



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

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# **Application Notes for Configuring Avaya IP Office 11.0 with Nu Technologies™ orbi-tel<sup>XPS</sup> - Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for Avaya IP Office 11.0 to interoperate with Nu Technologies orbi-tel<sup>XPS</sup>. orbi-tel<sup>XPS</sup> is a Call Detail Recorder that collects SMDR information from Avaya IP Office for call billing

Readers should pay attention to Section 2, in particular the scope of testing as outlined in Section 2.1 as well as any 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.

# 1. Introduction

Nu Technologies orbi-tel<sup>XPS</sup> call accounting software runs as a Windows Service and all of its functions, configuration, and call reports are accessible through a standard web browser. Nu Technologies orbi-tel<sup>XPS</sup> collects Station Message Detail Reports data from the Avaya IP Office where they are converted into a common internal format. The web interface of the orbi-tel<sup>XPS</sup> also allows the system to be updated for additional Avaya IP Offices and for general maintenance. Users can use this web interface for reporting purposes including a full range of customisable call list reports and full summarised reports for individuals, departments and a whole organisation.

## 2. General Test Approach and Test Results

Interoperability testing contained functional tests mentioned in **Section 2.1**.

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.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

### 2.1. Interoperability Compliance Testing

During Interoperability Compliance testing, several call routing scenarios were testing to ensure that Nu Technologies orbi-tel<sup>XPS</sup> could capture SMDR data.

SMDR data collected included:

- Local internal call handling
- Local calls between Primary and Expansion over SCN trunk
- Handling of Incoming Network calls over PRI and SIP trunks
- Handling of External Calls
- Call Forwarding on busy or No Answer
- Transfers –Blind and Supervised

- Conference Calls
- Call Park and Call Pick Up
- Mobile Twining
- Account Codes
- Serviceability

## 2.2. Test Results

The testing was successful except for the following observations which were noted:

1. Mobile Twining – This is an issue with SMDR not displaying record with U MT cause for mobile twinning scenario. This issue is being investigated by Avaya.
2. Conference Calls – This is an issue with SMDR display no duration (00:00:00) for 1 Party in Conference. This issue is being investigated by Avaya.

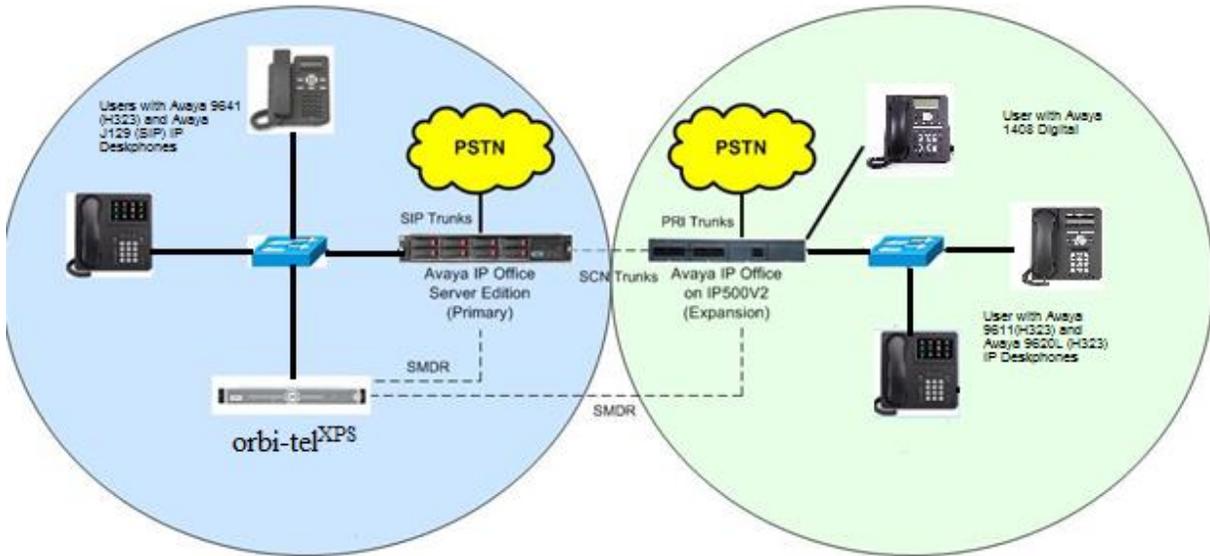
## 2.3. Support

Technical support from Nu Technologies can be obtained through the following:

Phone: +44 1582 814700  
E-mail: [support@nut.eu.com](mailto:support@nut.eu.com)  
Web: <http://www.nut.eu.com>

### 3. Reference Configuration

**Figure 1** illustrates a sample configuration that consists of Avaya IP Office 11.0 and Nu Technologies orbi-tel<sup>XPS</sup>. Nu Technologies orbi-tel<sup>XPS</sup> was installed on a VMware virtual appliance for Windows Server 2012.



**Figure 1: Avaya IP Office and Nu Technologies orbi-tel<sup>XPS</sup> Reference Configuration**

## 4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500v2 Expansion System	11.0.0.0 Build 849
Avaya IP Office Manager running on a Windows 7 PC	11.0.0.0 Build 849
Avaya IP Office Server Edition on VMware	11.0.0.0 Build 849
Avaya Digital 1408	Application R48
Avaya 9641 H323	6.5.0.06 V474
Avaya 9621 H323	6.5.0.06 V474
Avaya 9611 H323	6.5.0.06 V474
Avaya 9620 H323	3.2.2
Avaya J129	R2_0_0_0_45
Avaya Communicator for Windows	2.1.4.0
Nu Technologies orbi-tel <sup>XPS</sup> running on Window Server2012	4.0.1200.0

## 5. Configure of Avaya IP Office

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 IP Office for this solution. It is implied a working system is already in place with the necessary licensing. 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 (Administration)
- Configure SMDR
- Save Configuration

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

From the Avaya IP Office Manager PC, go to **Start** → **Program** → **IP Office** → **Manager** to launch the Manager application. Log into **Avaya IP Office** using the appropriate credentials to receive its configuration (Not Shown).

### 5.2. SMDR configuration on IPO Server Edition Primary

Select **IPO Server Edition (Primary)** → **System** followed by the **SMDR** tab and enters the following:

The screenshot shows the Avaya IP Office Manager interface. The left pane displays the 'System' configuration tree with '005056B3FCAD' selected. The right pane shows the 'SMDR' configuration tab. The 'Output' dropdown is set to 'SMDR Only'. The 'SMDR' section includes the following fields:

- Station Message Detail Recorder Communications
- IP Address: 10 . 128 . 224 . 162
- TCP Port: 4001
- Records to Buffer: 3000
- Call Splitting for Diverts

- **Output** Select **SMDR Only** from the drop box.
- **IP Address** Enter the IP Address of the TIM Plus Server.
- **TCP Port** Enter 4001.
- **Records to Buffer** Enter 3000. This is maximum available.

Click the **OK** button to save (Not Shown).

### 5.3. SMDR Configuration on Avaya IP Office 500V2 (Expansion)

Select **IPO 500V2 (Expansion)** → **System** followed by the **SMDR** tab and enters the following:

