Not part of User Rights V Not p	OK Cancel Hob

#### 5.6. Create DDI Hunt Groups

In the Manager window, go to the Configuration Tree, right-click **Group** and select **New** in the popup that appears (not shown). In the subsequent Hunt Group window, set **Name** to something appropriate (e.g. **DDI3020**). Enter an **Extension** (e.g. **3020**) and for **Ring Mode** select **Sequential** from drop-down box. Ensure that no extensions are added to the **User List** as they will be automatically added by the Tiger iCharge once a DDI is allocated to an extension. Click the **OK** button. **Note:** Repeat this for each DDI required.

🜃 Avaya IP Office R9 Manager IPOMC [9.0	0.0.829] [Administrator(Ac	lministrator)]			
File Edit View Tools Help					
i 🗶 🗁 - 🖬 🖪 🔜 🔜 🚺 🗸 🐸 🏞	1				
IPOMC Group	3020 DDI3020	-			
IP Offices	1	Sequen	tial Group DDI302	0: 3020*	<b>☆</b> - <b>○</b>   ×   <   >
	Group Queuing Overflow F	Fallback Voicemail Voice Recording Ann	ouncements SIP		
W Operator (3)     POMC	Name	DDI3020	Profile	Standard Hunt Group 🔽	
System (1)	Extension	3020	Ex Directory		
Control Unit (5)	Ring Mode	Sequential 👻	No Answer Time (secs)	System Default (15)	
Extension (34)	Hold Music Source	No Change 🛛 🗸			
	Ring Tone Override	None 🗸			
3020 DDI3020	Agent's Status on No-Answer Applies To	None			
3021 DD13021	User List				
3023 DDI3023	Extension Name				
7000 Tiger VoiceMail					
Short Code (72)     Service (0)					
🖬 💑 RAS (1)					
Incoming Call Route (10)     WanPort (0)					
Directory (0)					
Ime Profile (U)     Ime Profile (1)					
IP Route (2)					
Account Code (1)     Licence (30)					
Tunnel (0)				Edit Remove	
User Rights (10)     Agent					
- Application					
Barred					
- Default					
IP Hardphone					
- Naibox - Na Paging					
- T3 default					
Unbarred     ARS (1)					
Location (0)					OK Cancel Help

#### 5.7. Save Configuration

Once all the configurations have been made it must be sent to the IP Office. Click on the **Save** icon  $\blacksquare$  as shown below.

Manager IPOffice R9 Manager IPOMC [9.	.0.0.829] [Administrator(Administrator)]
File Edit View Tools Help	
🕴 🗶 🖻 - 🔜 🖪 💽 🖬 🚺 🛹 🛎 🧸	≥ 1
IPOMC System	IPOMC
IP Offices	X
BOOTP (4)	System LAN1 LAN2 DNS Voicemail Telephony Directo
	Name IPOMC
System (1)	
मिर्टाट स्रित् Line (5)	Contact Information

Once the **Save Configuration** window opens, click on the **OK** button.

Save Configuration	×
- IP Office Settings	
IPOMC	
Configuration Reboot Mode	
<ol> <li>Merge</li> </ol>	
🔘 Immediate 🔹	
🔘 When Free	
O Timed	
Reboot Time	
10:30	
~ Call Barring	
Incoming Calls	
Outgoing Calls	
	٦
OK Cancel Help	

Once the **Service User Login** Window opens, enter the appropriate credentials, and then click the  $\underline{OK}$  button.

Service User Login		
IP Office :	IPOMC - IP 500 V2	
Service User Name	Administrator	
Service User Password	•••••	3
	<u>QK</u> <u>C</u> ancel <u>H</u> elp	

# 6. Configure TigerTMS iCharge

This section describes the steps preformed to configure the TigerTMS iCharge to connect to the IP Office. It is implied that the iCharge Server software is already installed. 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:

- Modify Avaya Service Configuration File
- Restart AvayaIPOfficeClientService

**Note:** The configuration of Guest rooms, and Room Status etc. is outside the scope of this Application note.

### 6.1. Modify Avaya Service Configuration File

After installation and basic configuration, open the **AvayaService.INI** file located in the **<drive letter>:\tig2020\Avaya** and enter the following: (During compliance testing, the following were used)

- **ipofficeunitip**: The IP address of Avaya IP Office
- **ipofficeunitport**: The Port used to talk to Avaya IP Office (in this case secure)
- **ipofficeusername**: Login user name for Avaya IP Office
- ipofficepassword: Login password for Avaya IP Office

Save and close the file.

