



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

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# **Application Notes for TigerTMS Tiger Pro with Avaya IP Office - Issue 1.0**

### **Abstract**

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

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

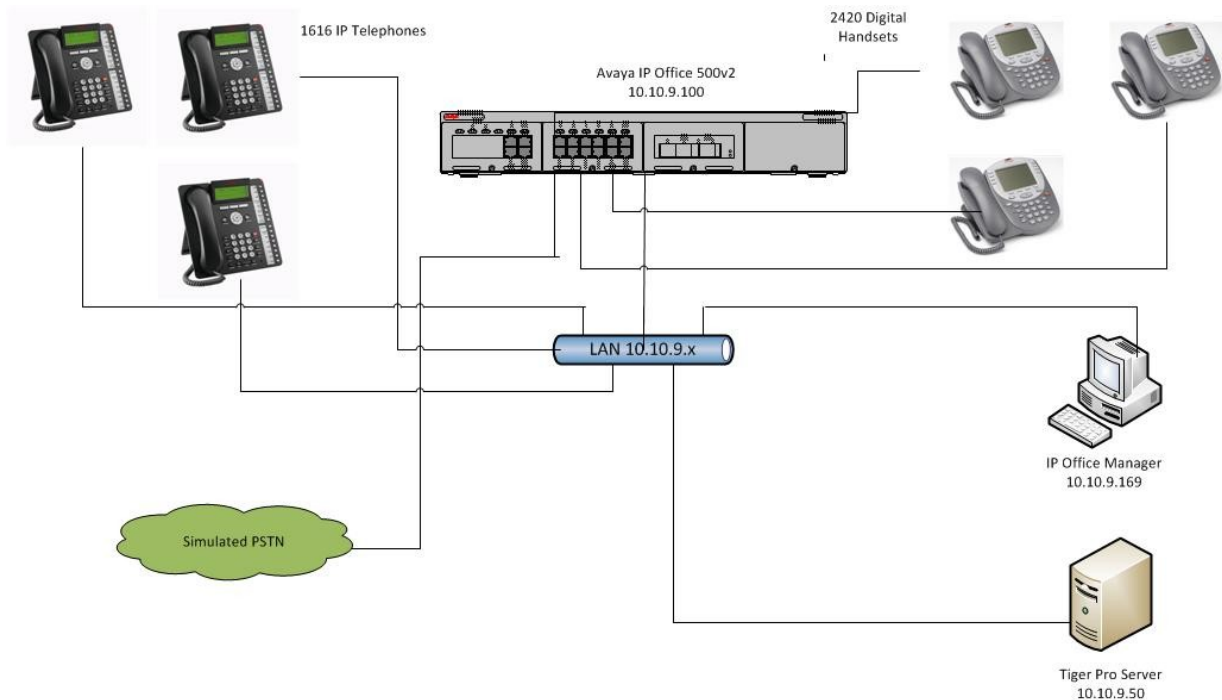
These Application Notes describe the compliance-tested configuration using TigerTMS Tiger Pro and an Avaya IP Office. DCMon (Data Collection Monitor) and Tiger Pro Advanced Reporting are applications that are providing call accounting and billing functionality as part of the TigerTMS Hotel Pro hospitality package. DCMon is responsible for obtaining SMDR (Station Message Detail Reporting) records from IP Office and it is responsible for storing and processing the records. Advanced Reporting is further processing the SMDR records obtained from DCMon in order to provide usage analysis, call costing and billing data reports. There are four main areas of integration between the products that require validation. These are:

- SMDR details of intra-switch calls
- SMDR details of incoming trunk calls
- SMDR details of outgoing trunk calls
- Link Failure/Recovery

The majority of the tests were conducted to ensure the successful processing of the SMDR data. The last area concentrates on the connectivity between Tiger Pro and IP Office with regard to the collection of SMDR data. Tests were conducted to validate that successful connection and recovery takes place during link failures.

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

- IP Office was configured with a digital expansion module
- A TCP/IP link was established between Tiger Pro and IP Office. From the IP Office, SMDR records were sent to an agreed port number for SMDR collection and processing by DCMon
- AnE1 PRI Trunk card was connecting IP Office to another PBX to simulate PSTN environment for testing inbound/outbound external calls.
- Avaya 2420 digital telephones and Avaya 1616 IP telephones were used to answer and/or place the calls.



