Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avaya IP Office 500 with Tiger Communications 2020 Pro - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for call accounting and billing functionality of the Tiger Communications 2020 Pro 5.3 to successfully interoperate with Avaya IP Office 8.1.

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

DCMon (Data Collection Monitor) and Tiger 2020 Pro Advanced Reporting are applications that are providing call accounting and billing functionality. DCMon is responsible for obtaining Station Message Detail Reporting data from Avaya IP Office and it is responsible for storing and processing the records. Tiger 2020 Pro Advanced Reporting processes the call records obtained from DCMon in order to provide usage analysis, call costing and billing data reports.

2. General Test Approach and Test Results

The general test approach was to configure the Tiger Communications 2020 Pro to communicate with the Avaya IP Office (IP Office) as implemented on a customer's premises. Testing focused on verifying that Station Message Detail Reports (SMDR) are collected by the DCMon and received in the format as generated by the IP Office. Various call scenarios were preformed to simulate real call types as would be observed on a customer premises. See **Figure 1** for a network diagram. The interoperability compliance test included both feature functionality and serviceability tests.

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 processing of SMDR data obtained from the IP Office via secure port on TCP-IP link. The serviceability testing introduced failure scenarios to see if Tiger Communications 2020 Pro could resume after a link failure with IP Office.

The testing included:

- Local internal call handling
- Handling of Incoming Network calls over PRI and SIP trunks
- Handling of External Calls
- Call Forwarding on busy/No Answer/Unconditional
- Transfers – Blind and Supervised
- Conference Calls
- Calls answered by voicemail

2.2. Test Results

Tests were performed to insure full interoperability between Tiger Communications 2020 Pro 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 Tiger Communications can be obtained through the following:

Phone: Technical Support Department
+44 1425 891 000

E-mail: support@tigercomms.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 Tiger Communications server. From the IP Office, SMDR records were sent to an agreed port number on Tiger Communications 2020 Pro for SMDR collection and processing by the DCMon. Digital, H323 and Softphones were configured on the IP Office to generate outbound/inbound calls to/from the PSTN. A QSIG trunk was configured to connect to the PSTN.

