# AVAYA

**Avaya Solution & Interoperability Test Lab**

# Application Notes for configuring inContact WFO Recording with Avaya IP Office 500 V2 R9.1 - Issue 1.0

## Abstract

These Application Notes describe the configuration steps for configuring inContact WFO Recording with Avaya IP Office 500 V2 R9.1. inContact WFO Recording integrates with Avaya IP Office using both the IP Office DevLink and port mirroring to record VoIP calls.

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.

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# 1. Introduction

These Application Notes describe the configuration steps for configuring inContact WFO Recording from inContact with Avaya IP Office 500 V2 R9.1. inContact WFO Recording integrates with Avaya IP Office using both the IP Office DevLink interface and port mirroring of the Real-time Transport Protocol (RTP) to record VoIP calls. The inContact WFO Recording solution is fully integrated into a LAN (Local Area Network) and includes easy-to-use Web based applications to retrieve telephone conversations from a comprehensive long-term calls database. The connection to IP Office uses the IP Office DevLink interface to start and stop the call recording based upon the telephony event it receives from IP Office.

inContact WFO Recording records telephone calls using passive station-side VoIP recording with the DevLink connection to IP Office to record both internal and external calls on various IP Office endpoints, listed in **Section 4**. IP Office DevLink is part of the IP Office CTI Link Software Development Kit. The IP Office CTI Link is available in Lite and Pro versions, which provide run-time interfaces for applications to use. The Software Development Kit (SDK) provides documentation on both Lite and Pro interfaces for software developers.

**Note**: Due to the nature of the call recording only conversations on IP Telephones can be recorded. Therefore all the endpoints listed in **Section 4** will be IP in nature.

Passive Station-Side VoIP Recording uses port mirroring to record the RTP from each telephone set. All telephones that are to be recorded are plugged into the Avaya 4548GT-PWR layer 3 switch where all of these particular ports are mirrored to one port where the inContact WFO Recording sever is plugged into. All of the RTP information from all of these phone sets will be delivered to the sniffer port on the inContact WFO Recording server. An additional Network Interface Card (NIC) is therefore required on the inContact WFO Recording Sever. This NIC is not configured to access the IP stack; it will have no IP configuration. This NIC connects into the mirrored port network that allows access to the phone network connection. This is effectively a hub environment. The promiscuous port needs to be on the same physical media path as any telephone endpoint that it is going to record.

# 2. General Test Approach and Test Results

This section describes the compliance testing used to verify interoperability of inContact WFO Recording with IP Office and covers the general test approach and the test results. Calls were made to and from the IP Office over a simulated PSTN link; for compliance testing this was a PRI QSIG ISDN link to an Avaya Aura® Communication Manager. Various Avaya endpoints (listed in **Section 4**) were registered to IP Office and calls were made to and from these Avaya endpoints in order to generate call events and RTP for recording. Using the DevLink interface on IP Office, inContact WFO Recording was able to compile a list of call records and using the web based GUI calls were played back using a PC with a sound card and speakers.

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 evaluates the ability of inContact WFO Recording to record telephone calls using passive station-side VoIP recording using the DevLink interface on IP Office. The types of calls include the following.

- **Inbound calls** – Test call recording for inbound calls to the IP Office from PSTN callers.
- **Outbound calls** – Test call recording for outbound calls from the IP Office to PSTN callers.
- **Hold/Transferred calls** – Test call recording for calls transferred to PSTN callers.
- **Conference calls –** Test call recording for calls in conference between the IP Office and PSTN callers.
- **Forwarded calls** – Test call recording for calls made to telephones that are forwarded to the PSTN.
- **Feature calls** – Calls such a Call Park, Call Pickup, Bridged Appearance calls and Hunt Group calls.

Serviceability testing was also carried out to observe the behaviour of inContact WFO Recording in the event of a LAN failure to the IP office and the IP Office endpoints along with the LAN failure to the inContact WFO Recording server.

## 2.2  Test Results

All functionality and serviceability test cases were completed successfully with the following observations noted.

1. The outbound call using the bridged appearance button is not recorded. This is not a fail but just to note that the call was not recorded.
2. The SQL services need to start before the Call Recording services in order for the server to reboot properly.

## 2.3  Support

Technical support can be obtained for inContact WFO Recording from the website http://www.uptivity.com/contact or from the following.
**Telephone**
Toll-free: 888-922-5526
Direct/International: 614-340-3346
Fax: 614-340-4840
Support: 888-922-5526, option 2
**Email**
support@uptivity.com

