If this is your First-Time-Use of MAPS™ SIP HD application, then we recommend you follow all the steps explained in MAPS-SIP HD-Quick-Install-Guide to install MAPS™ SIPHD application before proceeding with the steps below.

Quick Checkout Procedure

Functional verification requires 2 Regular NIC cards and 1 GL's HD card installed in the MAPS™ HD network appliance.

The 2 regular PC NIC are connected to a managed switch using Ethernet cables as shown in the figure here.
The four ports on GL's HD NIC card are connected in loopback as shown in the figure –

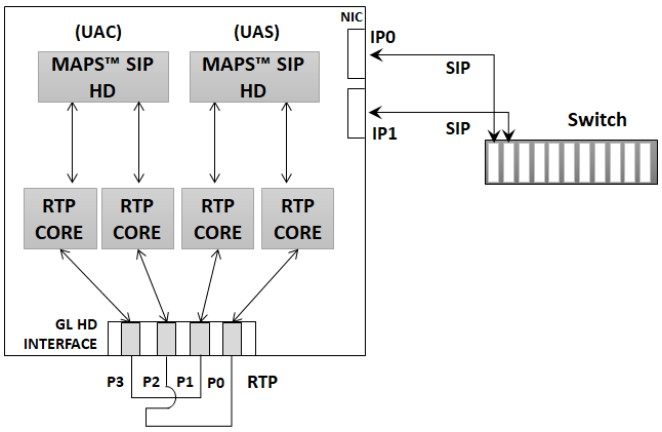


Figure: Setup for Self-Test MAPS™ SIP HD

P0 is connected to P2
P1 is connected to P3 ports.

Regular NIC is used for SIP Signaling and to invoke RTP cores (communication between MAPS™ and RtpCore) and GL's HD NIC is used to pump and receive RTP Traffic.

GL's HD card connections verification:
Verify that network cables are properly connected and locked. Also, you can use the monitoring tool (refer to Troubleshoot section in MAPS-SIP-HD-Quick-Install-Guide) to check the Ethernet links status on GL's HD NIC is UP or DOWN.

For illustration purposes, we assume the IP address of the 2 Regular NIC cards are configured as NIC#1 - 192.xx.xx.161 and NIC#2 - 192.xx.xx.239.

Note: The **"Warranty Error"** as shown in the figure may be prompted, when the user tries to start the testbed, either the **Warranty licenses** are not installed or the license is expired. Ensure that the warranty license (**GLSupportWarrantyLicenseInstaller.exe**) is installed and also confirm that **PKS120 (MAPS™ SIP) and PKS109 (MAPS™ SIP HD)** is listed in **Warranty Application List.** Refer to ***MAPS-SIP-HD-Quick-Install-Guide.***

- Invoke 2 instances of **MAPS™ SIP HD** application instances (one for each NIC) using the short cut icon 

created on the desktop. The configurations below allow **first instance** of MAPS™ SIP to use **NIC 1 IP address** as source and the NIC 2 IP address as destination endpoint. Similarly, the **second instance** of MAPS™ SIP to use **NIC 2 IP address** as source and the NIC 1 IP address as destination endpoint to simulate SIP calls.

MAPS™ SIP HD (Instance 1)

- Right-click on **MAPS-SIP HD** short-cut icon 

created on the desktop and select '**Run as Administrator**'.
- By default, **Testbed Setup** window is displayed loaded with **TestBedDefault_4RTP Cores** configuration. Verify the following settings.
  - Select **End User Configuration** parameter and change the profile name to **UserAgent_Profiles_1.xml**
  - Set **NIC IP Address** to **NIC1 IP Address (192.xx.xx.161)**