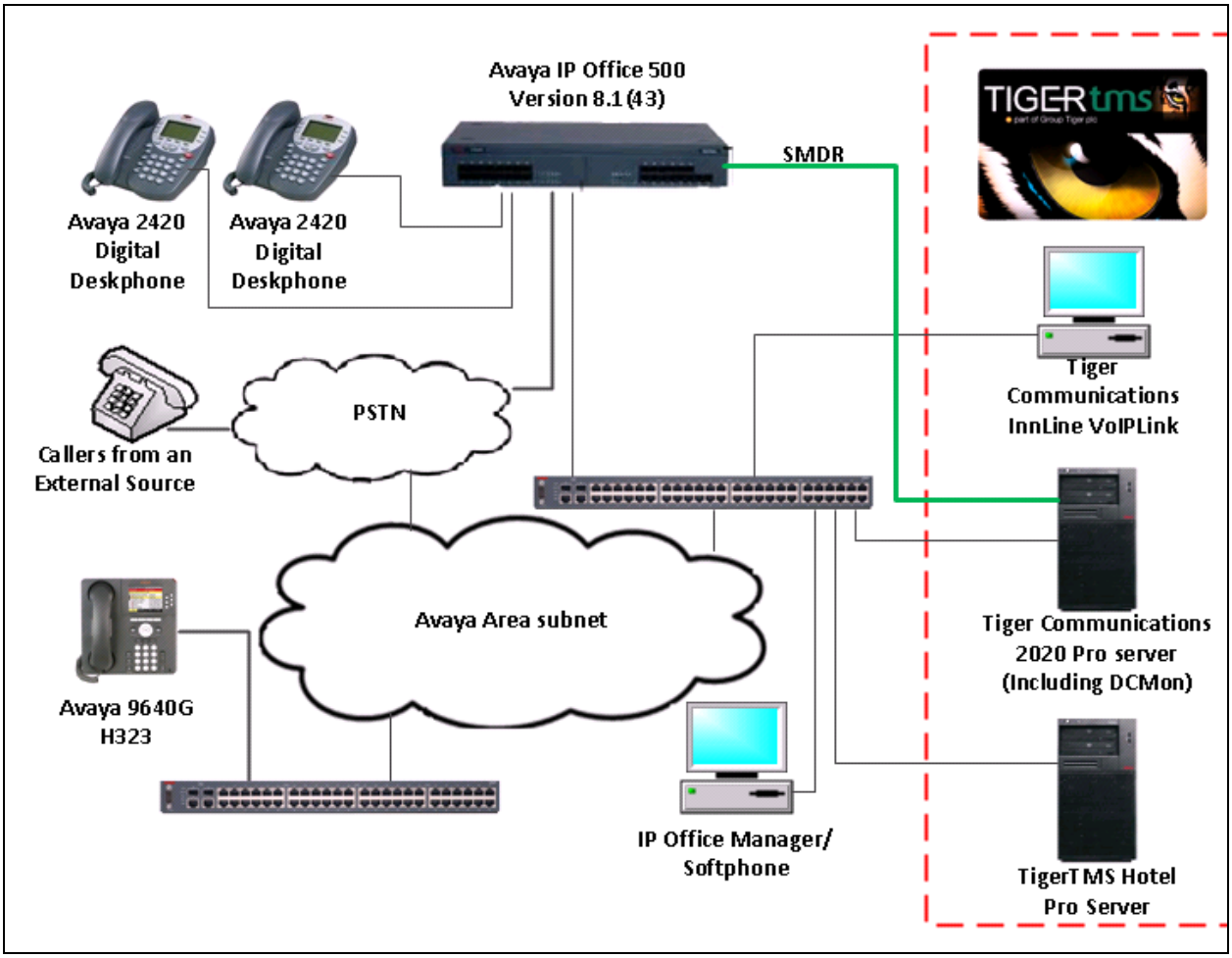


Figure 1: Avaya IP Office and Tiger Communications 2020 Pro Reference Configuration

4. Equipment and Software Validated

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

Avaya Equipment	Software / Firmware Version
Avaya IPO 500	8.1(43)
Avaya 9640G IP Telephone	H323 S3.104S
Avaya 2420 Digital Telephones	--
Avaya IP Office softphone	3.2.3.48
Tiger Communications Equipment	**Software / Firmware Version**
Generic Server running Windows XP Professional 2002 SP3	Tiger Communications 2020 Pro 5.3 • IPOffice.exe Version: 8.11.3.0 • Collection.exe Version: 10.2.1.0

Note: Testing was performed with IP Office 500 R8.1, but it also applies to IP Office Server Edition R8.1. Note that IP Office Server Edition requires an Expansion IP Office 500 v2 R8.1 to support analog or digital endpoints or trunks**.**