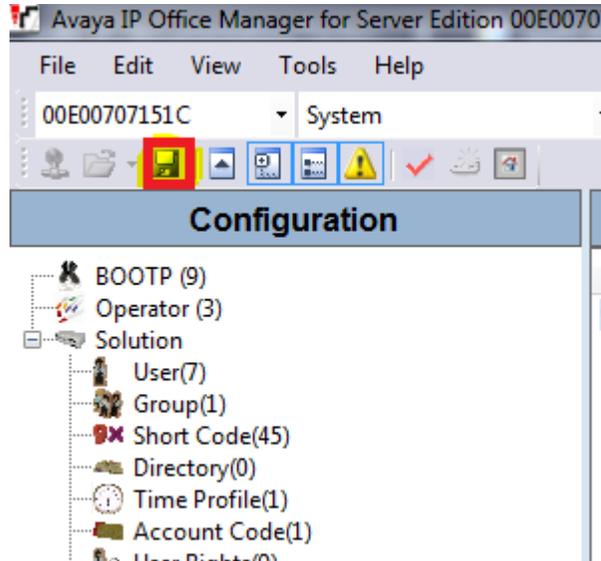
The screenshot shows the Avaya IP Office configuration interface. The left pane is titled "System" and lists the system name "00E00707151C". The right pane is titled "00E00707151C" and contains several tabs: System, LAN1, LAN2, DNS, Voicemail, Telephony, Directory Services, System Events, SMTP, SMDR, VCM, VoIP, and VoIP S. The "SMDR" tab is selected. Below the tabs, there is a dropdown menu for "Output" set to "SMDR Only". Underneath, there is a section for "SMDR" with the following fields: "Station Message Detail Recorder Communications" (a text area), "IP Address" (10 · 128 · 224 · 162), "TCP Port" (4002), "Records to Buffer" (3000), and a checkbox for "Call Splitting for Diverts" which is unchecked.

- **Output** Select **SMDR Only** from the drop box.
- **IP Address** Enter the IP Address of the TIM Plus Server.
- **TCP Port** Enter 4002.
- **Records to buffer** Enter 3000. This is maximum available.

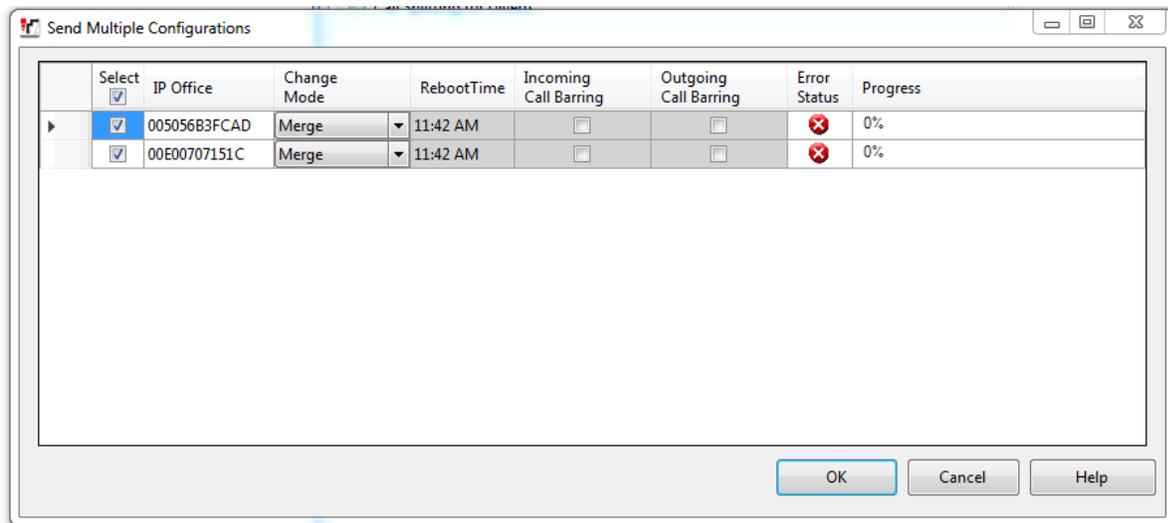
Click the **OK** button to save (Not Shown).

## 5.4. Save Configuration

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



Once the Send Multiple Configurations Window opens, click the **OK** button:



## 6. Configure orbi-tel<sup>xps</sup> Server

This section describes the steps performed to configure the orbi-tel<sup>xps</sup> Server. It is implied that the orbi-tel<sup>xps</sup> 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**.

These configurations can be summarised as follows:

- Login to orbi-tel<sup>xps</sup> Server.
- Add a new switch to manage.
- Configure Call Accounting.
- Restart orbi-tel<sup>xps</sup> logging service.