After the configuration changes a server reboot is required.

```
<?xml version="1.0" encoding="UTF-8"?>
<sections>
  <section name="avayadebug">
    <item key="port" value="8000" />
    <item key="hostname" value="localhost" />
    <item key="level" value="10" />
    <item key="fileloggingon" value="True" />
    <item key="totallogfiles" value="10" />
    <item key="logfilesizemb" value="10" />
  </section>
  <section name="avayaipoffice">
    <item key="serviceurl"
value="http://localhost:80/AvayaIPOffice/service.svc" />
    <item key="serviceport" value="80" />
    <item key="ipofficeunitip" value="10.10.60.30" />
    <item key="ipofficeunitport" value="50805" />
    <item key="ipofficeusername" value="Administrator" />
    <item key="ipofficepassword" value="Administrator" />
    <item key="hiportno" value="7000" />
    <item key="messagedelaytime" value="1" />
    <item key="batchprocesstimeout" value="60" />
    <item key="batchprocessrecordstoprocess" value="10" />
    <item key="setconfigbatchtransactionflag" value="FALSE" />
  </section>
</sections>
```

#### 6.2. Restart AvayalPOfficeClientService

Once the configuration changes are made the AvayaIPOfficeClientService needs to be restarted. To restart the AvayaIPOfficeClientService go to **Start**  $\rightarrow$  **Run** and enter **services.msc** (not shown). Once the services window opens, right click on **AvayaIPOfficeClientService** and select **Restart**.

Note: The Startup type for AvayaIPOfficeClientService should be set to Automatic.



### 7. Verification Steps

This section provides the tests that can be performed to verify correct configuration of the IP Office and TigerTMS solution. Using the TigerTMS iCharge Check-in hospitality function, assign a room to a guest. In the Main Menu screen, click on **Check-In (F2)**.



From the Room drop-down box, select room 3001. Enter a descriptive name for the Guest Details **Name** field and then click on the **Check-In** (**F10**) button.

Check-In		
Room Details Reservation Room Category All Room 3001	Extension Attributes - F2 -	Additional Guests - F3 -
Default Rate New Rate PIN Not Allowed	Message Waiting -F4-	Budget Limits - F5 -
Guest Details Additional Guest Details	Wake-Up Calls - F6 -	PIN Attributes - F7 -
Title Title Address	DDI Attributes - F8 -	Account Details - F9 -
Arrival Date & Time	Check-In - F10 -	Exit - Esc -

Solution & Interoperability Test Lab Application Notes ©2014 Avaya Inc. All Rights Reserved. Using the **Interface to Avaya IPOffice** click on the **Communications** tab and verify that TigerTMS iCharge has passed the correct details onto the IP office.

Interface to Avaya IPOffice	? ×
About Status Close Communications Messages Control	
Rx: <ack> Rx: <ack> Rx: <ack> Rx: <ack> Rx: <ack></ack></ack></ack></ack></ack>	
If: [CI] Setting name to "Mr Smith" on 3001. Tx: NAME 3001 "Mr Smith" Rx: <ack> If: [CI] Setting COS to Unbarred on 3001. Tx: COS 3001 Unbarred Rx: <ack></ack></ack>	
If: [CDS] Setting CDS to Unbarred on 3001. Tx: COS 3001 Unbarred Rx: <ack> Rx: <ack> I</ack></ack>	•
Clear Follow Bottom Page	
	Minimize

The Room phone should now reflect the name entered in the check-in form and it should be possible to make outgoing calls.

### 8. Conclusion

A full and comprehensive set of feature and functional test cases were preformed during Compliance testing. TigerTMS iCharge 50.0.0.1 is considered compliant with Avaya IP Office 9.0. All test cases have passed and met the objectives outlined 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 <u>http://support.avaya.com</u> or from your Avaya representative.

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

Product Documentation for Tiger Communications products can be obtained at: <u>http://www.tigertms.com</u>

#### ©2014 Avaya Inc. All Rights Reserved.

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

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at <u>devconnect@avaya.com</u>.