# 3. Reference Configuration

The configuration in **Figure 1** is used to compliance test inContact WFO Recording with Avaya IP Office 500 V2. The connection between inContact WFO Recording and the IP Office solution uses IP Office Devlink interface to allow the inContact WFO Recording record calls using Station-Side VoIP passive recording. Port mirroring on the Avaya 4548GT-PWR is used to facilitate the passive VoIP recording.
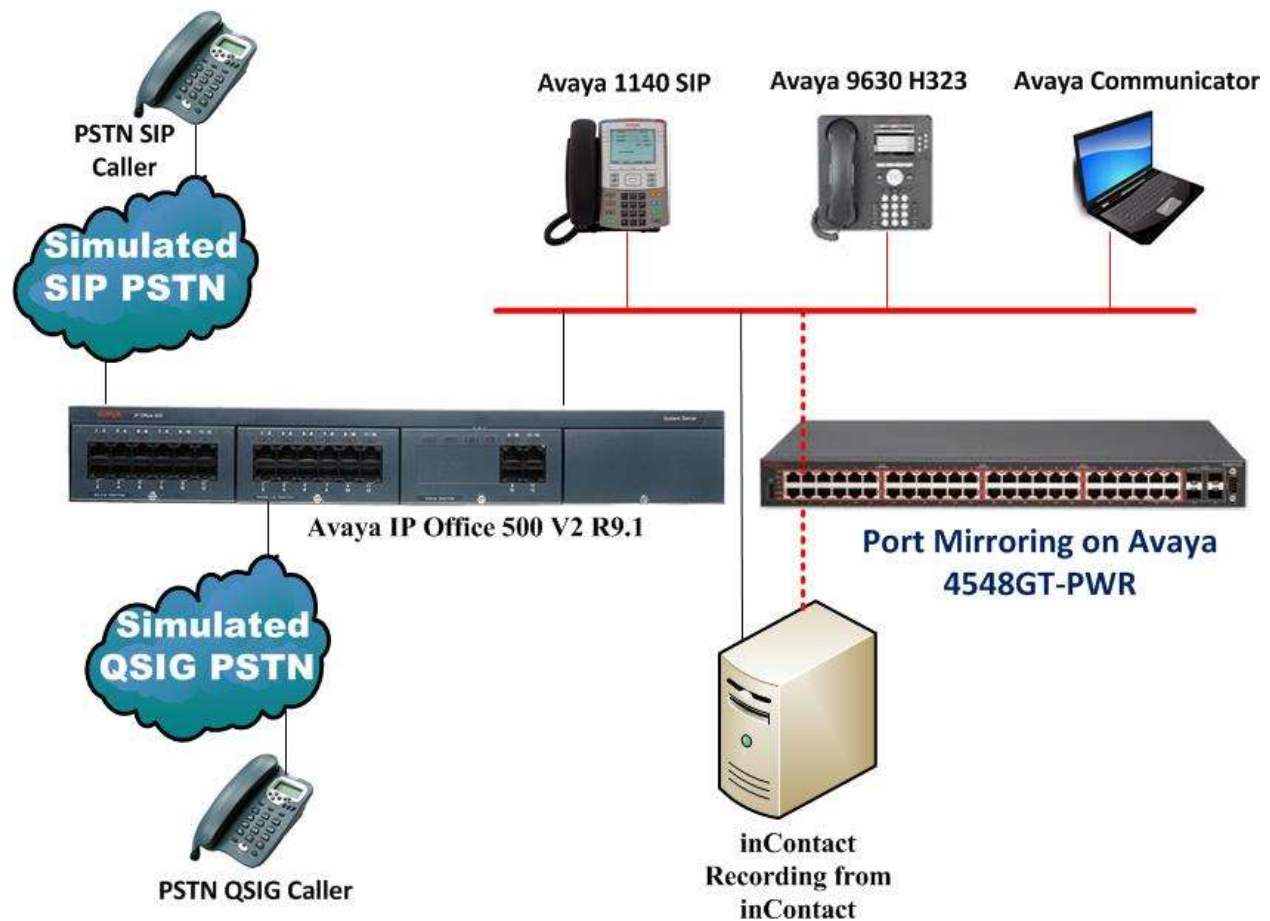


**Figure 1: Connection of inContact WFO Recording from inContact with Avaya IP Office 500 V2**

# 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 | R9.1.4.0 Build 137 |
| Avaya IP Office Manager running on a Windows 7 PC | R9.1.4.0 Build 137 |
| Avaya 9630 Deskphone | H.323 Release 6.4014U |
| Avaya 1140e SIP | R04.03.12.00 |
| Avaya Windows Communication Manager running on a Windows 7 PC | R2.0.3.30 |
| inContact WFO Recording running on a an Dell Poweredge R610 Windows 7 PC | R16.1 |

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

# 5. Configuration of Avaya IP Office

Configuration and verification operations on the 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 IP Office for this solution. It is implied that a working system is already in place with a PRI fully configured. 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.
- Check for CTI Pro Licenses.