### 6.1. Login to orbi-tel<sup>xps</sup> Server

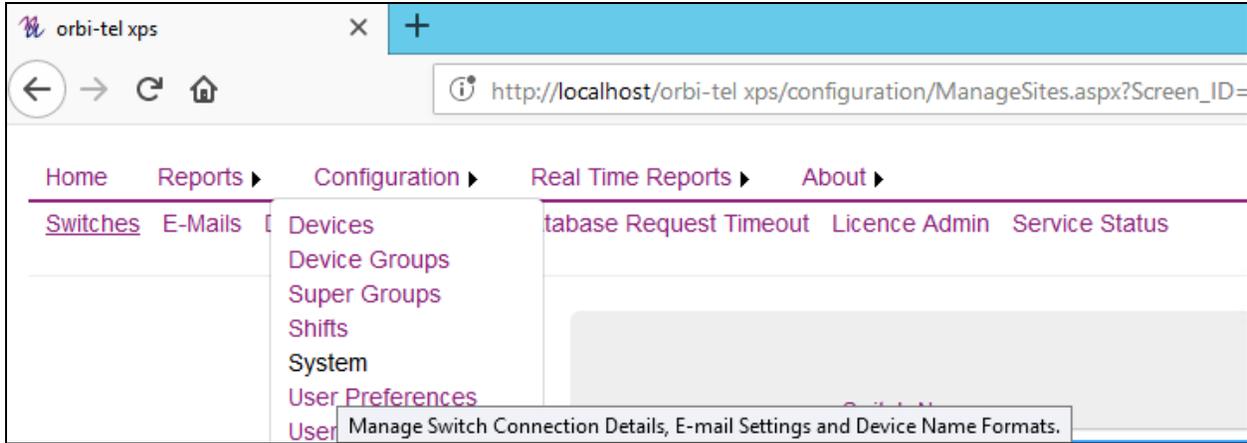
To access the web-based interface of the orbi-tel<sup>xps</sup> server, use the URL <http://x.x.x.x/orbi-tel-xps/>, where **x.x.x.x** is the selected IP address of the orbi-tel<sup>xps</sup> server. Enter the appropriate Login and Password credentials and then click on the **Log In** button.



The screenshot shows the web-based interface of the orbi-tel<sup>xps</sup> server. At the top, there is a navigation menu with links for Home, Reports, Configuration, Real Time Reports, and About. The orbi-tel xps logo is visible in the top right corner. Below the navigation menu, there is a login form with two input fields: one for the username (containing 'admin') and one for the password (containing five dots). A 'Log In' button is located below the password field.

## 6.2. Add a new switch to manage

Once the orbi-tel<sup>xps</sup> is opened, select **Configuration** → **System**.