**Figure 1 – Network Topology**

## **2. General Test Approach and Test Results**

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 Pro could resume after a link failure with IP Office.

### **2.1. Interoperability Compliance Testing**

The general test approach was to validate processing of the SMDR data for following call types:

- intra-switch calls
- incoming trunk calls
- outgoing trunk calls
- calls answered by voicemail
- transferred calls
- calls to extensions which have forward unconditional
- link failure/recovery

Feature functionality testing was performed manually. DCMon application was used for obtaining and processing SMDR records from the IP Office. Tiger Pro Advanced reporting application was used to validate the processed data. Internal and external calls were made by using digital and IP phones, and external inbound and outbound calls were made through E1/PRI trunk. The last area concentrates on the connectivity between Tiger Pro and IP Office. Tests were conducted to verify that SMDR records were successfully obtained and processed by the DCMon after connection was reestablished between the servers.

### **2.2. Test Results**

All executed test cases were completed successfully.

### **2.3. Support**

If technical support is required for the Tiger Pro, contact their Technical Support Department.

Email: [support@tigercomms.com](mailto:support@tigercomms.com)

Phone: +44 1425 891 000

### 3. Equipment and Software Validated

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

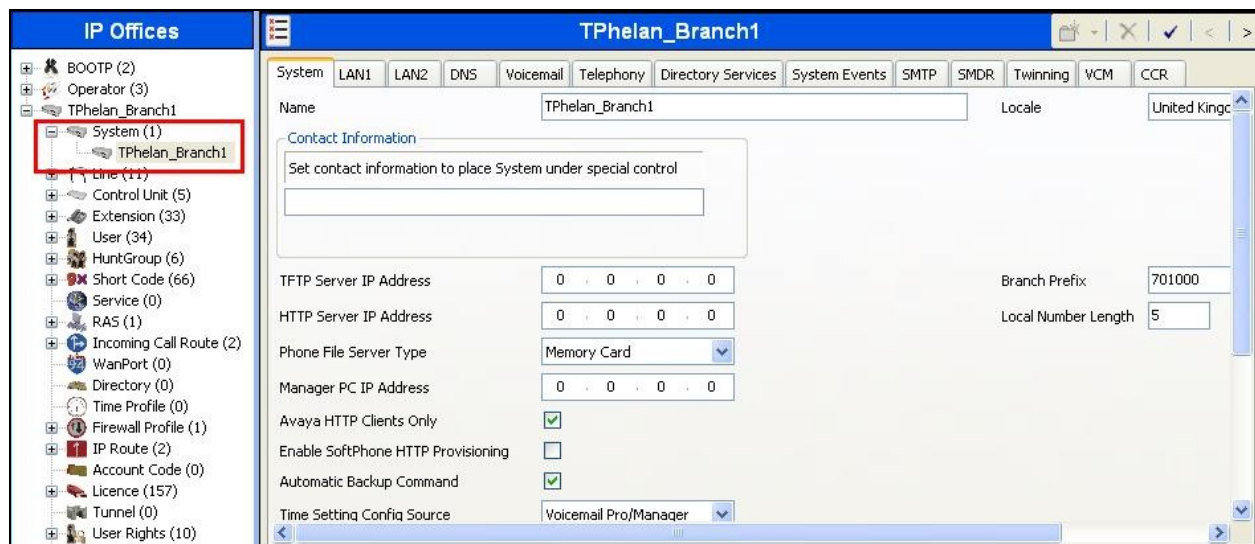
Equipment	Software /Firmware
Avaya IP Office 500v2 <ul style="list-style-type: none"><li>700417462 PRI Card</li><li>700417330 DS1 Card</li></ul>	Avaya IP Office7.0(3) Avaya IP Office Manager 9.0(3)
Avaya 9600-Series IP Telephones (9620, 9630)	1.3
Avaya 2420 Digital Telephones	-
TigerTMS Tiger Pro	4.9.9