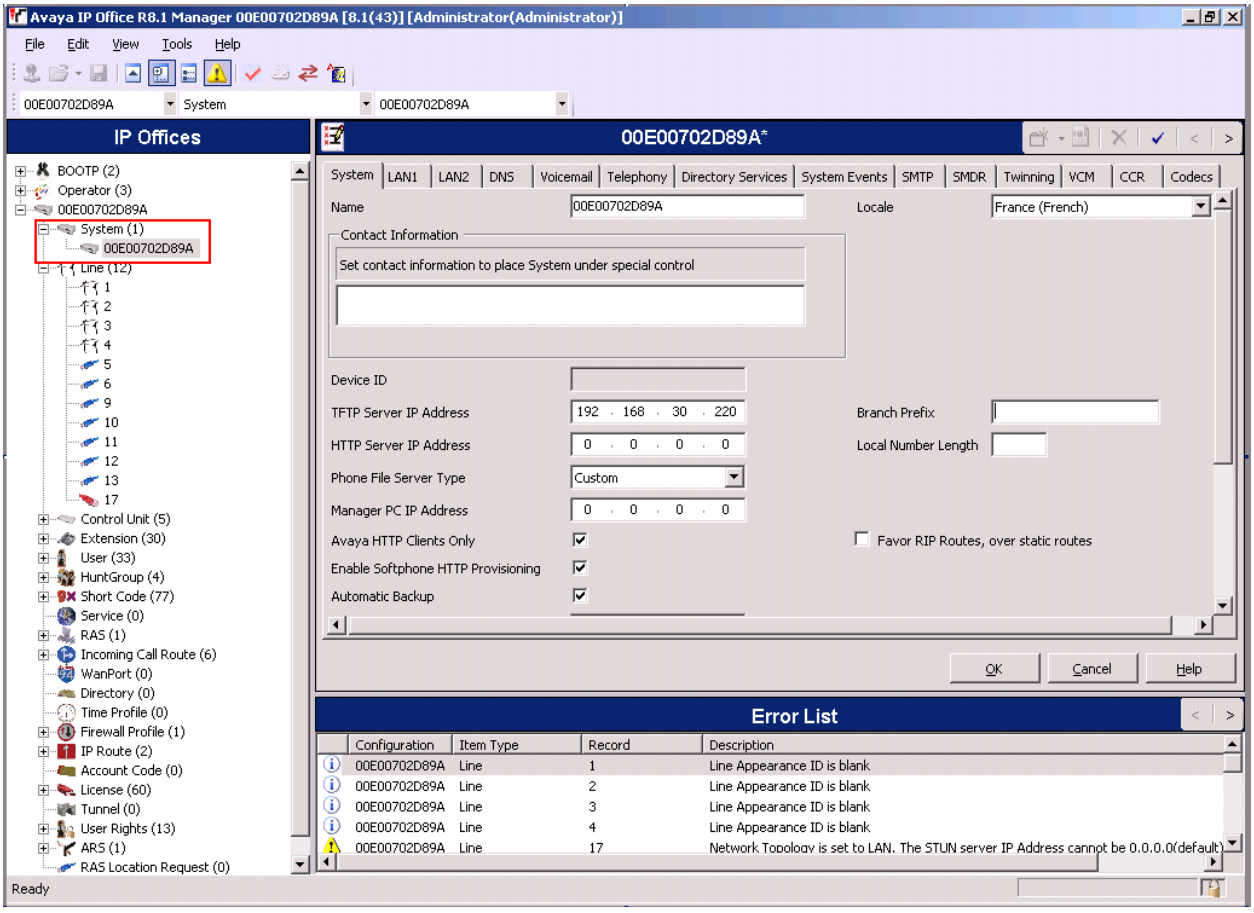
5. Avaya IP Office Configuration

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. 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
- SMDR Configuration
- Save Configuration