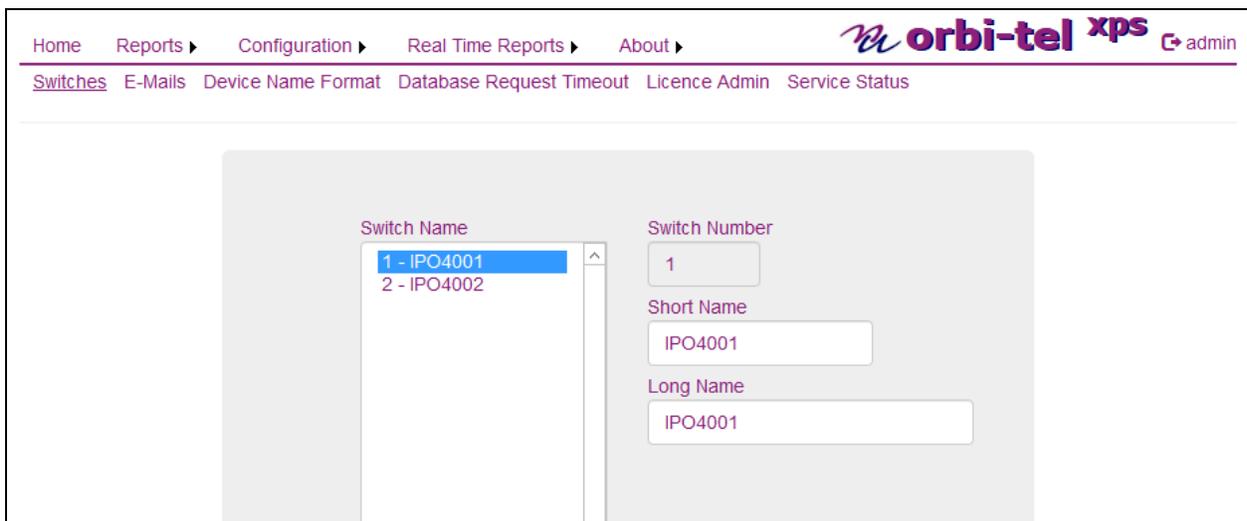


Once the new window opens, select the **Switches** tab and click on the **New** button and enter the following:

- Enter a **Switch Number**
- Enter a **Short Name** for the switch
- Enter a **Long Name** for the switch.

Click on the **Save** button.

The screen shot below and next page shows what was used during compliance testing with 2 Switches for IP Office Primary and Expansion



Home Reports Configuration Real Time Reports About

orbi-tel xps admin

Switches E-Mails Device Name Format Database Request Timeout Licence Admin Service Status

Switch Name

1 - IPO4001  
2 - IPO4002

Switch Number

2

Short Name

IPO4002

Long Name

IPO4002

### 6.3. Configure Call Accounting

Select **Configuration** → **Translator**. Once the new window opens select the **Translator Config** tab and enter the following:

- Select **IPO4001** from the **Switch Name** drop down box. This is the site configured in **Section 6.2**.
- Select **IP Office 11.0** from the **Translator Name** drop down box
- Select **TCP Server** from the **Connection Type** drop down box
- Check the **Switch Enabled** check box
- Enter the IP address of the **orbi-tel<sup>xps</sup>** system (Nu Technologies server) in the **Call Acc. IP Address** box
- Enter **4001** in the **SMDR Port Number** box. This is the port number as configured in **Section 5.2**

Click on the **Save** Icon to save the configuration.

Switch Name	1 - IPO4001	Translator	IP Office 11	Connection	TCP Server
Switch Enabled	<input checked="" type="checkbox"/>	Translator Debug	<input type="checkbox"/>	Costing Debug	<input type="checkbox"/>
Translator Options		Node ID		Switch Password	*****
Call Acc. IP Address	10.128.224.162	SMDR Port Number	4001	Extension Size	4
SQL Instance Name				FTP Password	*****
SQL Connect Delay	01:00:00	COM Port	COM1	Baud Rate	9600
SMDR Source Directory	C:\SMDR\Local Sit	Import File Wildcard	*.log	Remove File Wildcard	cmr*
FTP Wildcard					
Save					

Repeat the above steps to add a new **Translator Config** for the IP Office Expansion. In this case **Port** was configured as **4002**.

#### 6.4. Restart orbi-tel<sup>xps</sup> logging service

Select **Configuration** → **System** followed by the **Service Status** tab. Click on the **Restart** button to restart orbi-tel<sup>xps</sup>.