**Table 2: Equipment and Software Validated**

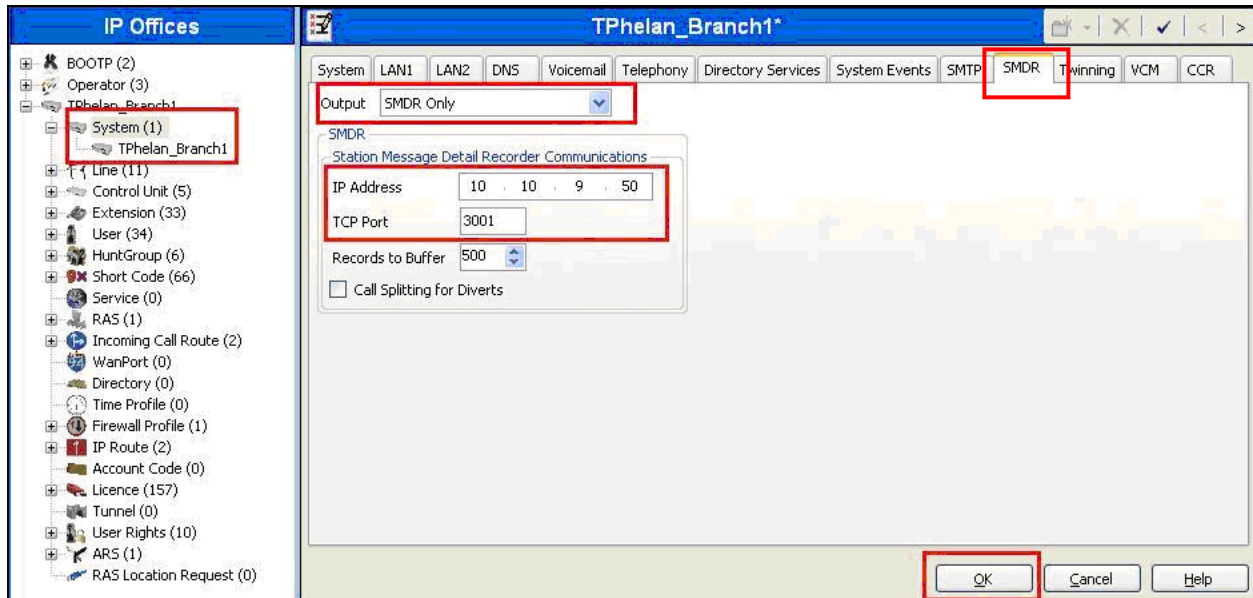
### 4. Configure Avaya IP Office

The configuration information provided in this section describes the steps required to set up IP Office for this solution. For all other provisioning information, such as IP Office Manager 9.0(3) IP Office installation and configuration please refer to IP Office product documentation in reference [1].

From the IP Office Manager PC, go to **Start→Programs→IP Office→Manager** to launch the Manager application. Log in to IP Office using the appropriate credentials to receive its configuration. In the Manager window, expand the Configuration Tree and double-click **System**.



Select the **SMDR** tab. In the subsequent screen, select **SMDR only** for **Output** from the dropdown list. Configure **IP Address** with IP Address of the Tiger Pro server which in this case is **10.10.9.50**. For **Support** set to the Tiger Hotel Pro port of **3001**. These values will be used again in **Section 5**. Leave default configuration for other parameters and click **OK**.



In the Manager window, select **File→Save** to push the configuration to IP Office and wait for the system to update. This completes configuration of IP Office.

## 5. Configure TigerPro

The configuration information provided in this section describes the steps required to configure TigerTMS Tiger Pro to interoperate with Avaya IP Office. The Tiger Pro Data Collection Monitor collects SMDR records generated by IP Office over a TCP/IP link and is responsible for storing and processing of the records. For all other provisioning information, such as software installation, installations of optional components, and configuration of Tiger Pro, please refer to the product documentation in reference [2].

### 5.1. Configuration File Settings

On the Tiger Pro server, modify the **IPOffice.conf** file in the directory **d:\tig2020\network\Switch\Node1**. In 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
```

In the **[Input]** section set the **Port** number **3001** which is the same port that is set in the SMDR configuration of IPOffice described in **Section 4**. Ensure that the **Address** field is commented out. Set the **CreateAs** field to **Server** to ensure that the Tiger Pro 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
```

Continue updating the IPOffice.conf file. In the **[FieldDefsFile]** section, configure the **Name** parameter with **d:<path>\IPOffice4\_2.conf** file. This file holds the field definitions that match the SMDR output from the IP Office.