5.1. Launch Avaya IP Office Manager (Administration)

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

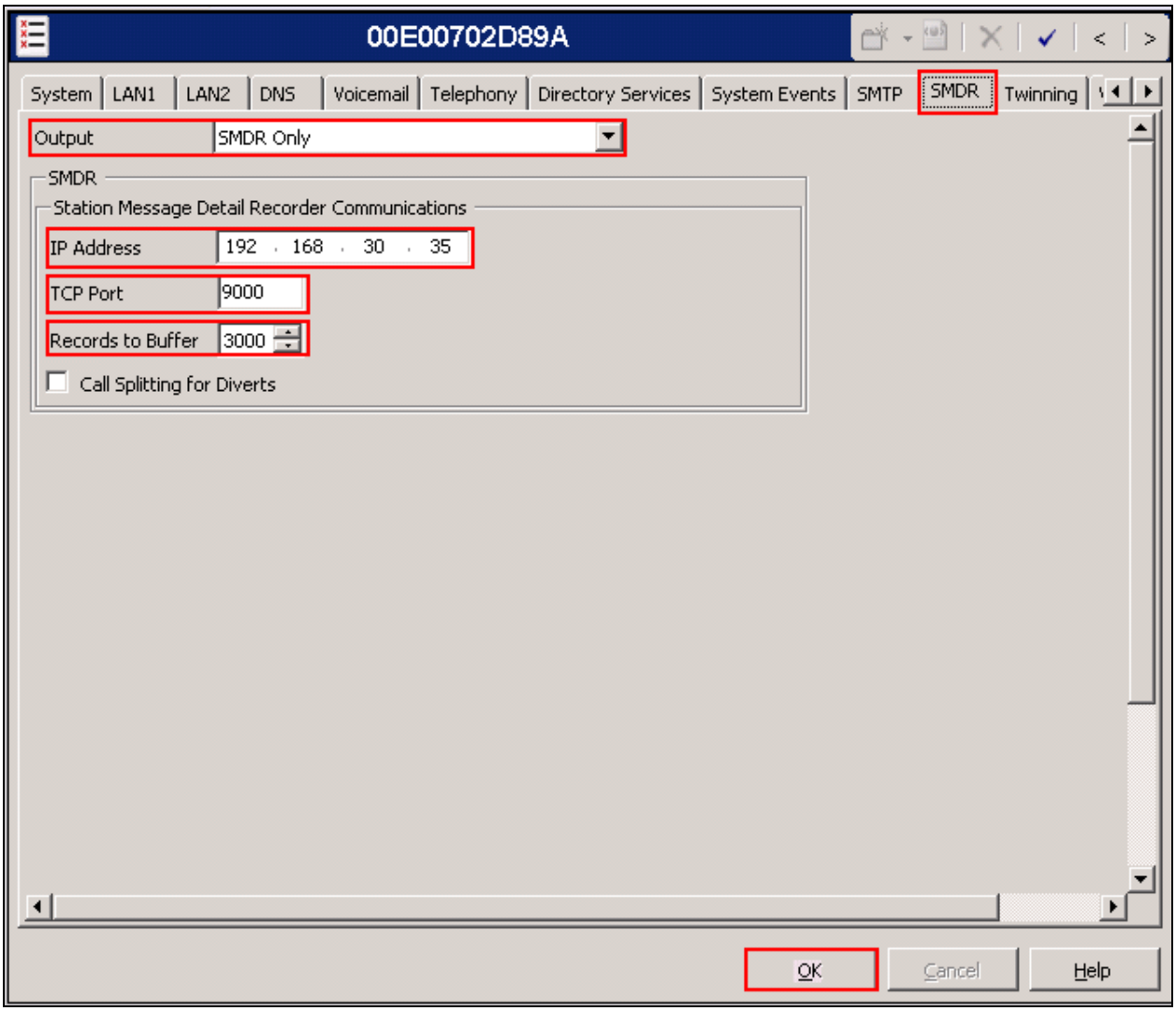


5.2. SMDR configuration

Select the **SMDR** tab and enter the following information:

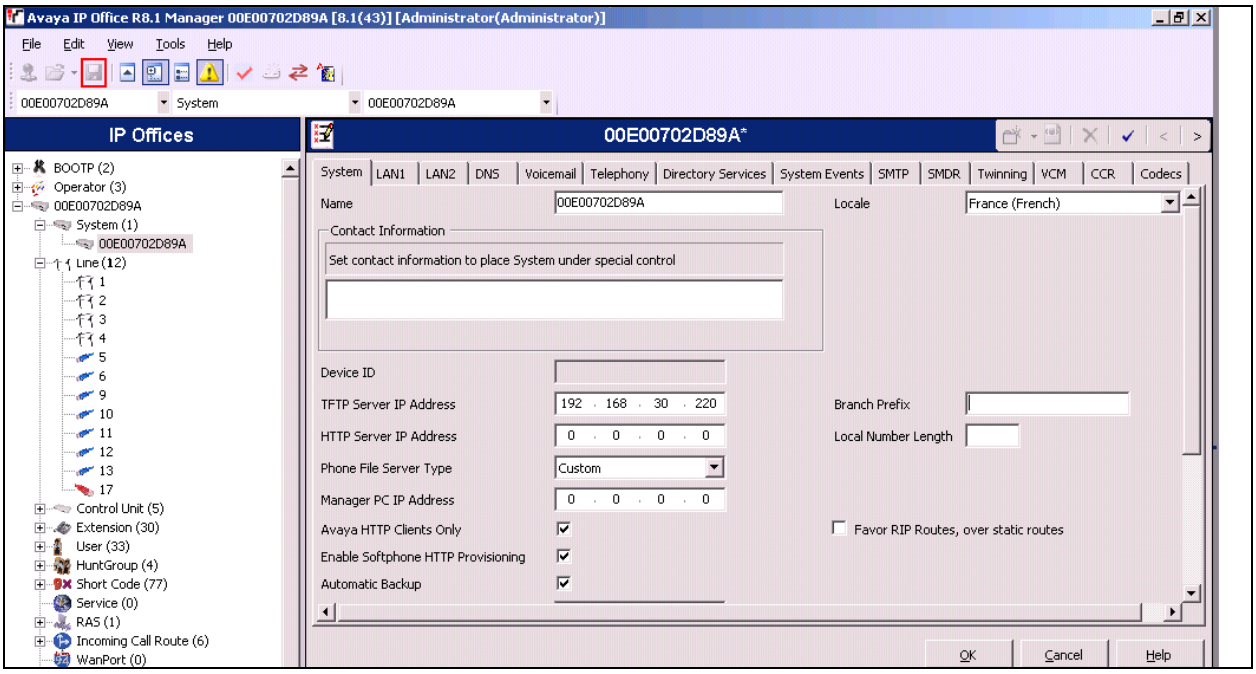
- **Output** Select **SMDR** from the drop box
- **IP Address** Enter the IP Address of the Tiger 2020 Server
- **TCP Port** Enter **9000**
- **Records to buffer** Enter **3000**. This is maximum available.