HD RTP Media Configuration

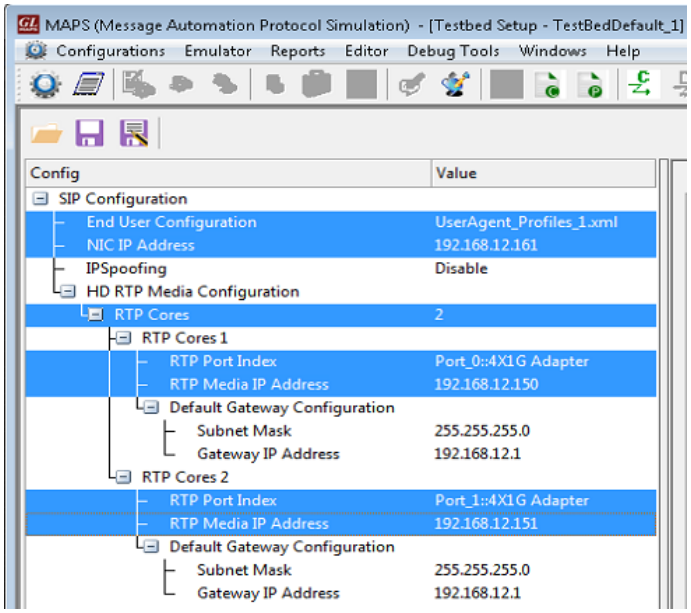
- **Number of RTP-Cores**: Set to 2 and click **Apply**. For this self-test setup, we are invoking 2 RTP-Cores only.

RTP Core 1 Configurations:

- **RTP Port Index:** Set this to ***Port_0::4x1G*** Adapter.
- **RTP Media IP Address:** Specify the RTP Core IP address. (Enter the **HD Port1 IP address** here, Ex: 192.168.12.150).
- **Gateway IP Address:** Set this to 192.168.12.1 (Enter the Gateway IP address of LAN).

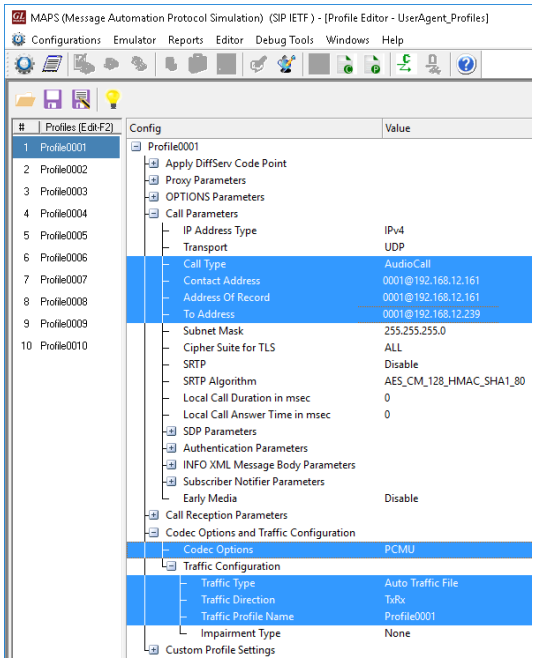
RTP Core 2 Configurations:

- **RTP Port Index:** Set this to ***Port_1::4x1G*** Adapter.
- **RTP Media IP Address:** Specify the RTP Core IP address. (Enter the **HD Port2 IP address** here, Ex: 192.168.12.151).
- **Gateway IP Address:** Set this to 192.168.12.1 (Enter the Gateway IP address of LAN).

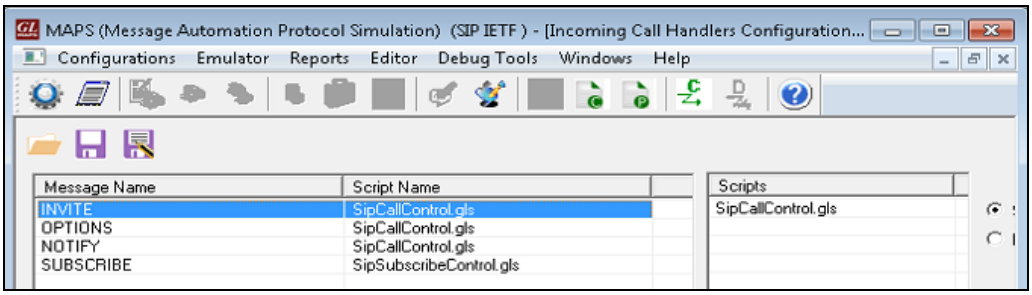


- Click  **Save As** to save **TestBedDefault_1.xml** file.

