



Application Notes for Komutel Komstat with Avaya IP Office Server Edition - Issue 1.1

Abstract

These Application Notes describe the steps required to integrate Komutel Komstat with Avaya IP Office. Komstat is an application that can be used to generate different types of reports in order to get detailed information regarding the incoming and outgoing calls for a determined period.

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.

1. Introduction

These Application Notes describe the steps required to integrate Komutel Komstat with Avaya IP Office Server Edition 9.1. Komstat is an application that can be used to generate different types of reports in order to get detailed information regarding the incoming and outgoing calls for a determined period.

The Avaya IP Office Server Edition configuration consisted of two Avaya IP Office systems, a primary Linux server at the Main site and an expansion IP500V2 at the Remote site that were connected via Small Community Network (SCN) trunks.

In the compliance testing, two Komstat servers were deployed. First, Komstat interfaces with primary IP Office system via Telephony Application Programming Interfaces (TAPI) on primary at the Main site, and second Komstat interfaces with the expansion IP Office system using TAPI to report users' activities at the Remote site.

2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were placed manually from and to various IP Office users and emulated PSTN users while exercising common telephone features.

The serviceability test cases were performed manually by disconnecting and reconnecting the Ethernet connection to the Komstat server.

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 test included feature and serviceability testing.

- Successful connection of Komstat with IP Office via TAPI.
- Calls between Avaya IP Deskphones (SIP and H.323), digital stations and simulated PSTN.
- Caller and Calling ID display on Komstat.
- Basic telephony features including Hold, Mute, Transfer, Call Forward, Do Not Disturb, Call Park and Conference.
- Verify the following reports: Call Detail, Call Details by Name, Call Details by Department, Call Details by Title, Call Details by Caller Number, Call Details by Dept by Name, Call Summary by Dept, Call Summary by Dept by Name, Contact List, Timesheet Summary by Name, Timesheet detail by name, Timesheet detail by Status.
- Proper system recovery after a restart of the Komstat and loss of IP connectivity.

2.2. Test Results

Basic test cases were executed and passed with the following observations:

- In report, Caller information (Caller name/ID) actually is the user's information which resides outside IPO system such as PSTN, for example, in the call where IPO user call PSTN user, the report will show PSTN information in Caller Information columns instead of actual caller IPO user.
- In report, the name display in Name column is incorrect. This name is extracted from the third field of data from TAPI, not the real name of user configured on IPO. As a result of this issue, user needs to update the user name accordingly for Komstat report, ex: The display name is "IP Office Phone: 26104" vs name configured on IPO is "DVStf26104".
- Caller information will show nothing if incoming call from caller with ID is "external".
- Caller information only report after the call is connected.
- Call Summary by Dept report: No distinguish between internal or external call.
- Timesheet Summary report by Name: for Expansion IPO 500V2, Komstat reports only few extensions which were recently made the call, not all existing users on IPO.
- Timesheet Detail by Status report: if there is no call made on Expansion IPO 500V2 for current date, Komstat report will be empty. In the meantime, this report for Primary Server always report all existing user configured on IPO.