[Home](#) | [Reports](#) | [Configuration](#) | [Real Time Reports](#) | [About](#) | [admin](#)

[Switches](#) | [E-Mails](#) | [Device Name Format](#) | [Database Request Timeout](#) | [Licence Admin](#) | [Service Status](#)

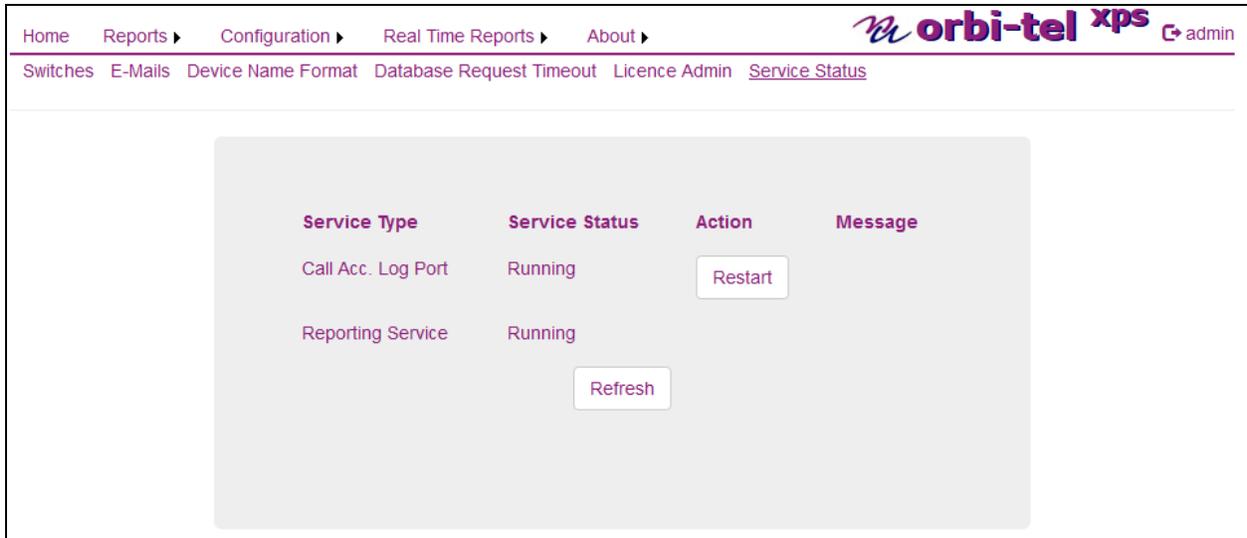
Service Type	Service Status	Action	Message
Call Acc. Log Port	Running	<input type="button" value="Restart"/>	
Reporting Service	Running	<input type="button" value="Refresh"/>	

## 7. Verification Steps

This section provides the tests that can be performed to verify correct configuration of the IP Office and orbi-tel<sup>xps</sup> solution.

### 7.1. Verify orbi-tel<sup>xps</sup> is running

After logging into orbi-tel<sup>xps</sup>, select **System** followed by the **Service Status** tab. Verify that **Call Acc. Log Port** and **Reporting Service** is Running.



The screenshot shows the 'Service Status' page in the orbi-tel xps interface. The navigation bar includes Home, Reports, Configuration, Real Time Reports, and About. Below the navigation bar, there are links for Switches, E-Mails, Device Name Format, Database Request Timeout, Licence Admin, and Service Status. The main content area displays a table with the following data:

Service Type	Service Status	Action	Message
Call Acc. Log Port	Running	Restart	
Reporting Service	Running		

There is a 'Refresh' button located below the Reporting Service row.