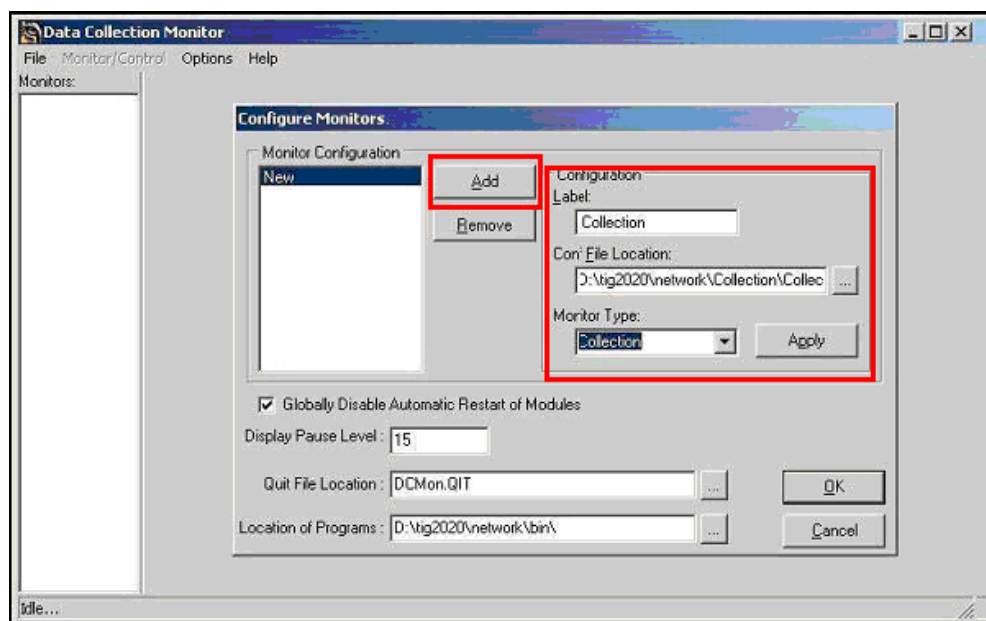
```
[FieldDefsFile]
Name=D:\tig2020\Network\SwitchConf\Ipoffice4_2.conf
```

## 5.2. Configure DCMon

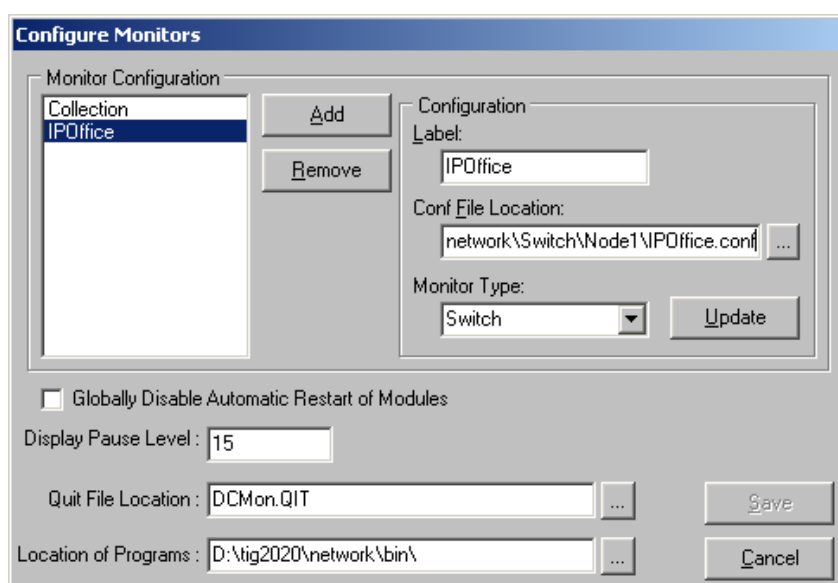
On the Tiger Pro server, navigate to **d:\tig2020\network\bin** and click on **dcmon.exe** file to launch the Tiger 2020 data collection configuration. On the main Data Collection Monitor screen toolbar, click on **Options→Configure**. There are two monitor types to be configured - one for the collection which interfaces with the Tiger 2020 database and one for the switch which interfaces with IP Office.