## 5.1 Launch Avaya IP Office Manager

From the Avaya IP Office Manager PC, go to **Start → Programs → IP Office → Manager** to launch the Manager application (not shown). Tick the required server to log in to, this will be the IP Office 500 V2 then log in using the appropriate credentials to receive the configuration.
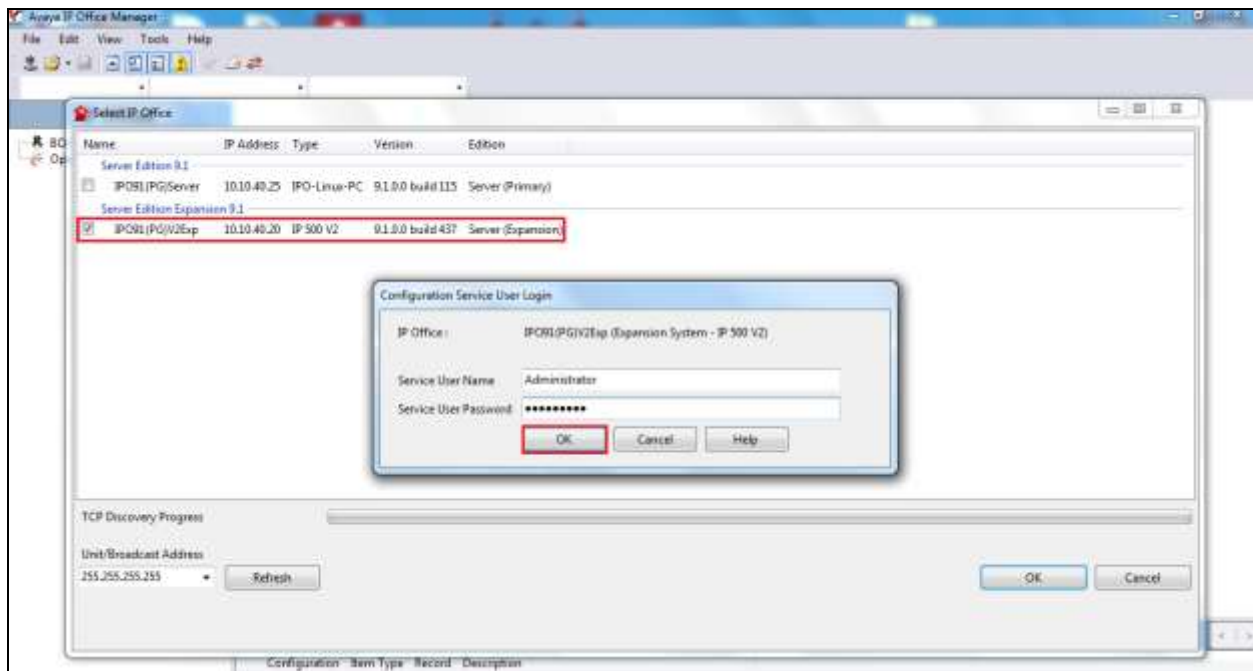
## 5.2 Check for CTI Pro Licenses

Click on **License** in the left window and ensure that the **License** tab is selected in the main window. All the licenses should be displayed as shown below.
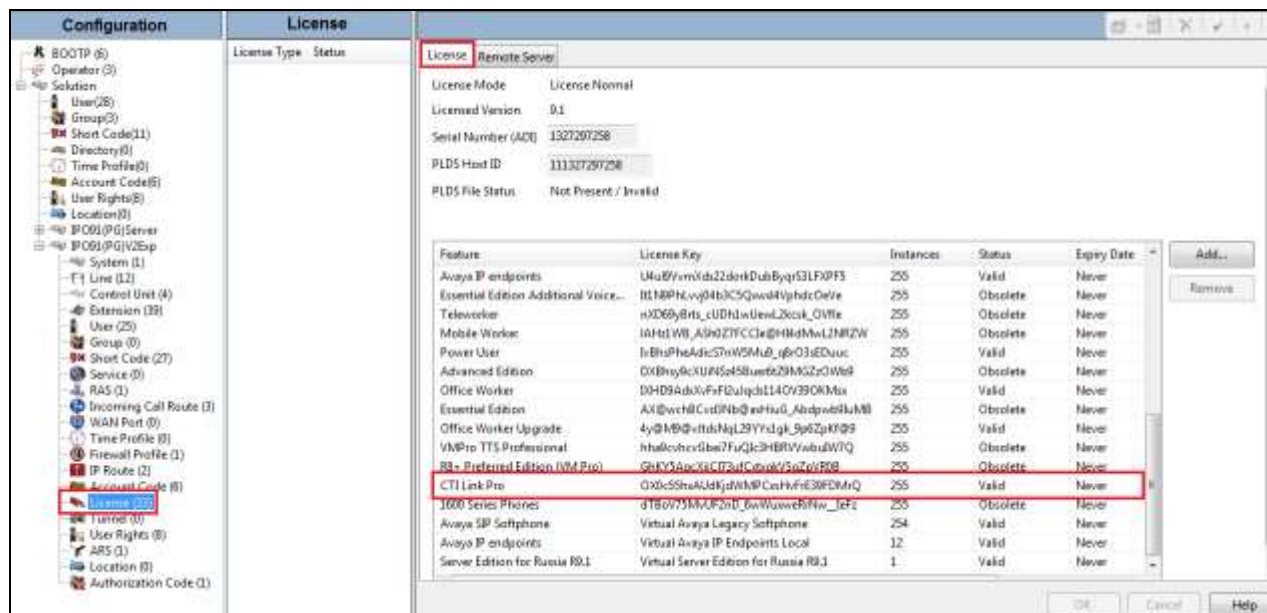


A closer look at this **CTI Link Pro license** shows that there are 255 CTI Link Pro License available and so in theory **255** simultaneous call recordings could be achieved.