- From MAPS-SIP HD main window, select **Editor → Profile Editor.** By default, **UserAgent_Profiles** profile is loaded in the window. There are 4 profiles here, each profile corresponding to a port on GL's HD NIC. From the left pane, choose **Profile0001** profile. Verify the following settings**:**
  - Set ***Call Type → Audio Call.***
  - Edit ***Contact Address → 0001@192.168.12.161*** (Enter the source **NIC1 SIP URI** here).
  - Edit ***Address of Record → 0001@192.168.12.161*** (Enter the source **NIC1 SIP URI** here).
  - Edit ***To Address → 0001@192.168.12.239*** (Enter the destination **NIC2 SIP URI** here).
  - Scroll down to ***Codec Options and Traffic Configurations*** and select ***Codec*** as ***PCMU*** from the Codec list.
  - Set ***Traffic Type*** to ***Auto Traffic File*** type, and ***Traffic Direction*** to ***TxRx.***
  - Set ***Traffic Profile Name*** to ***Profile0001*** (configured in TrafficProfile.xml).



- Similarly, select **Profile0002** from the left pane and edit the parameters settings as below:
  - Set ***Call Type*** → ***Audio Call.***
  - Edit ***Contact Address*** → ***0002@192.168.12.161*** (Enter the source **NIC1 SIP URI** here).
  - Edit ***Address of Record*** → ***0002@192.168.12.161*** (Enter the source **NIC1 SIP URI** here).
  - Edit ***To Address*** → ***0002@192.168.12.239*** (Enter the destination **NIC2 SIP URI** here).
  - Scroll down to ***Codec Options and Traffic Configurations*** and select ***Codec*** as ***PCMU*** from the Codec list.
  - Set ***Traffic Type*** to ***Auto Traffic File*** type, and ***Traffic Direction*** to ***TxRx.***
  - Set ***Traffic Profile Name*** to ***Profile0002*** (configured in TrafficProfile.xml).
- Click **Save As** to save ***UserAgent_Profiles_1*** file. Exit from the Profile Editor window.
- On the same MAPS™ SIP HD instance, from **Configuration** → invoke **Incoming Call Handler Configuration** window. Verify that the **SipCallControl.gls** script is loaded against the **INVITE** message. Close the window.



MAPS™ SIP HD (Instance 2)

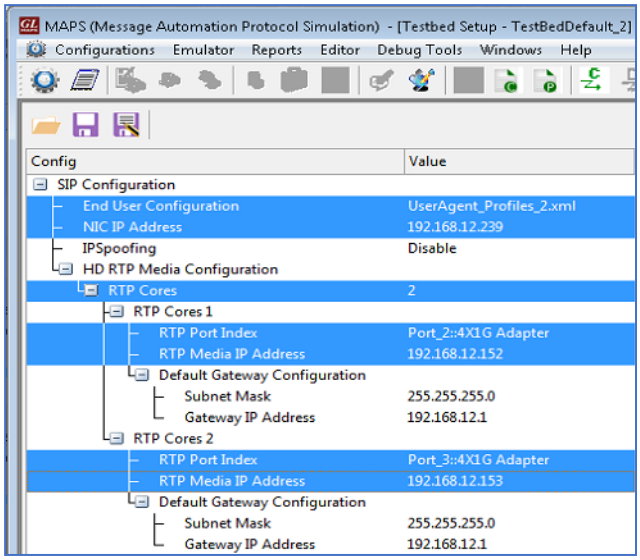
- Similarly, click on the **MAPS SIP HD** shortcut icon created on the desktop and invoke another instance of MAPS SIP HD.
- By default, **Testbed Setup** window is displayed loaded with **TestBedDefault_4RTP Cores** configuration and verify the following settings.
  - Select **End User Configuration** parameter and change the profile name to **UserAgent_Profiles_2.xml.**
  - Set **NIC IP Address** to **NIC2 IP Address (192.xx.xx.239).**

  HD RTP Media Configuration

  - **Number of RTP-Cores:** Set to 2 and click **Apply**. For this self-test setup, we are invoking 2 RTP-Cores only.