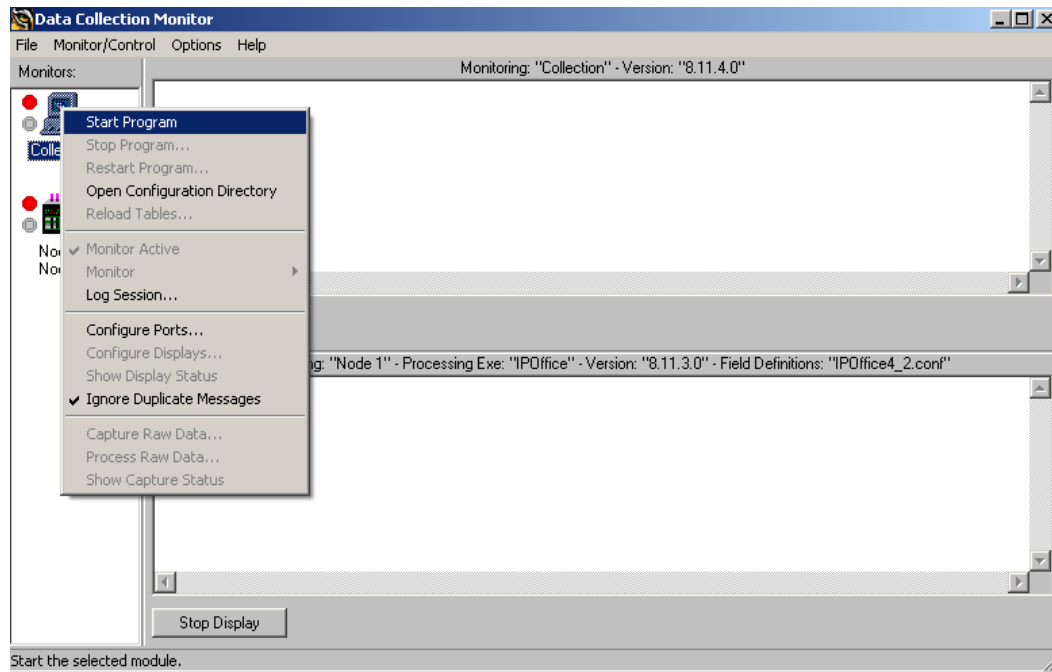
In the **Configure Monitors** dialog box click the **Add** button. In the **Label** field enter a descriptive name for the collection monitor type. In the **Conf File Location** field enter or browse to the location of the *collection.conf* file. During this compliance testing this file was located at **D:\tig2020\network\collection**. Details can be found in reference [2]. For the **Monitor Type** select **Collection**. The rest of the parameters can be left with their default values. Click **Apply**.



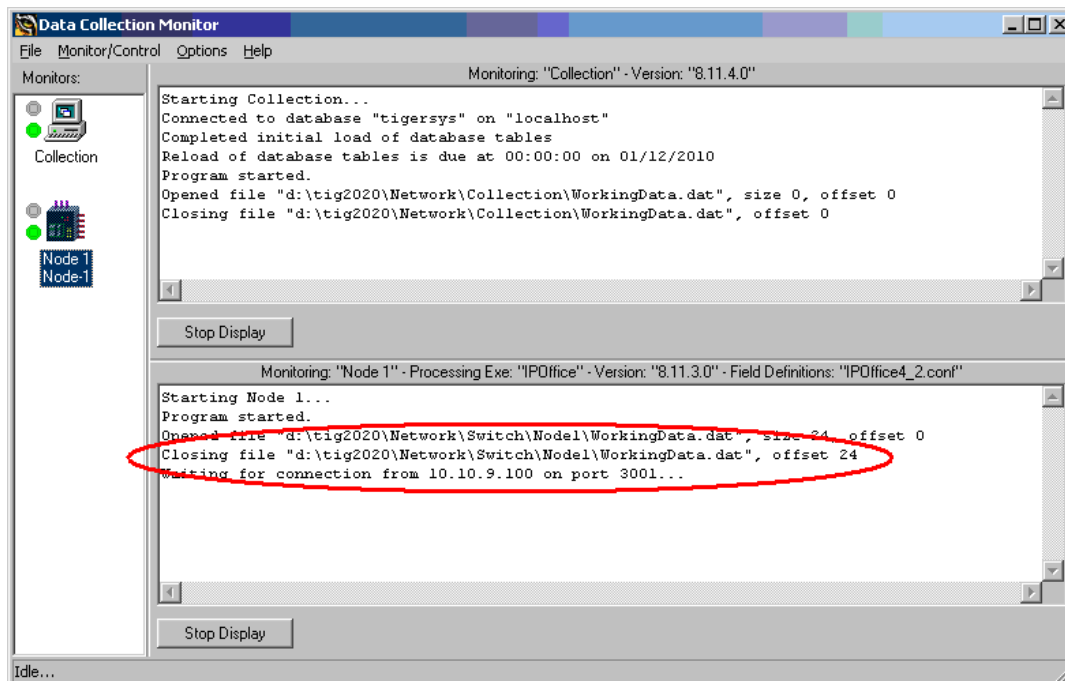
In the **Configure Monitors** dialog box click the **Add** button. In the **Label** field enter a descriptive name for the switch monitor type. In the **Conf File Location** field enter or browse to the location of the *IPOffice.conf* file modified in **Section 5.1**. For the **Monitor Type** select **Switch** from the drop down list. The rest of the parameters can be left with their default values. Click **Apply** (not shown).