Click the **OK** button to save.

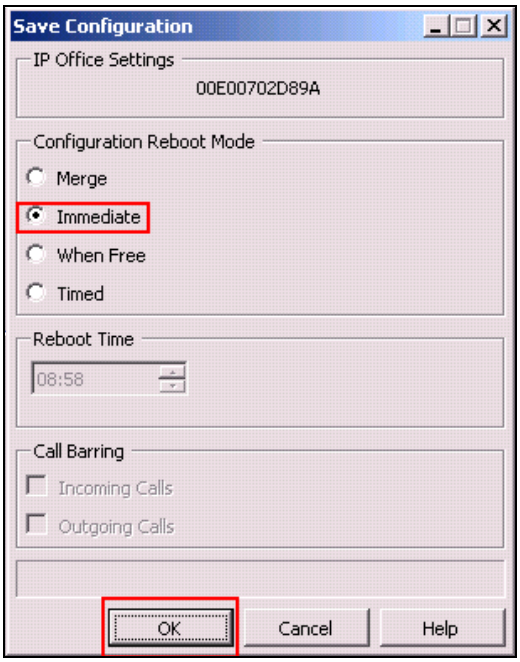


5.3. Save Configuration

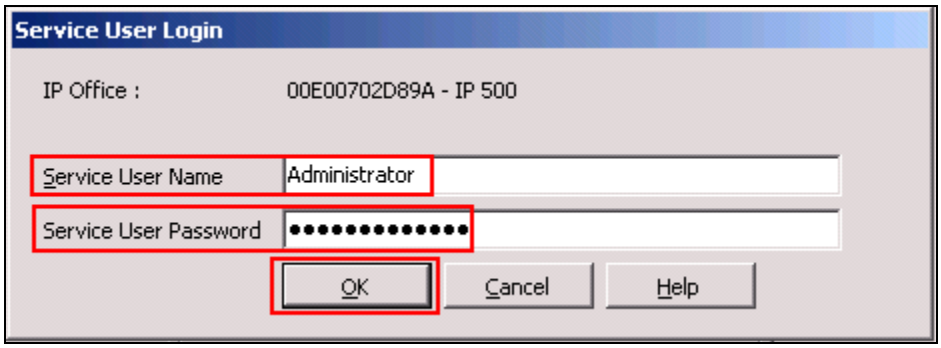
Once the configuration has been made it must be sent to the IP Office. Click on the **Save** icon (on top menu) as shown below.



Once the **Save Configuration** window opens, click on the **Immediate** radio button followed by the **OK** button.



Once the **Service User Login** Window opens enter the appropriate credentials, and then click the **OK** button.