  RTP Core 1 Configurations:

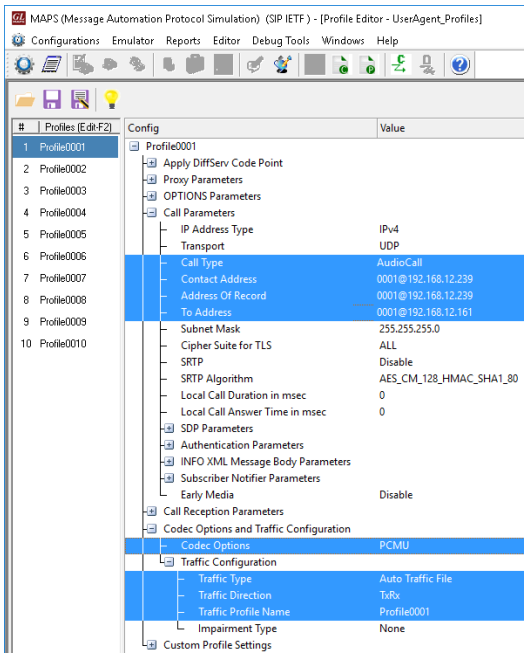
  - **RTP Port Index:** By default, set to ***Port_2::4x1G*** Adapter.
  - **RTP Media IP Address:** Specify the RTP Core IP address. (Enter the **HD Port3 IP address** here, Ex: 192.168.12.152).
  - **Gateway IP Address:** Set this to 192.168.12.1.(Enter the Gateway IP Address of LAN).



RTP Core 2 Configurations:

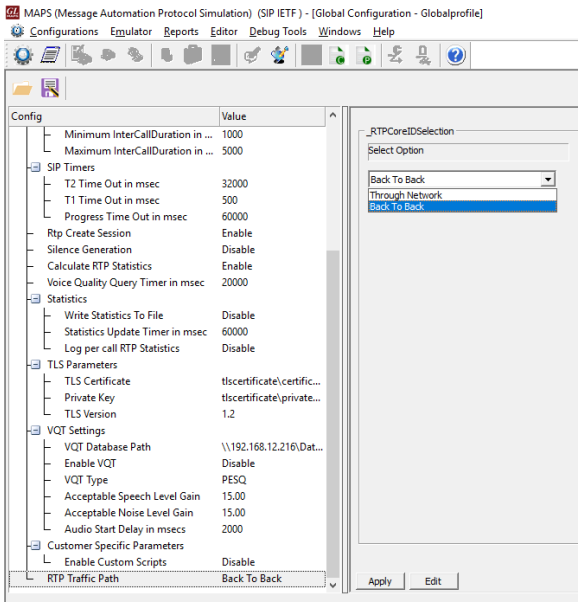
- **RTP Port Index:** By default, set to ***Port_3::4x1G*** Adapter.
- **RTP Media IP Address:** Specify the RTP Core IP address. (Enter the **HD Port4 IP address** here, Ex: 192.168.12.153).
- **Gateway IP Address:** Set this to 192.168.12.1.(Enter the Gateway IP Address of LAN).

- Click **Save As** to save **TestBedDefault_2.xml** file.



- From **MAPS-SIP HD** main window, select **Editor → Profile Editor.** By default, **UserAgent_Profiles** profile is loaded in the window. From the left pane, choose **Profile0001** profile. Verify the following settings**:**
  - Set ***Call Type → Audio Call.***
  - Edit ***Contact Address → 0001@192.168.12.239*** (Enter the source **NIC2 SIP URI** here).
  - Edit ***Address of Record → 0001@192.168.12.239*** (Enter the source **NIC2 SIP URI** here).
  - Edit ***To Address → 0001@192.168.12.161*** (Enter the destination **NIC1 SIP URI** here).
  - Scroll down to ***Codec Options and Traffic Configurations*** and select ***Codec*** as ***PCMU*** from the Codec list.
  - Set ***Traffic Type*** to ***Auto Traffic File*** type, and ***Traffic Direction*** to ***TxRx.***
  - Set ***Traffic Profile Name*** to ***Profile0001***.
- Similarly, select **Profile0002** from the left pane and edit the parameters settings as below:
  - Set ***Call Type → Audio Call.***
  - Edit ***Contact Address → 0002@192.168.12.239*** (Enter the source **NIC2 SIP URI** here).
  - Edit ***Address of Record → 0002@192.168.12.239*** (Enter the source **NIC2 SIP URI** here).
  - Edit ***To Address → 0002@192.168.12.161*** (Enter the destination **NIC1 SIP URI** here).
  - Scroll down to ***Codec Options and Traffic Configurations*** and select ***Codec*** as ***PCMU*** from the Codec list.
  - Set ***Traffic Type*** to ***Auto Traffic File*** type, and ***Traffic Direction*** to ***TxRx.***
  - Set ***Traffic Profile Name*** to ***Profile0002***.