2.3. Support

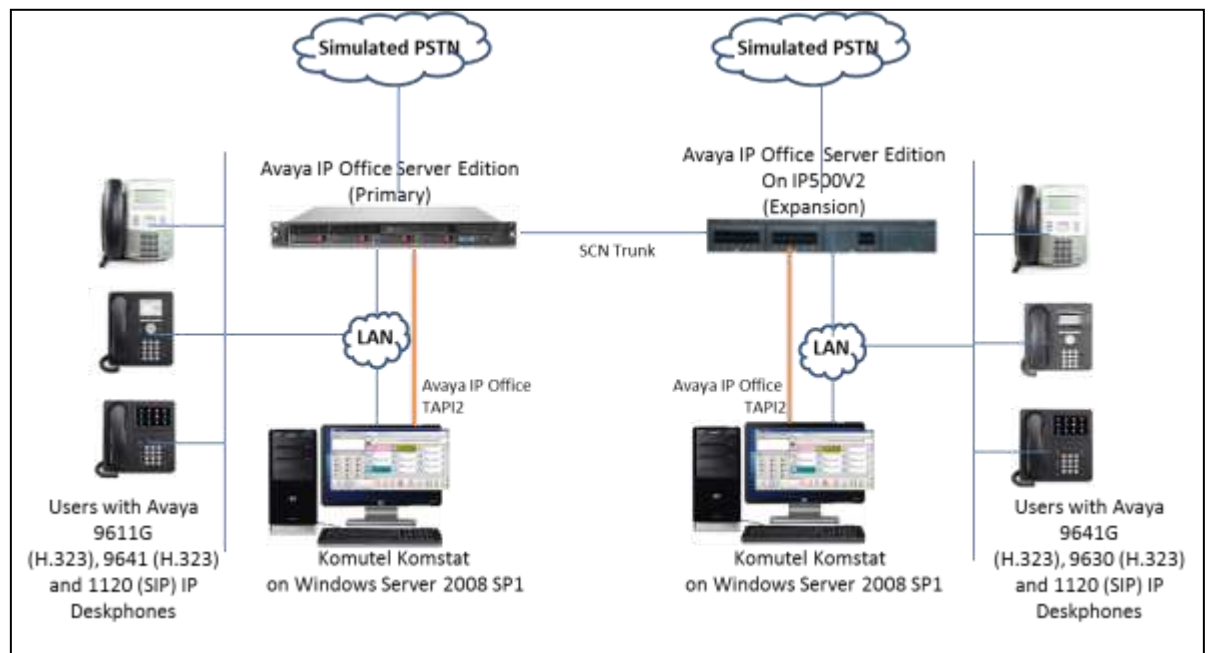
For technical support on the Komstat, contact Komutel Support via phone, email, or website.

- **Phone:** (877) 225-9988
- **Email:** service@komutel.com
- **Web:** www.komutel.com

3. Reference Configuration

The IP Office Server Edition configuration used in the compliance testing consisted of a primary Linux server at the Main site, and an expansion IPO 500V2 at the Remote site, with SCN trunks connectivity between the two systems. Each IP Office system has connectivity to the PSTN, for testing cross systems PSTN scenarios.

The detailed administration of IP Office resources is not the focus of these Application Notes and will not be described. As shown in **Figure 1** below, two Komstat Server were deployed on two separated Windows 2008 Server, each Komstat Server connect to the primary IP Office system and other Komstat Server to the expansion IP Office system via TAPI2 connections.



4. Equipment and Software

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

Equipment/Software	Release/Version
Avaya IP Office on IP500V2(Expansion)	9.1 SP6
Avaya IP Office Server Edition (Primary)	9.1 SP6
Avaya 9611, 9641G IP Deskphone (H.323)	6.6.1.15
Avaya 9630G IP Deskphone (H.323)	3.2.6
Avaya 9508 Digital Deskphone	N/A
Avaya TAPI 2 Driver installed on Virtual Environment Windows 2008 Server 64-bit SP1	1.0.0.42
Avaya 1120E, 1140E IP Deskphone (SIP)	4.4.23
Avaya E129 SIP Deskphone	1.0.2
Komutel Komstat installed on Windows 2008 Server 64-bit SP1	1.5.2.0(23194)

Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

5. Configure Avaya IP Office

This section provides the procedures for verifying Avaya IP Office. The procedures include the following areas:

- Verify IP Office license
- Obtain LAN IP address

For detailed information on installation and configuration for IP Office, refer to **Section 9 [1]**.