6. Configure Tiger Communications 2020 Pro

This section describes the steps preformed to configure the Tiger Communications 2020 Pro to connect to the IP Office. It is implied that the Tiger Communications 2020 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 Node Configuration File
- Configure Data Collection
- Start Data Collection

6.1. Modify Node Configuration File

After installation and basic configuration, open the **Node.conf** file (During compliance testing the file was located in **D:\tig2020\ network\Switch\Node1**). Once the file is opened locate the **[Switch]** section as shown below, set the **Type** field to **ipoffice** to ensure that IPOffice.exe program is used by the DCMon.

```
[Switch]
Type=ipoffice
Revision=1.0
MaxCallHoldTime=120000
MaxTandemHoldOn=30000
MaxSectionHoldOn=7200000
RecordDiscardBlacklistHoldOn=3600000
MaxLineLength=2000
BreakYear=1980
NodeId=1
DiscardDuplicateRecords=1
DiscardOutgoingWithNoCalledDigits=0
CallTimeType=0
SequenceNumbersHeld=28
DefaultLatency=0
DiversionChargedPartyRule=0
TransferChargedParty=0
```

Locate the **[Input]** section and comment out **Address**. Set the **Port** number to **9000** as configured as the **TCP Port** in **Section 5.2**. Set the **CreateAs** field to **Server** to ensure that Tiger server waits for a connection from IP Office.

```
[Input]
Name=Node 25 Socket Input
Type=Socket
Direction=Bidirectional
BufferSize=1024
TimeOut=200
Sharing=none
Protocol=TCP
##Address=
Port=3001
CreateAs=Server
Mode=Stream
Blocking=0
NormalReadResetInterval=1200000
InitialReadResetInterval=3600000
```

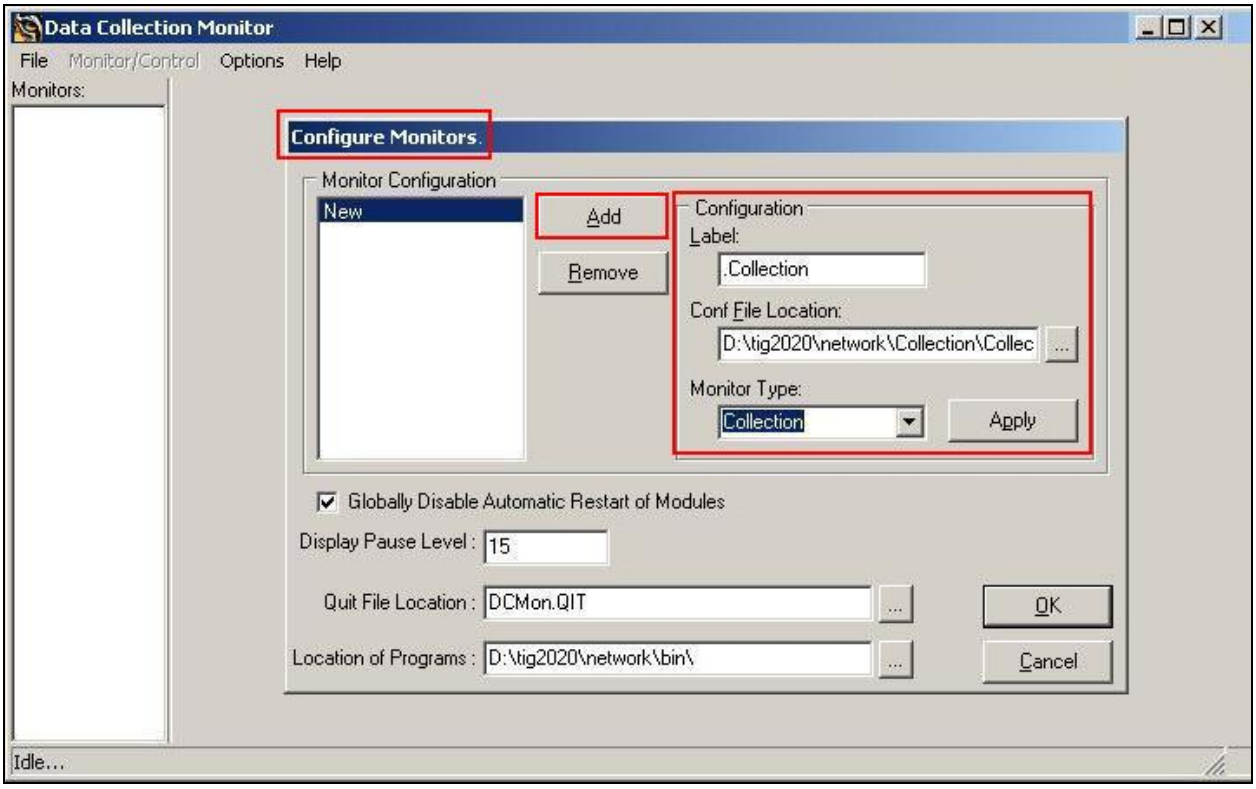
Locate the **[FieldDefsFile]]** section and configure the **Name** parameter with the location of the **IPOffice.conf** file. This file holds the field definitions that match the SMDR output from the IP Office (During compliance testing the file was located at **D:\tig2020\Network\Switch\Node1**).

```
FieldDefsFile]
Name=D:\tig2020\Network\Switch\Node1\IPoffice.conf
```