| Feature | License Key | Instances | Status | Expiry Date |
|---|---|---|---|---|
| Avaya IP endpoints | U4ul9VvmXds22dorkDubByqrS3LFXPF5 | 255 | Valid | Never |
| Essential Edition Additional Voice... | It1N9PhLvvj04b3C5Qxwxl4VphdcOeVe | 255 | Obsolete | Never |
| Teleworker | nXD69yBrts_cUDh1wUewL2kcsk_OVfle | 255 | Obsolete | Never |
| Mobile Worker | IAHz1WB_ASh0Z7FCCIe@HI4dMwL2NRZW | 255 | Obsolete | Never |
| Power User | IvBhsPheAdicS7nW5Mu9_q8rO3sEDuuc | 255 | Valid | Never |
| Advanced Edition | DXBhsy9cXUiNSz45Buer6tZ9MGZzOWb9 | 255 | Obsolete | Never |
| Office Worker | IXHD9AdxXvFxFl2uJqcb114OV39OKMsx | 255 | Valid | Never |
| Essential Edition | AX@wchBCvd3Nb@axHiuG_Abdpwb9IuMB | 255 | Obsolete | Never |
| Office Worker Upgrade | 4y@M9@vJtdsNqL29YYx1gk_9p6ZpKf@9 | 255 | Valid | Never |
| VMPro TTS Professional | hha9cvhcvGbei7FuQIc3HBRVVwbuIW7Q | 255 | Obsolete | Never |
| R8+ Preferred Edition (VM Pro) | GhKY5AgcXiiCl73ufCxtxqkVSqZpVR0B | 255 | Obsolete | Never |
| CTI Link Pro | OX0c55hxAUdKjdWMPCxsHvFrE39FDMrQ | 255 | Valid | Never |
| 1600 Series Phones | dTBoV75MvUF2nD_6wWuxweRrNw__IeFz | 255 | Obsolete | Never |
| Avaya SIP Softphone | Virtual Avaya Legacy Softphone | 254 | Valid | Never |
| Avaya IP endpoints | Virtual Avaya IP Endpoints Local | 12 | Valid | Never |
| Server Edition for Russia R9.1 | Virtual Server Edition for Russia R9.1 | 1 | Valid | Never |

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# 6. Configure inContact WFO Recording

Either from the inContact WFO Recording server or from another PC open a web session to the inContact WFO Recording server's IP address, enter the proper credentials and click on **LOGIN**.
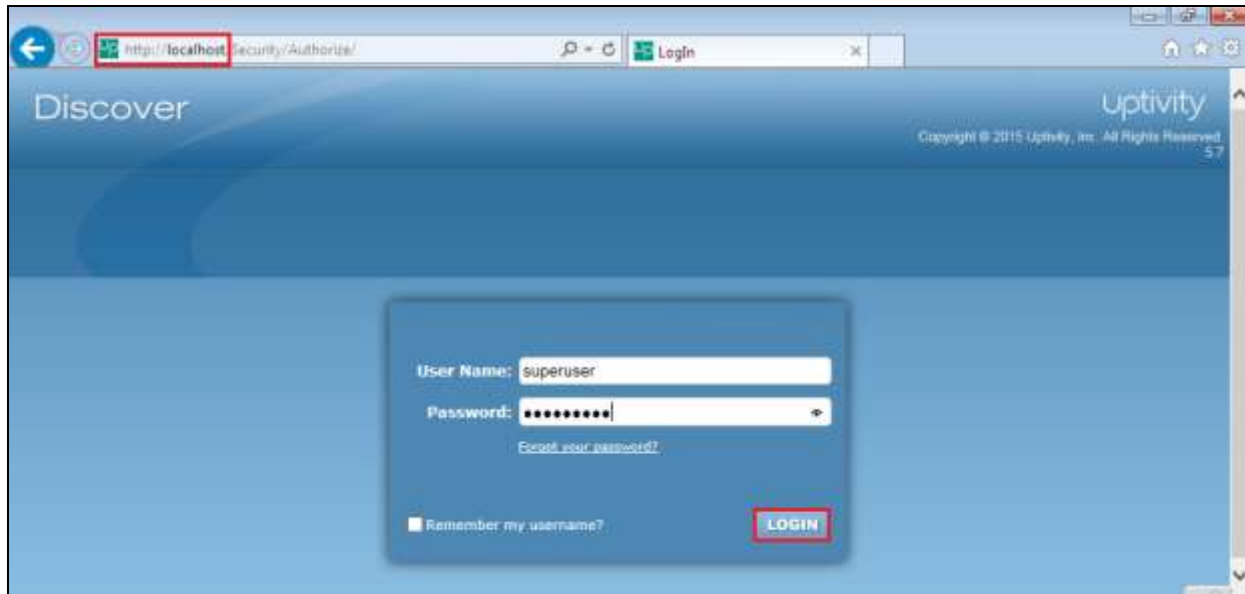


## 6.1 Create Voice Board

Click on the **Administration** tab and select **Recorder Settings → Voice Boards** in the left window, click on **Add** at the top right of the main window.

Select **CallCopy VoIP Sniffer** as the **Hardware Type**.



Enter the **Listening Interface** information for the NIC associated with capturing the RTP from the data switch. The Avaya data switch was setup to mirror a number of ports connected to the VoIP phones to one port connected to the Network Interface Card (NIC) on the inContact WFO Recording server. Select **Avaya H.323** as the **VoIP Protocol**. All other values can be left as default, scroll down to the end.