5.1. Verify IP Office License

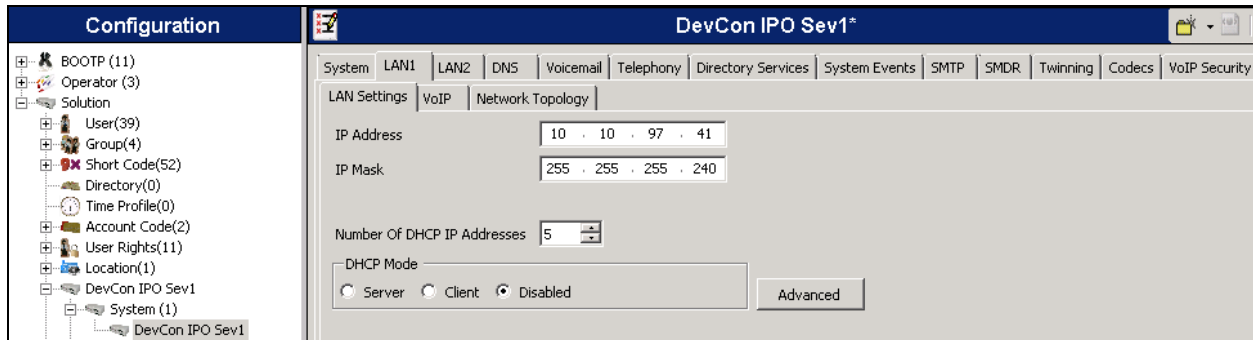
From a PC running the Avaya IP Office Manager application, select **Start > Programs > IP Office > Manager** to launch the Manager application. Select the proper IP Office system, and log in with the appropriate credentials.

The **Avaya IP Office Manager** screen is displayed. From the configuration tree in the left pane, select **License > CTI Link Pro**, to display the **CTI Link Pro** screen in the right pane. Verify that the **License Status** is “Valid”.

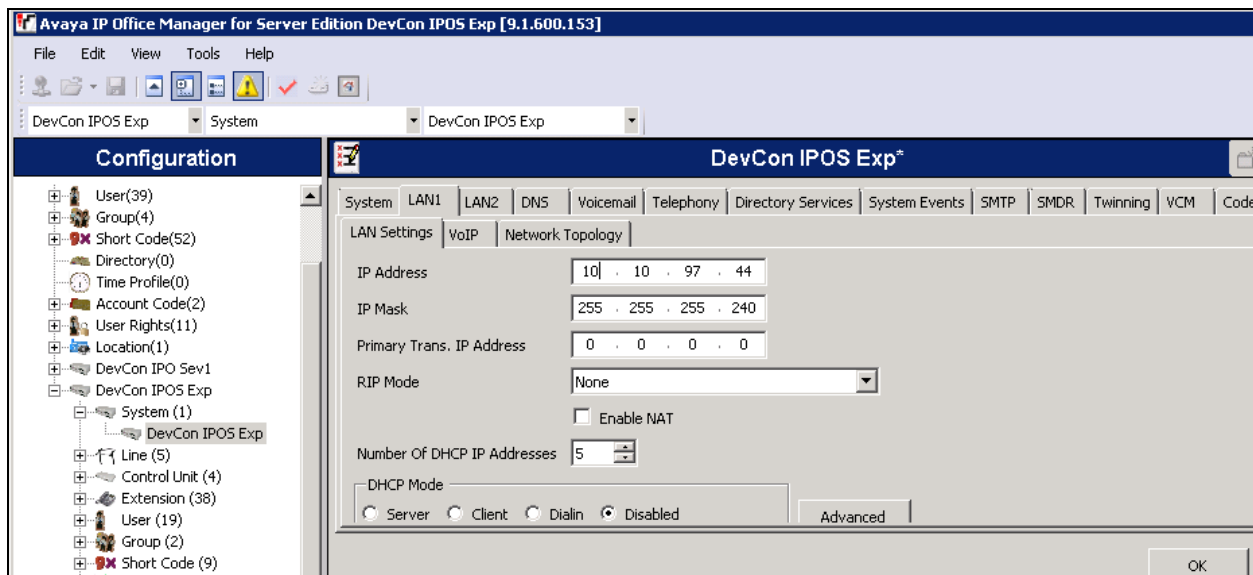
IP Offices	CTI Link Pro										
<ul style="list-style-type: none"> License (63) 1600 Series Phones 3rd Party IP Endpoints Advanced Edition AUDIX Voicemail Avaya IP endpoints Avaya IP endpoints CCC Agent Rostering CCC Agents CCC Chat CCC Designer (users) CCC Email CCC PC Wallboards CCC Server CCC Spectrum Wallbo. CCC Supervisors CCR CCC UPG CCR Designer CCR SUP Compact Business Cer CTI Link Pro Customer Service Age Customer Service Sup 	<p>Licenses</p> <table> <tr> <td>License Key</td> <td>HzhHzhHzhHzhHzhHzhHzhHzhHzhHzhHzh</td> </tr> <tr> <td>License Type</td> <td>CTI Link Pro</td> </tr> <tr> <td>License Status</td> <td>Valid</td> </tr> <tr> <td>Instances</td> <td>255</td> </tr> <tr> <td>Expiry Date</td> <td>Never</td> </tr> </table>	License Key	HzhHzhHzhHzhHzhHzhHzhHzhHzhHzhHzh	License Type	CTI Link Pro	License Status	Valid	Instances	255	Expiry Date	Never
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5.2. Obtain LAN IP Address