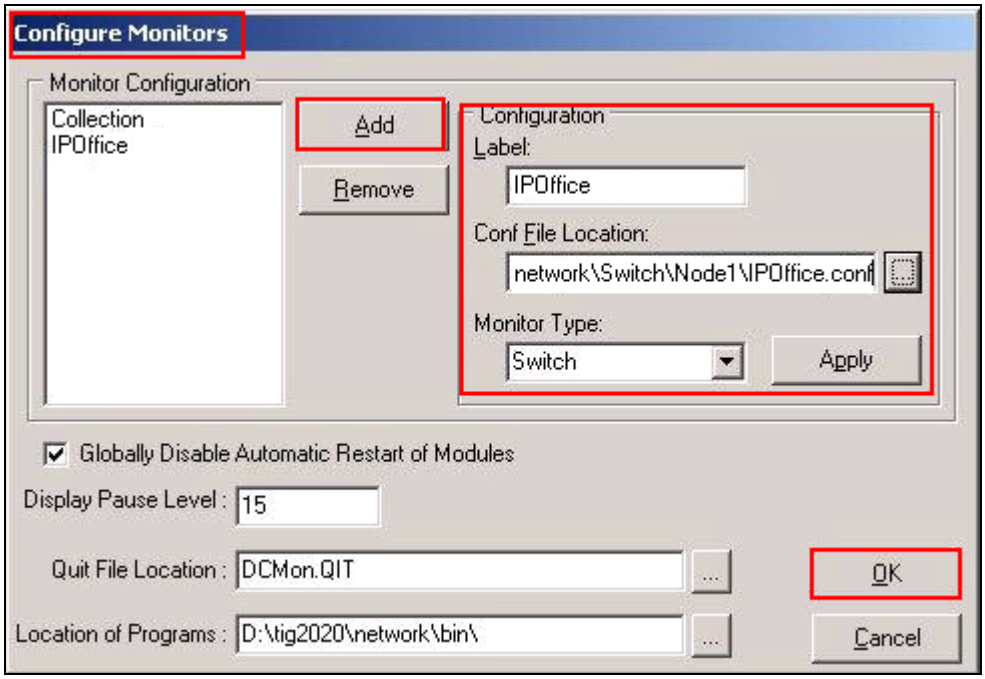
6.2. Configure Data Collection

On the Tiger Communications 2020 Pro server, navigate to **D\tig2020\network\bin** and click on **dcmon.exe** file to launch the Tiger 2020 Pro data collection configuration. On the main Data Collection Monitor screen toolbar, click on **Options → Configure**.

There are two types of monitor types to be configured - one for the collection which interfaces with the Tiger Communications 2020 Pro database and one for the switch which interfaces with Communication Manager. In the **Configure Monitors** dialog box click the **Add** button. In the **Label** field enter a descriptive name for the collection monitor type. In the **Conf File Location** field enter or browse to the location of the collection.conf file. The **collection.conf** file during this compliance testing was located at **D:\tig2020\network\collection**. For the **Monitor Type** select **Collection** from the drop down list. The rest of the parameters can be left with their default values. Click **Apply**.