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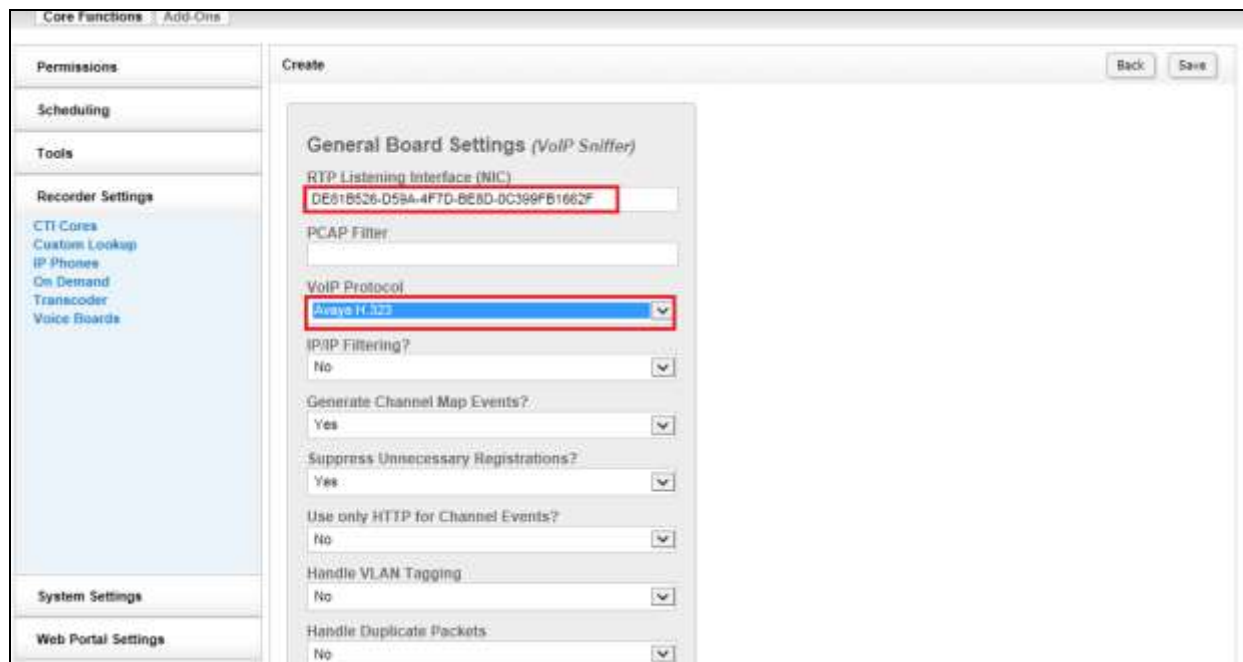
Scroll down to PBX Addresses and enter the IP Address of the IP Office and click on Add. Enter the **Number of Channels to Add**, this will determine the number of simultaneous calls that can be recorded and this will also depend on the licenses available on IP Office. For compliance testing **6** was chosen and **Record Anything** was chosen for all 6 channels which recorded all calls on those channels.

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Scroll back up to the top again and click on **Save**, as highlighted below.



## 6.2  Create Schedule

Still under the **Administration** tab and select **Scheduling → Create Schedule** in the left window, click on **Create a Custom Schedule (Advanced)** in the main window.

Enter a suitable name for the schedule and for compliance testing the following were set,
- **Type**                                    Set to **Percentage**
- **Target Percent**                 Set to **100**
- **Direction**                           Set to **both**
- **Schedule Requirements**       **Voice Port Not Equal To 0**

The other values can be left as default and click on **Save Schedule** to save this.

## 6.3 Create Core

Still under the **Administration** tab and select **Recorder Settings → CTI Cores** in the left window, click on **Add Core** at the top right of the main window.
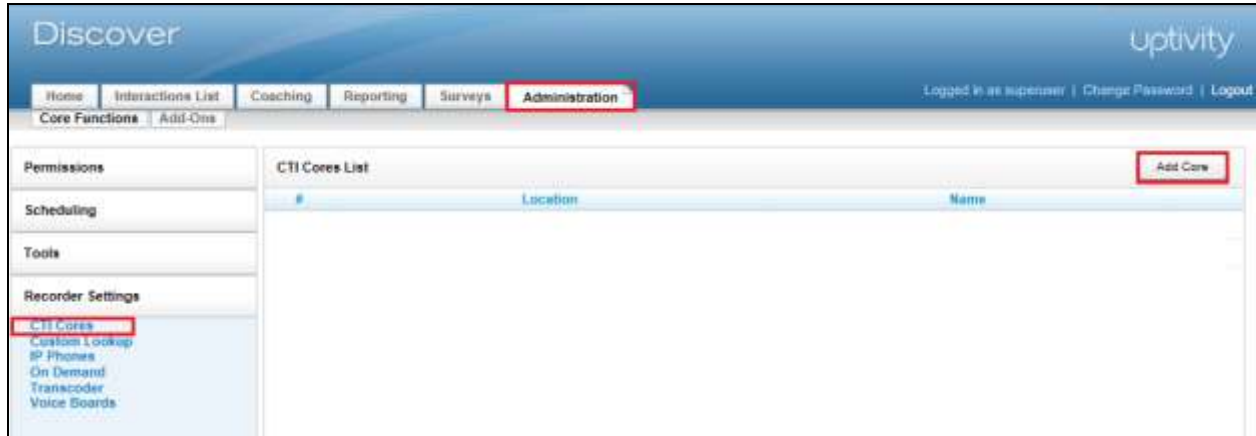