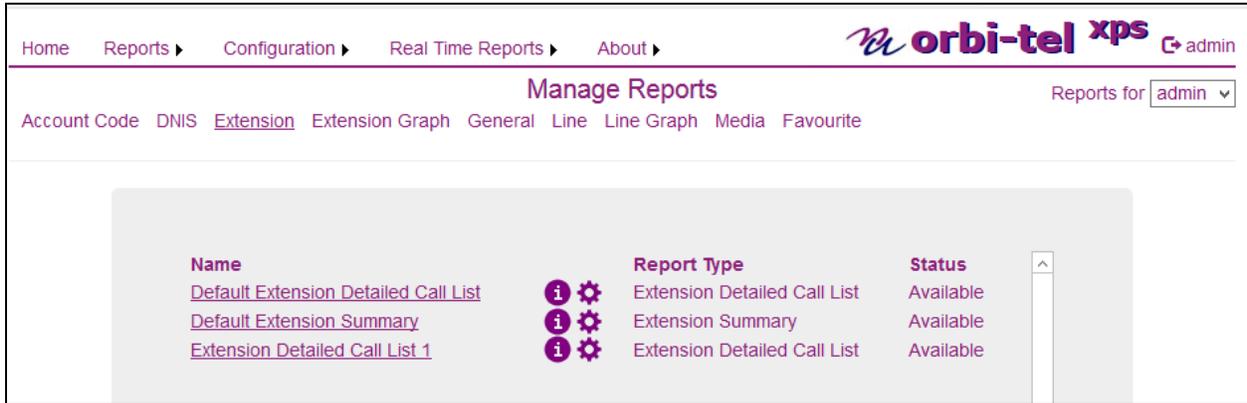
### 7.2. Verify Reports

After logging into orbi-tel<sup>xps</sup>, select **Run Reports**.



The screenshot shows the 'Reports' menu in the orbi-tel xps interface. The navigation bar includes Home, Reports, Configuration, Real Time Reports, and About. The Reports menu is open, showing options: Manage Reports, Create Report, Run Reports, Digit Search, and Manage. The 'Run Reports' option is highlighted, and a tooltip 'Run or View Reports.' is visible next to it.

Once the **Run Reports** window opens, select the **Extension** tab and click on **Extension Detailed Call List 1**.



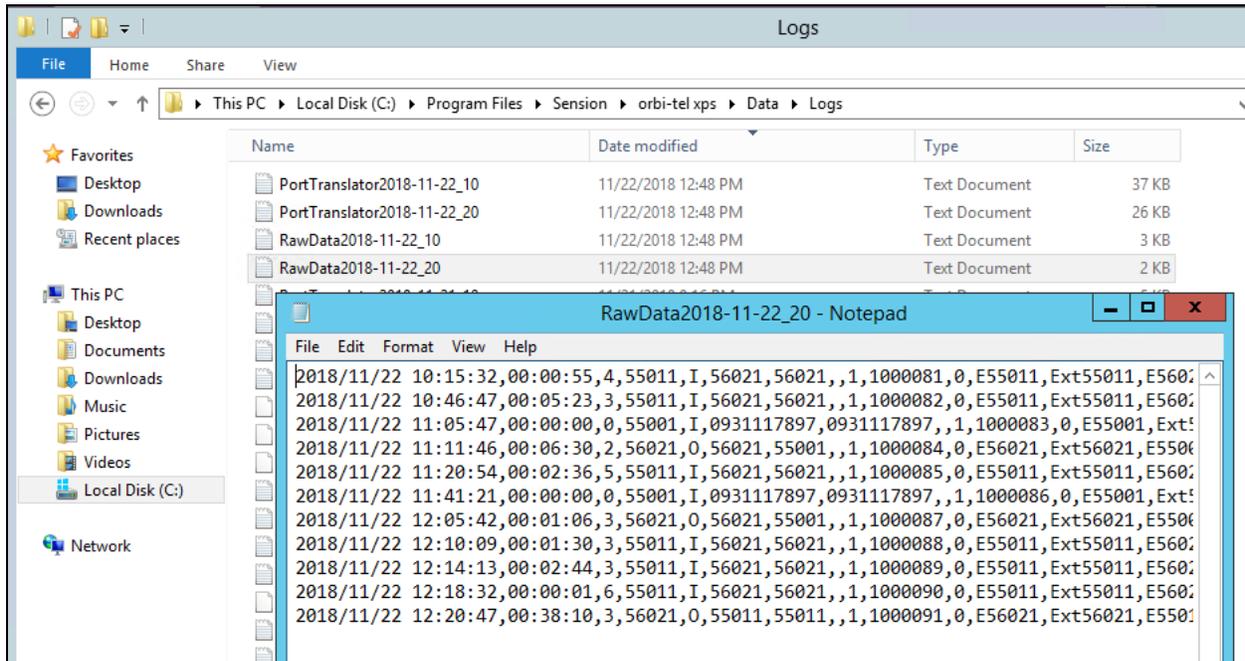
Once the **Extension Detailed Call List** report opens, something similar to the screen shot below should be seen.