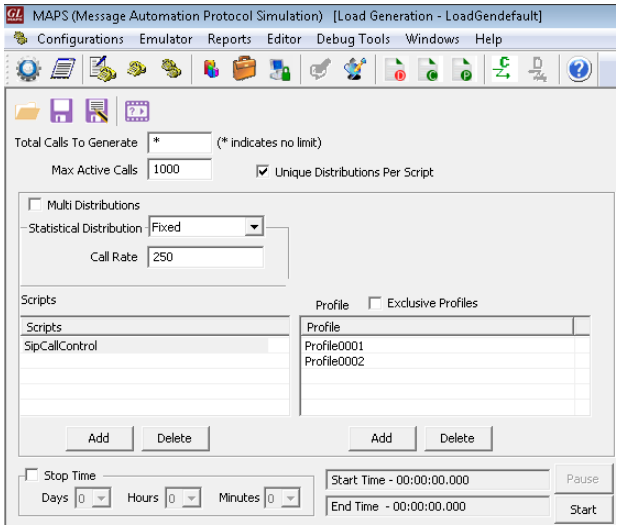
- Click **Save As** to save ***UserAgent_Profiles_2*** file. Exit from the Profile Editor window.



- From MAPS-SIP HD main window, select Configurations → Global Configuration, scroll down to set **RTP Traffic Path** as **'Back To Back'** and then click **Apply**. Ensure this step is followed on both the instances. This allows for self-test MAPS-SIP HD by looping back GL's HD NIC. To do normal testing, change this value back to '**Through Network'** and restart MAPS™ SIP HD instance.

- Now, **Start** both the testbed and wait for 4 RTP-Core console windows to appear. If the RTP Core console does not invoke with the MAPS™ TestBed start-up, refer to Troubleshoot section explained in the MAPS™ SIP HD Quick Install Guide.

- From any of the MAPS™ SIP HD instance, click on  icon and invoke the ***Load Generation*** window. Verify the following settings:
  - **Total calls to Generate** by default is set to '*', indicates no limit.
  - **Maximum Active calls** to 1000. **Note**: Uncheck the **Unique Distributions per script** checkbox first and then enter the maximum active call value and again check the **Unique Distributions Per Script** checkbox.
  - Uncheck Multi-Distributions checkbox.
  - Select the **Statistical Distribution** pattern as **Fixed** from the drop-down list.
  - Set **Call Rate** to 250.
  - Observe that by default, **SipCallControl.gls** script and **Profile0001** are added in the window.
  - In Profile column, click **Add** and select **Profile0002** profile to include both the profiles as shown in the window.
  - Click **Start** button to initiate bulk call generation.



- In the same MAPS™ SIP HD instance, from **Reports** menu → invoke **Statistics** window. Observe the Outgoing and Incoming Call Statistics.
- In the other MAPS™ SIP HD instance, click  icon and open **Call Reception** window and observe the bulk calls being received running the **SipCallControl.gls** answer script.
- On this MAPS SIP HD instance as well, from **Reports** menu → invoke **Statistics** window. Observe the Outgoing and Incoming Call Stats. Also, from **Report** menu → invoke **User Defined Statistics** window. Click  icon and select **VoiceQualityStats_HD** configuration, observe the **QoS Statistics**.