Enter a suitable **Name** and the **Host** must be set to that of the inContact WFO Recording server, in the case below this was the **localhost**. The **Record Method** should be set to **Passive** and the **Api Commands To Script** should be set to **Yes**. All other fields can be left as default. Scroll down to the bottom of the page.
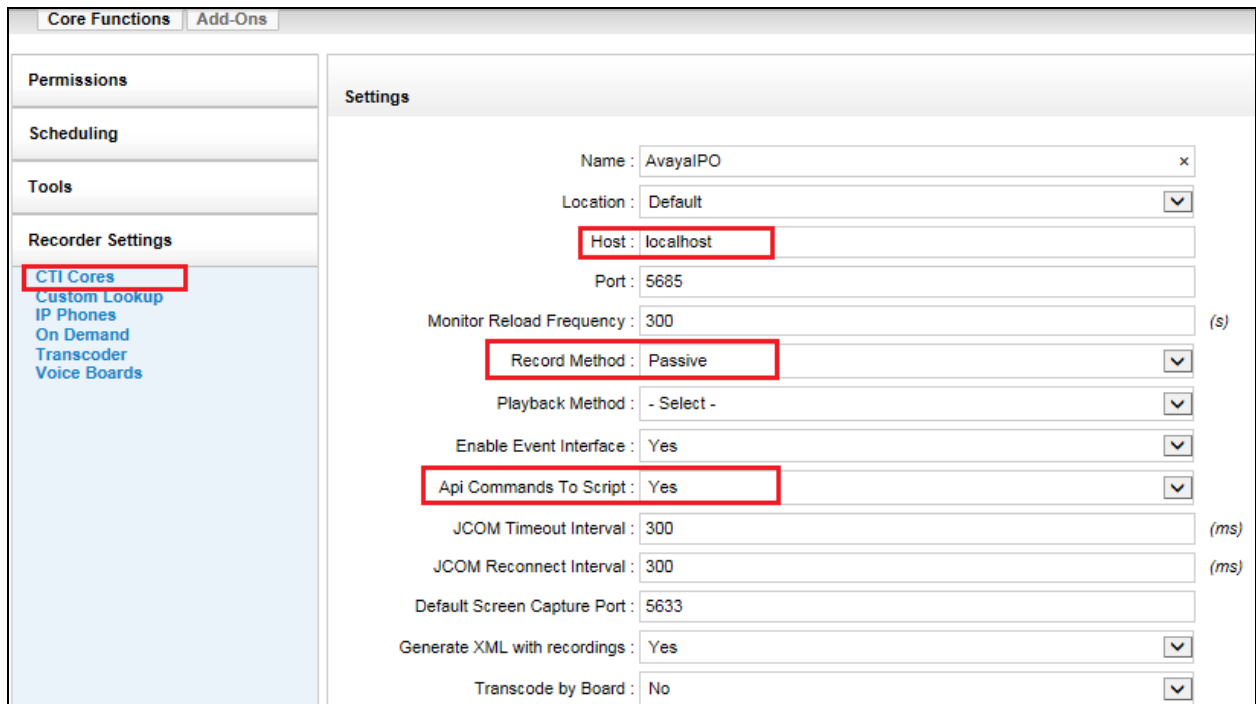
Select the **Related Boards** and the **Related Schedules** as is shown below by clicking on the add icon.



With the Board and Schedule selected click on the drop down menu highlighted and select **Avaya IP Office**, with this selected click on **Add CTI Module**.

From the drop down menu select **VoIP Recorder** and click on **Add CTI Module**.



Scroll up to the top of the page and click on **Save**.

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## 6.4 Amend cc_cticore.ini

The IP address of the Avaya IP Office along with the DevLink password needs to be added to the cc_cticore.ini file. This file is located in **Program Files → CallCopy → Recorder → CtiCore**. Add the following:

- iphost = "IP address of the IP Office"
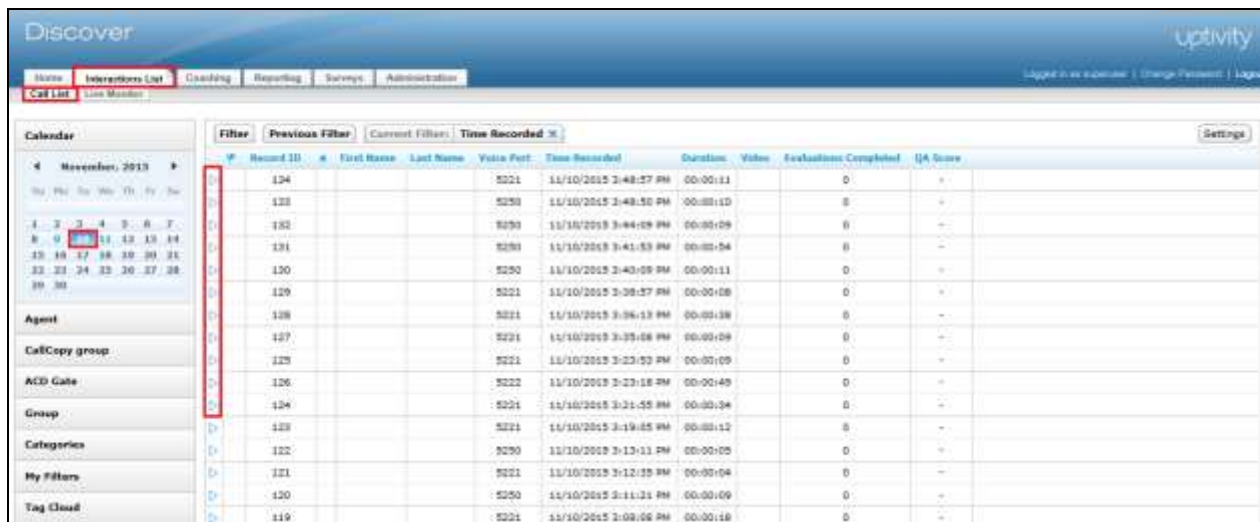- ippassword = "Password associated with the system user for DevLink"