Extension Detailed Call List

From 13/11/18 00:00:00 Run 29/11/18  
To 30/11/18 00:00:00 Time 22:07:36

Date	Start Time	End Time	Source Device	Destn Device	Switch	Call Type	Call Time	Ring Time	Dialed Digits	Cost	Location Name
13/11/2018	17:04:48	17:07:35	Extension 55001	Line 9005	IPO4001	Outgoing	00:02:47	00:00	0931117897	2.39	
13/11/2018	17:11:26	17:11:33	Extension 55001	Line 9005	IPO4001	Outgoing	00:00:07	00:00	0931117897	0.28	
13/11/2018	17:12:09	17:12:16	Extension 55001	Line 9005	IPO4001	Outgoing	00:00:07	00:00	0931117897	0.28	
13/11/2018	17:14:30	17:14:35	Extension 55001	Line 9005	IPO4001	Outgoing	00:00:05	00:00	0931117897	0.26	
13/11/2018	17:24:34	17:24:34	Extension 55001	Line 9005	IPO4001	Outgoing	00:00:00	00:00	0931117894	0.00	
13/11/2018	17:24:41	17:25:59	Extension 55001	Line 9005	IPO4001	Outgoing	00:01:18	00:00	0931117897	1.22	
13/11/2018	17:26:20	17:26:23	Extension 55001	Line 9005	IPO4001	Outgoing	00:00:03	00:00	0931117897	0.23	
13/11/2018	17:50:32	17:51:35	Extension 56001	Line 9005	IPO4002	Outgoing	00:01:03	00:00	0931117897	1.02	
13/11/2018	17:51:50	17:53:43	Extension 56001	Line 9005	IPO4002	Outgoing	00:01:53	00:00	0931117897	1.68	
13/11/2018	17:54:14	17:54:17	Extension 56001	Extension 9500	IPO4002	Intercom	00:00:03	00:16		0.00	
13/11/2018	17:54:35	17:54:41	Extension 56001	Extension 56021	IPO4002	Intercom	00:00:06	00:02		0.00	
14/11/2018	10:54:33	10:58:34	Extension 56001	Extension 56021	IPO4002	Intercom	00:04:01	00:02		0.00	
14/11/2018	11:06:04	11:13:50	Extension 56001	Extension 56021	IPO4002	Intercom	00:07:46	00:13		0.00	
14/11/2018	11:27:53	11:30:17	Extension 56001	Extension 56021	IPO4002	Intercom	00:02:24	00:05		0.00	
14/11/2018	11:33:34	11:36:23	Extension 56021	Line 56001	IPO4002	Outgoing	00:02:49	00:00		0.00	
14/11/2018	11:36:23	11:36:29	Extension 56001	Extension 56021	IPO4002	Intercom	00:00:06	00:00		0.00	

Check again Call details with SMDR log at C:\Program Files\Sension\orbi-tel xps\Data\Logs



## 8. Conclusion

These Application Notes describe the procedures for configuring Nu Technologies orbi-tel<sup>xps</sup> with Avaya IP Office Server Edition. Testing was successful with observations outlined in Section 2.2.

## 9. Additional References

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

- i. *Deploying IP Office Essential Edition (IP500 V2) IP Office™ Platform 11.0, Issue 33g, May 22, 2018*
- ii. *Deploying Avaya IP Office™ Server Edition Solution (English), Release 11, May 2018.*
- iii. *Administering Avaya IP Office with Manager (English), Release 11, May 2018.*
- iv. *Administering Avaya IP Office with Web Manager (English), Release 11, May 2018.*

Product Documentation for orbi-tel<sup>xps</sup> can be obtained from Nu Technologies Ltd. or may be requested at <http://www.nut.eu.com/contact/>

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