This section will explain step to obtain LAN IP Address of Primary and Expansion IPO 500V2. From the configuration tree in the left pane, select the IP Office of interest under **System** (it was **DevCon IPO Serv1** for the compliance test). Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure the TAPI. Note that IP Office can support LAN1 and/or LAN2 interfaces and the compliance testing used the LAN1 interface.



Repeat same steps for IPO 500V2 it was **DevCon IPOS Exp**



6. Configure Komutel Komstat

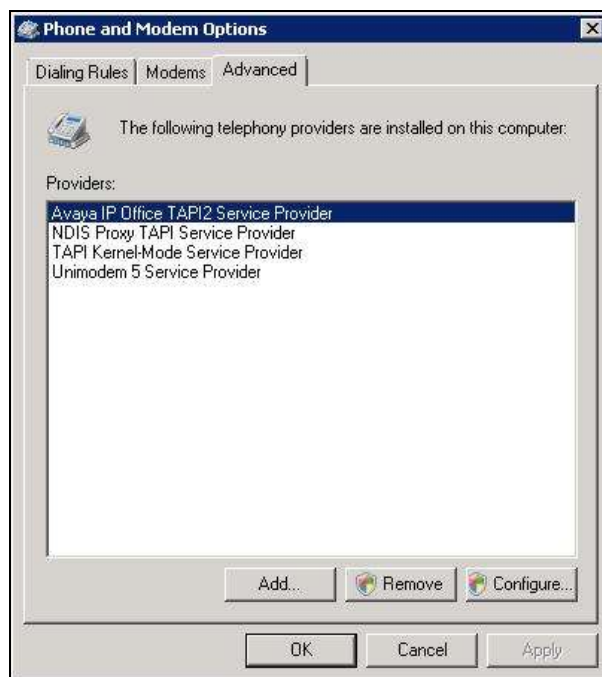
This section provides the procedures for configuring Komstat on Windows Server 2008SP1. Repeat the same steps in this section on second Komstat Server. The procedures include the following areas:

- Administer TAPI Driver.
- Configure Komstat Server.
- Configure Komstat to monitor IP Office users.

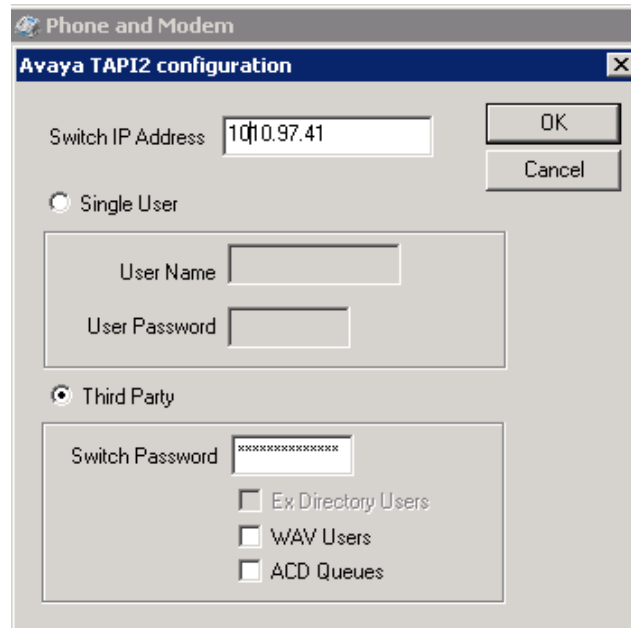
For detailed information on installation and configuration of Komstat refer to **Section 9 [2]**.