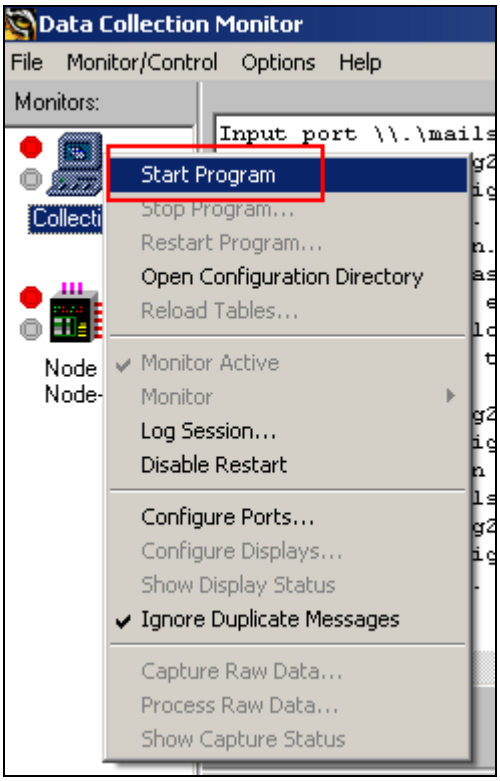


Click on the **Add** button. In the **Label** field enter a descriptive name for the switch monitor type. In the **Conf File Location** field enter or browse to the location of the **IPOffice.conf** file shown in **Section 6.1**. The IPOffice.conf file during compliance testing was located at **D:\tig2020\network\Switch\Node1**. For the **Monitor Type** select **Switch** from the drop down box. The rest of the parameters can be left with their default values. Click **Apply** followed by **OK**.



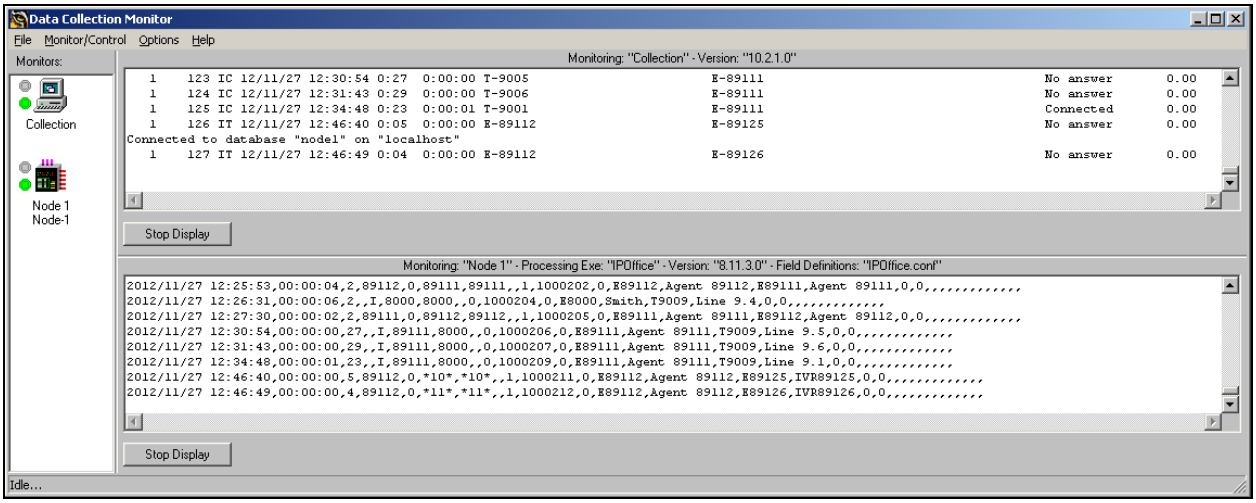
6.3. Start Data Collection

In the main **Data Collection Monitor** screen. Right click on the collection monitor icon labelled **Collection** and select **Start Program**. Do the same for the switch monitor icon labelled **Node1**.



7. Verification Steps

Make a simple call and verify that DCMon has received the SMDR record. Verify that DCMon has correctly processed the call. Confirm that the raw data in the bottom pane is tabulated accordingly for the database in the top pane.



8. Conclusion

A full and comprehensive set of feature and functional test cases were preformed during Compliance testing. Tiger Communications 2020 Pro 5.3 is considered compliant with Avaya IP Office 8.1. All test cases have passed and met the objectives outlined in **Section 2.1**.

9. Additional References

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

[1] Avaya IP Office R8.1 Manager 10.1, August 3rd 2012, Issue 29o, Document Number 15-601011

Product Documentation for Tiger Communications products can be obtained at:
http://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.