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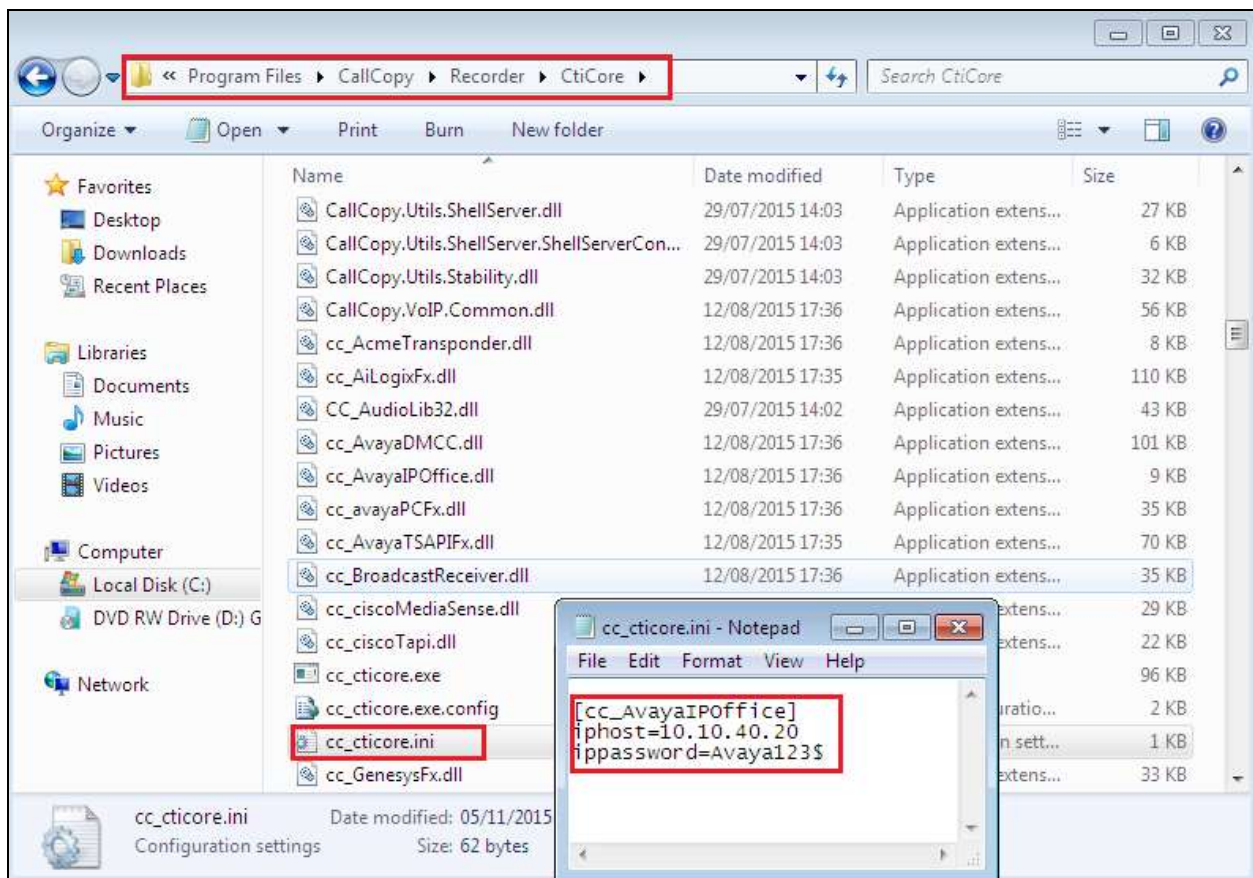
# 7. Verification Steps

This section illustrates the steps necessary to verify that the inContact WFO Recording is configured correctly to play back call recordings.

## 7.1 Verify inContact WFO Recording

From any PC that has a sound card and speakers, open a browser session and browse to the IP address of the inContact WFO Recording server, enter the proper credentials and click on **LOGIN**.
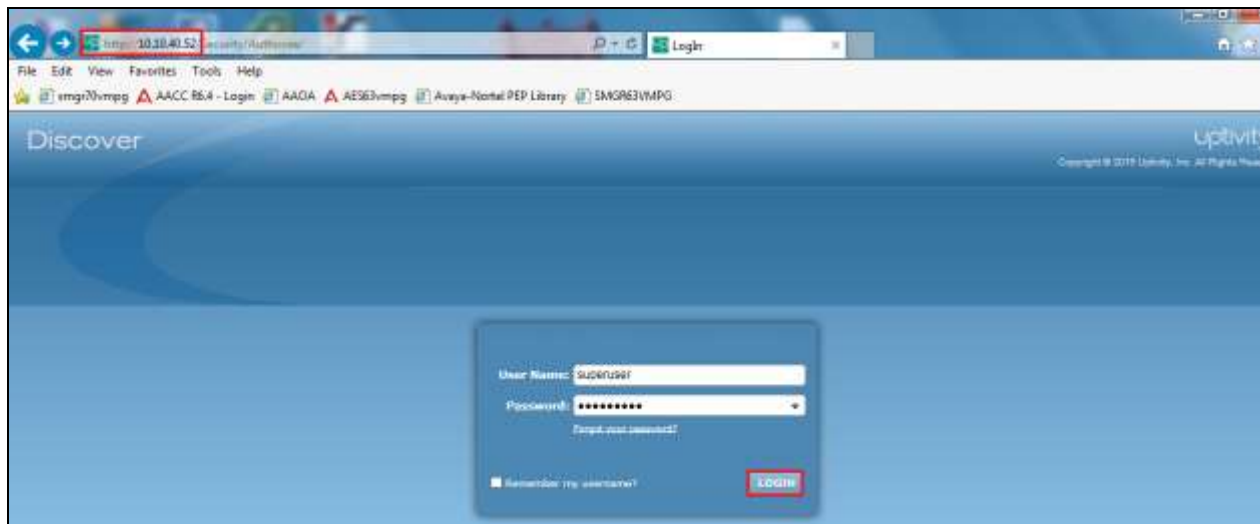