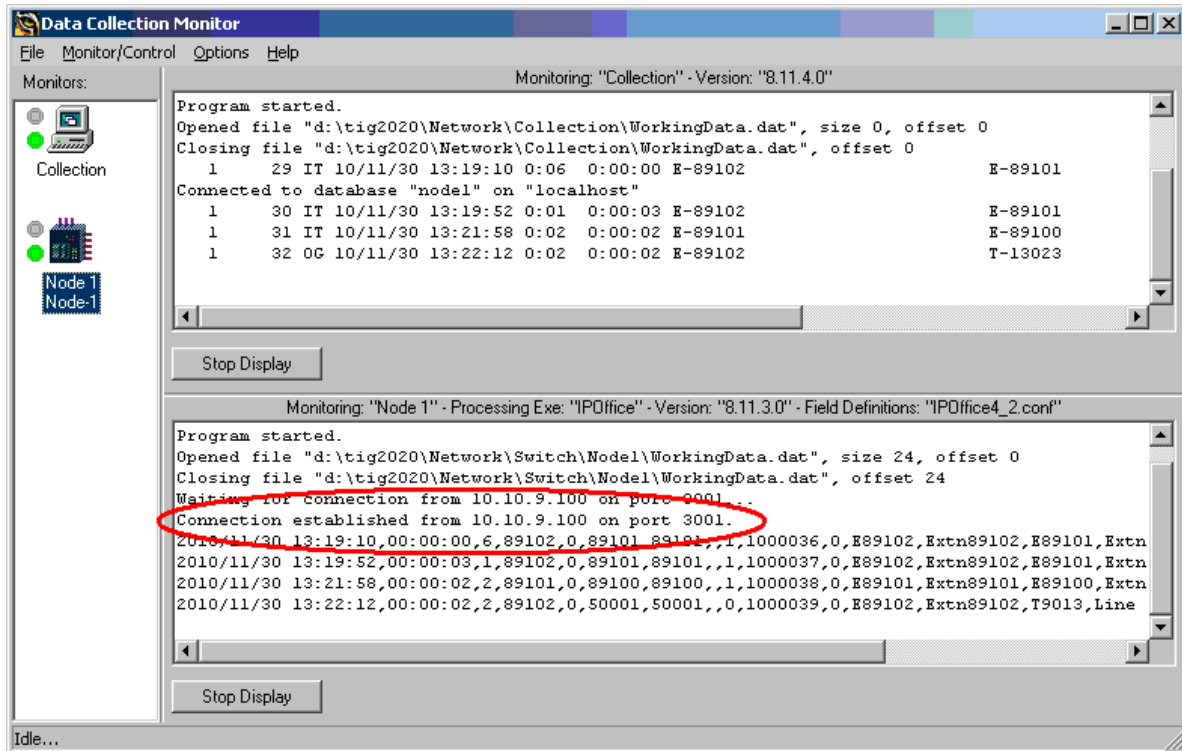
In the main **Data Collection Monitor** screen, right click on the collection monitor icon labeled **Collection** and select **Start Program**. Do the same for the switch monitor icon labeled **IPOffice**.



After both monitors have been started, observe correct versions for Collection.exe – **8.11.4.0** and for IPOffice.exe **8.11.3.0**. Also observe message **Waiting for connection** message which means that DCMon is ready to receive records from the IP Office.