6.1. Administer TAPI Driver

From the PC hosting Komstat, select **Start > Control Panel**, and click on the **Phone and Modem** icon (not shown below). In the **Phone and Modem Options** screen, select the **Advanced** tab. Select the **Avaya IP Office TAPI2 Service Provider** entry, and click **Configure**.



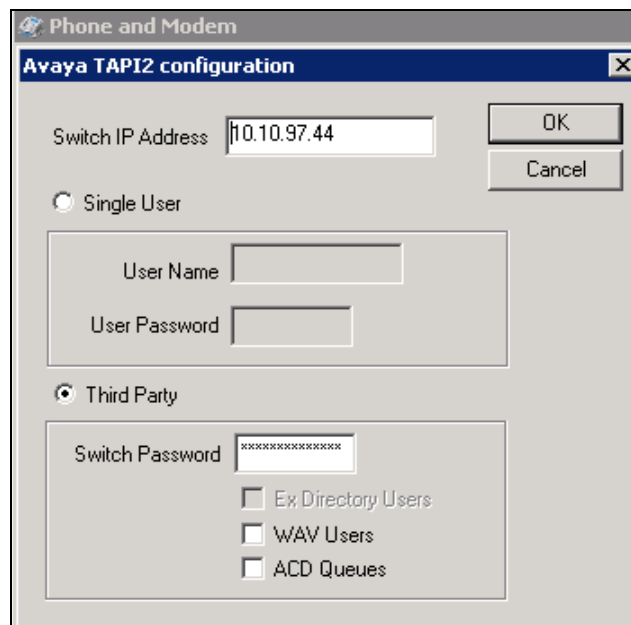
The **Avaya TAPI2 configuration** screen is displayed as shown below. For **Switch IP Address**, enter the IP address of Avaya IP Office Primary as noted in **Section 5.2**. Select the radio button for **Third Party**, and enter the IP Office password into the **Switch Password** field. Reboot the PC for the changes to take effect.



The image shows a Windows-style dialog box titled "Phone and Modem" with a sub-header "Avaya TAPI2 configuration". It contains the following fields and controls:

- Switch IP Address:** A text box containing "10.10.97.41".
- Buttons:** "OK" and "Cancel" buttons are located to the right of the IP address field.
- Single User:** A radio button that is currently unselected.
- User Name and User Password:** Two text boxes are present below the "Single User" option, both of which are empty.
- Third Party:** A radio button that is currently selected.
- Switch Password:** A text box containing a series of asterisks ("XXXXXXXXXX").
- Checkboxes:** Below the password field, there are three unchecked checkboxes labeled "Ex Directory Users", "WAV Users", and "ACD Queues".

Repeat the same steps on second Windows Server with IP Office IP500V2 Expansion IP address:



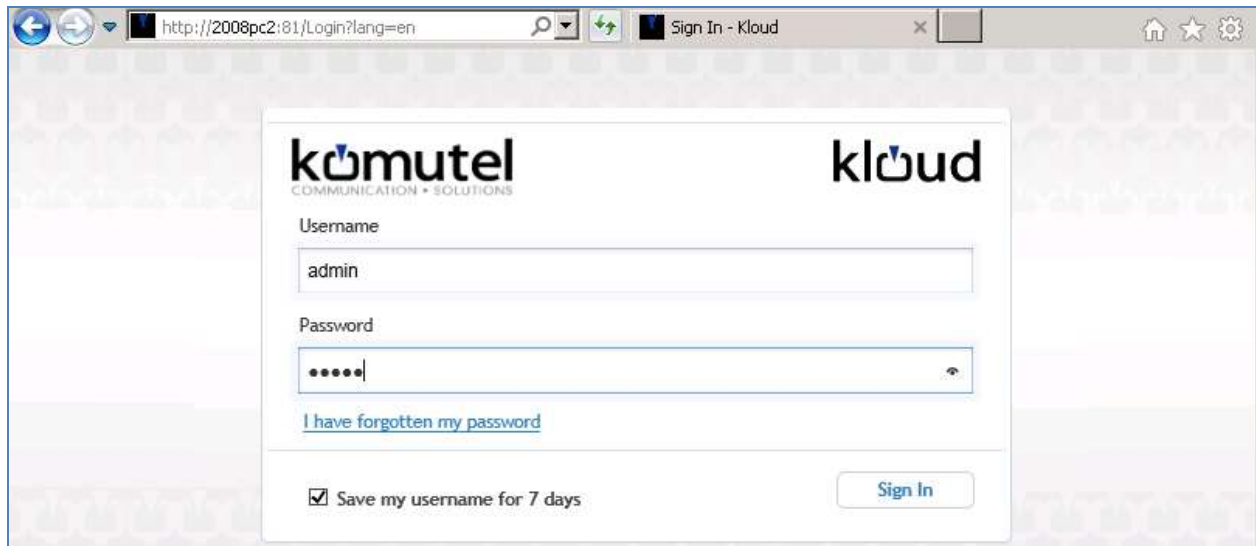
This image shows a second instance of the "Avaya TAPI2 configuration" dialog box, identical in layout to the first one, but with different values:

- Switch IP Address:** The text box now contains "10.10.97.44".
- Single User:** The radio button remains unselected.
- User Name and User Password:** The text boxes remain empty.
- Third Party:** The radio button remains selected.
- Switch Password:** The text box remains filled with asterisks ("XXXXXXXXXX").
- Checkboxes:** The checkboxes for "Ex Directory Users", "WAV Users", and "ACD Queues" remain unchecked.

6.2. Configure Komstat

This section explains the configuration required on the Komstat Server to report existing users on IP Office system primary and Expansion IPO 500V2. It is assumed that the Komstat application and database was successfully installed on the PC.

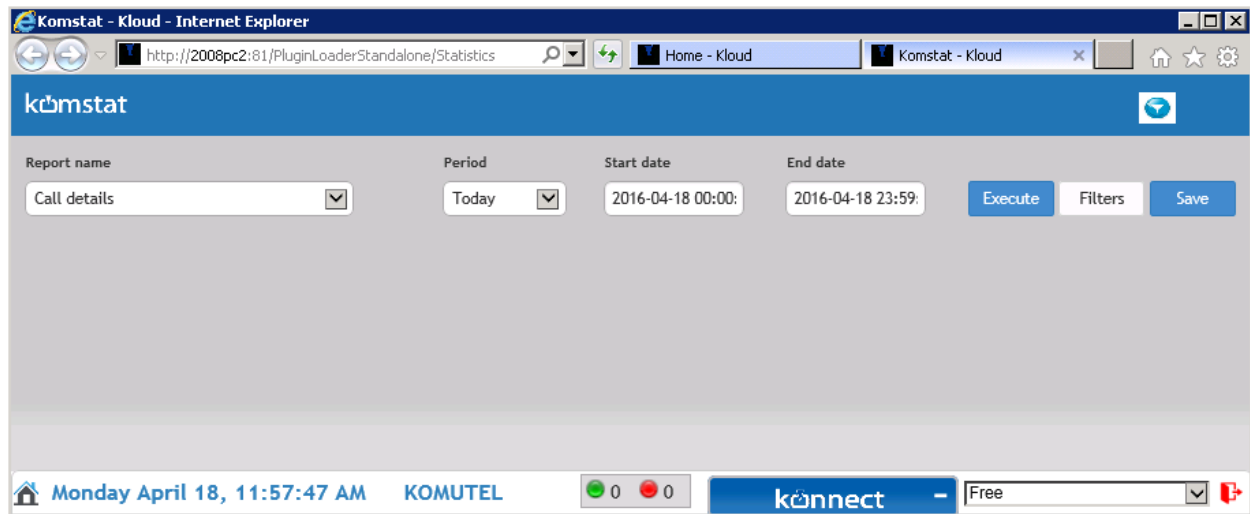
Launch the Komstat website using the following link http://PCs_name:81 on the browser and enter the login credentials as shown in the figure below and click on **Sign In**.