Select the **Interactions List** tab and within that tab select the **Call List** tab. Select the required date from the **Calendar** as shown below and this will display all the call recordings that were recorded on that particular date. By selecting any of the play icons highlighted will play back that particular recording.

In the example below a recording number **132** is played back to the user.

# 8. Conclusion

These Application Notes describe the configuration steps for configuring inContact WFO Recording from inContact with Avaya IP Office 500 V2 R9.1. inContact WFO Recording integrates with Avaya IP Office using both the IP Office DevLink interface and port mirroring to record VoIP calls. All feature functionality and serviceability test cases were completed successfully with any issues and observations noted in **Section 2.2**.

# 9. Additional References

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

Product documentation for Avaya products may be found at *http://support.avaya.com*
    [1] *Avaya IP Office R9.1 Manager 10.1, Document Number 15-601011*
    [2] *Avaya IP Office R9.1 Doc library*

Technical support can be obtained for inContact WFO Recording from the website http://www.uptivity.com/contact or from the following.
**Telephone**
Toll-free: 888-922-5526
Direct/International: 614-340-3346
Fax: 614-340-4840
Support: 888-922-5526, option 2
**Email**
support@uptivity.com

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# Appendix

Open the application called **cc_interfaceBrowser.exe**, this should be located in **Program Files → CallCopy → Recorder** folder.
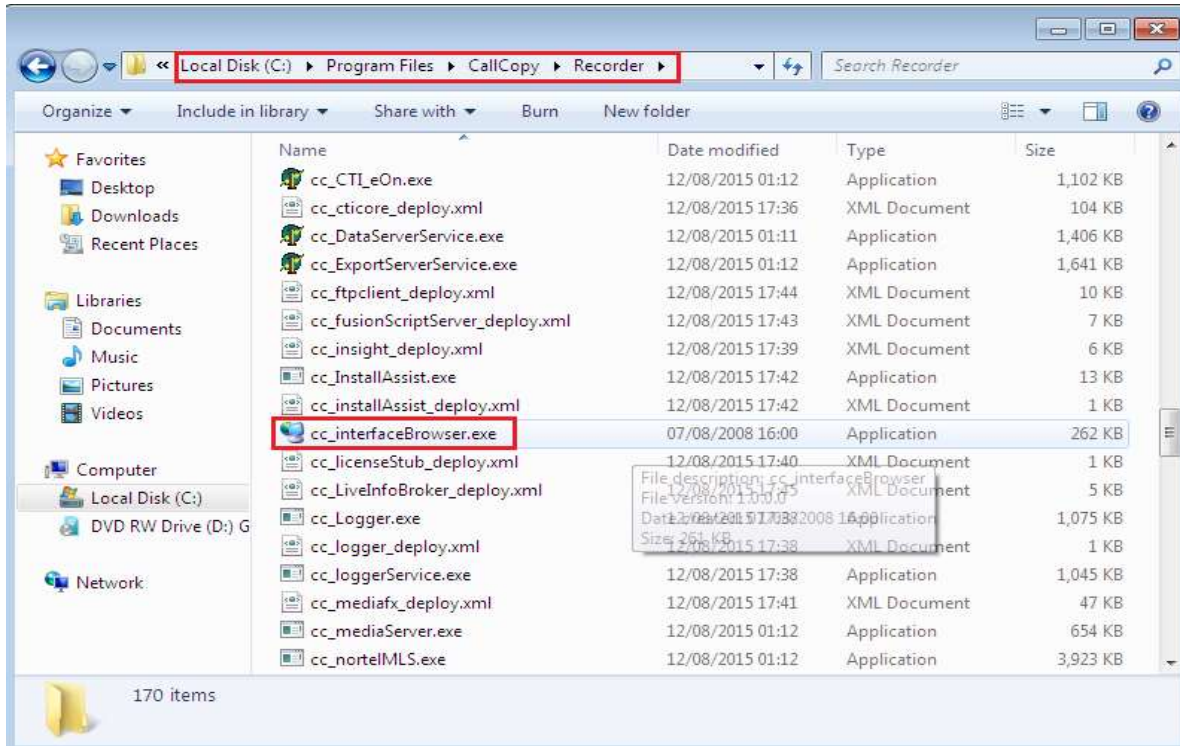


Select the correct Network Interface which is used to capture the RTP from the data switch. The **Listening Interface** should then be populated and this is used for the setup of the inContact WFO Recording server in **Section 6**.