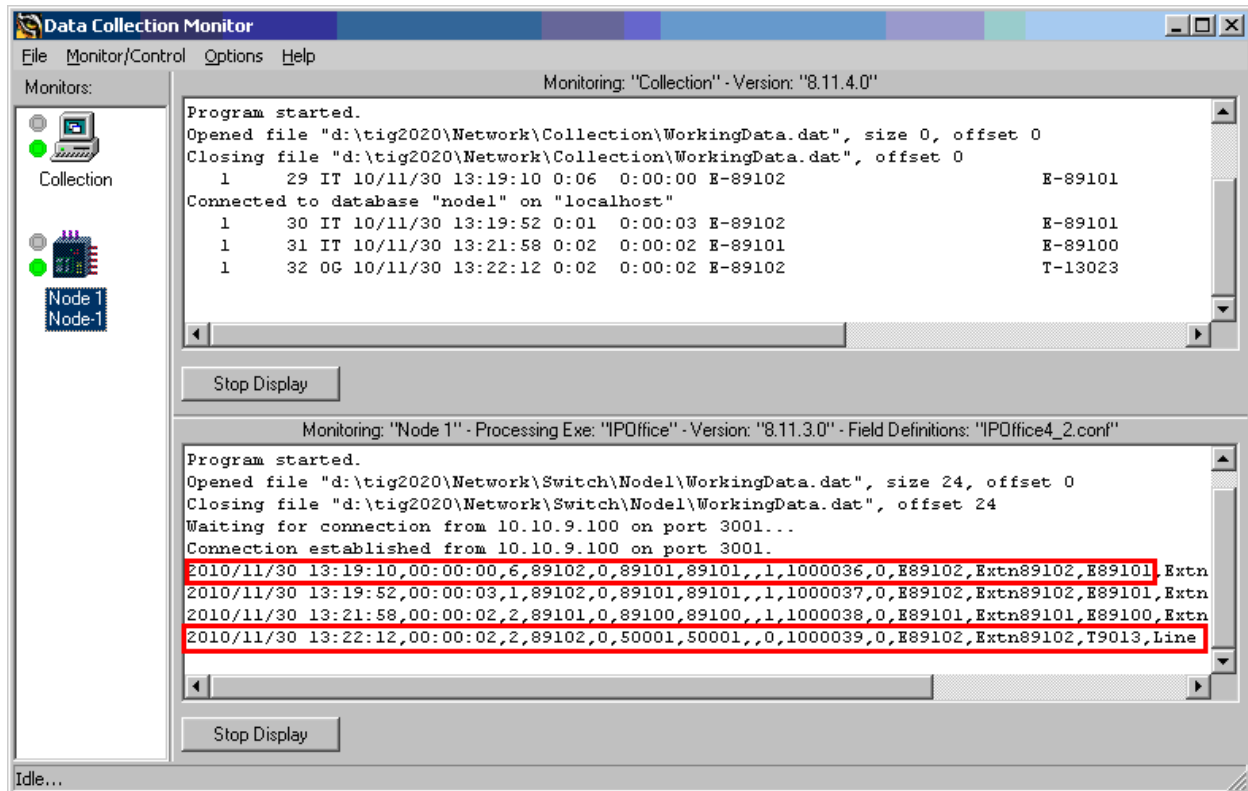


Search for the **Connection established from 10.10.9.100 on port 3001** message is displayed.



## 6. Verification Steps

Make a simple internal call from extension 89102 to extension 89101 and verify that DCMon has received the SMDR record. Verify that DCMon has correctly processed the call as an internal call from extension **E89102** to extension **E89101**, with Call Duration 0 seconds and ring time 6 seconds. An example of an external call is also shown.



## 7. Conclusion

These Application Notes describe the steps for configuring TigerTMS Tiger Pro to work with Avaya IP Office. All test cases that were executed have successfully passed. Tiger Pro version 4.9.9 was successfully compliance tested with IP Office version 7.0(3).

## 8. Additional References

This section references the Avaya documentation relevant to these Application Notes. The following Avaya product documentation is available at <http://support.avaya.com>.

[1] *Avaya IP Office Release 7.0 Manager 9.0, Document No: 15-601011, 17<sup>th</sup> March 2011*

Product documentation for Tiger Communication's products may be found at:  
[www.tigercomms.com](http://www.tigercomms.com)

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