The Kload page is shown below. Click on Komstat link to open Komstat page.

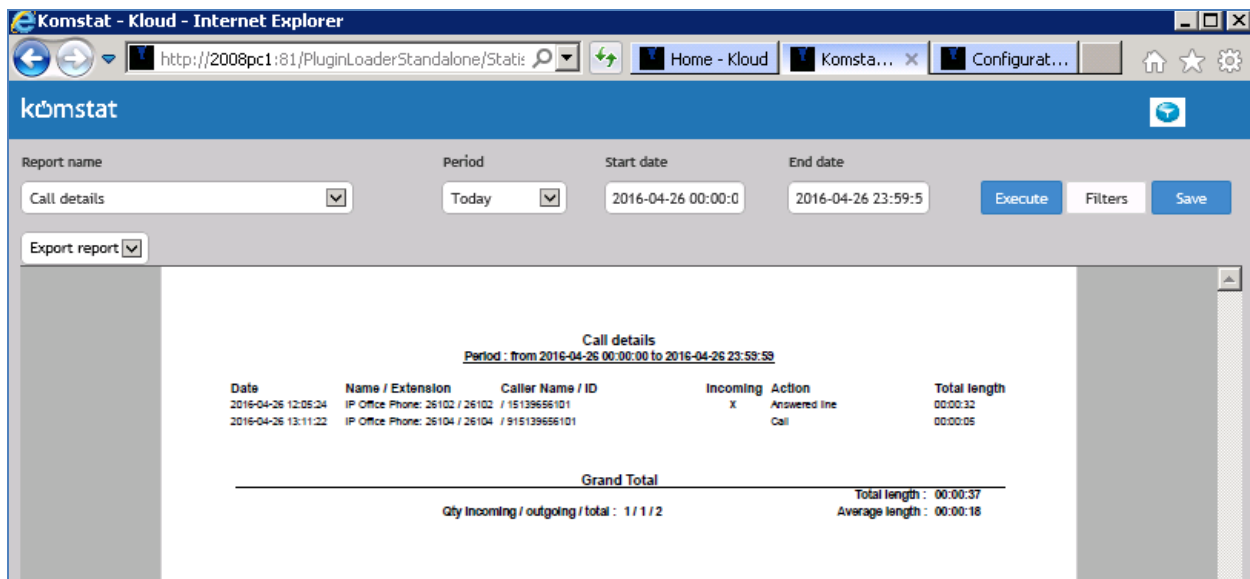


Default Komstat page displays as shown below:



7. Verification Steps

This section provides the tests that can be performed to verify that the Komstat can report IP Office users' activities. Make couple phone calls, then in **Komstat**, click **Execute** button. Verify it reports all calls made as display in below screenshot.



8. Conclusion

These Application Notes describe the configuration steps on Komstat Server to report existing IP Office users' activities all test cases passed with observation listed in **Section 2.2**.

9. References

This section references the product documentation relevant to these Application Notes.

1. *IP Office Manager 9.1, Document 15-601011 Issue 9.14 0, September 2015.*
2. *Komstat - User Guide (2015-05-29, available by contacting Komutel.*
3. *Technical Specifications for Komstat (AVAYA IP Office 8 or 9) available by contacting Komutel.*

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