

If this is your *First-Time-Use* of MAPS™ Diameter application, then we recommend you follow all the steps explained in [MAPS-Diameter-Quick-Install-Guide](#) to install MAPS™ Diameter application before proceeding with the steps below.

## Quick Verification


Functional verification of MAPS-Diameter application for SLh interface requires a system with 2 NIC cards for loopback testing. MAPS-Diameter is configured as **GMLC** (Gateway Mobile Location Centre) on one NIC and as **HSS** (Home Subscriber Server) on the other.

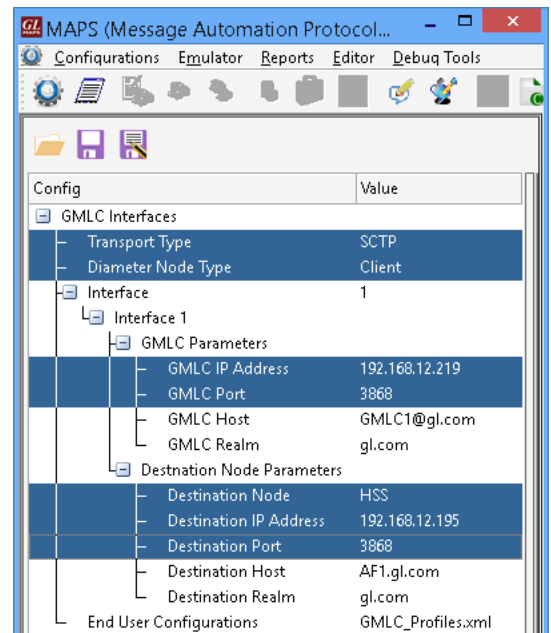
Note down the IP addresses of NIC1 and NIC2 on the test PC, and in this example the IP addresses used and configured are:



- **NIC #1** IP address is 192.xx.xx.219, and configured as **GMLC**
- **NIC #2** IP address is 192.xx.xx.195, and configured as **HSS**

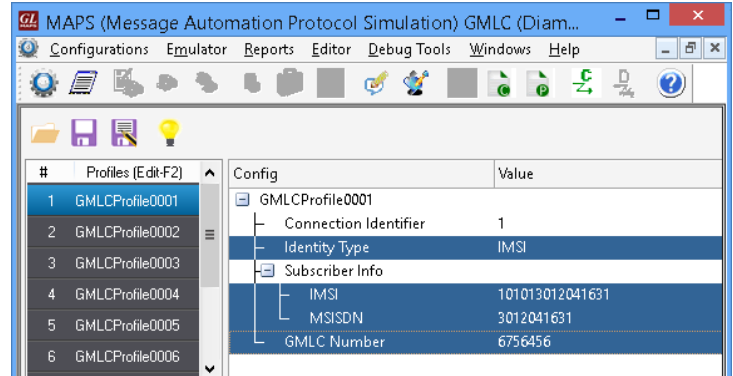
**Note:** In this test scenario, we have configured MAPS™ Diameter as **GMLC** generating calls and **HSS** to receive calls. It is assumed that both NIC cards on the test PC is connected to a switch or back-to-back using Ethernet cable.

## First MAPS™ Diameter (GUI) – (GMLC)



- Right-click on the **MAPS-Diameter** shortcut icon created on the desktop and select '**Run as Administrator**'. This instance of MAPS™ Diameter SLh (GMLC) is configured for **Call Generation**
- While invoking the first MAPS™ Diameter instance, verify the following in the **Protocol Selection** window -
  - **Protocol Standard** is set to **Diameter**
  - **Protocol Version** is set to **SLh**
  - Select **Node** as **GMLC**. Click **Ok**
- By default, **Testbed Setup** window is displayed, loaded with **TestbedDefault** configuration. Verify and validate the default parameter values as listed below:
  - **Transport Type** is set to **SCTP**
  - **Diameter Node Type** is set to **Client**
  - Set **GMLC IP Address** to **PC IP Address (NIC #1)**
  - Set **GMLC Port** to **3868**
  - Verify if **Destination Node** is set to **HSS**
  - Set **Destination IP Address** to **PC IP Address (NIC #2)**
  - Set **Destination Port** to **3868**
  - Click **Save**  button and save the changes to the same configuration file.

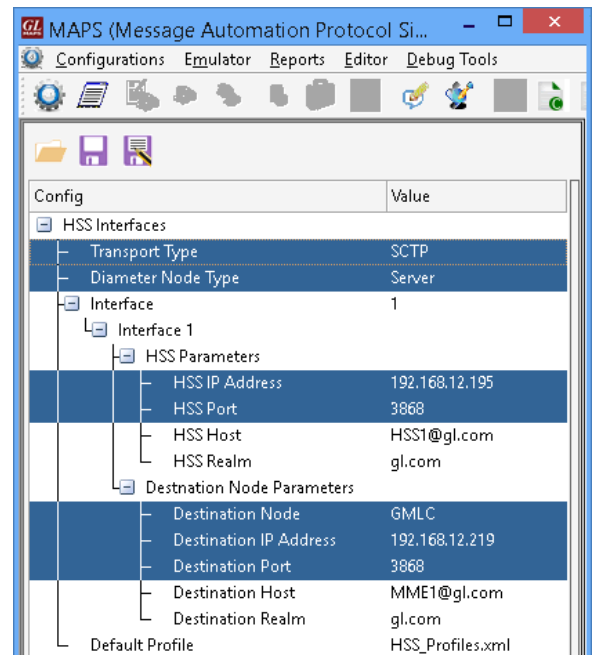



- From MAPS SLh (GMLC) main window, select **Editor** → **Profile Editor**. Click  and select GMLC\_Profiles. Select the sub-profile from the left pane, used in Call Generation window for procedure simulation.
- For this quick procedure, select **GMLCProfile0001**, from left pane and verify the **IMSI** and **MSISDN** settings as shown in the figure.
- Click  **Save** and save the changes to the same configuration file. Exit from the Profile Editor window.

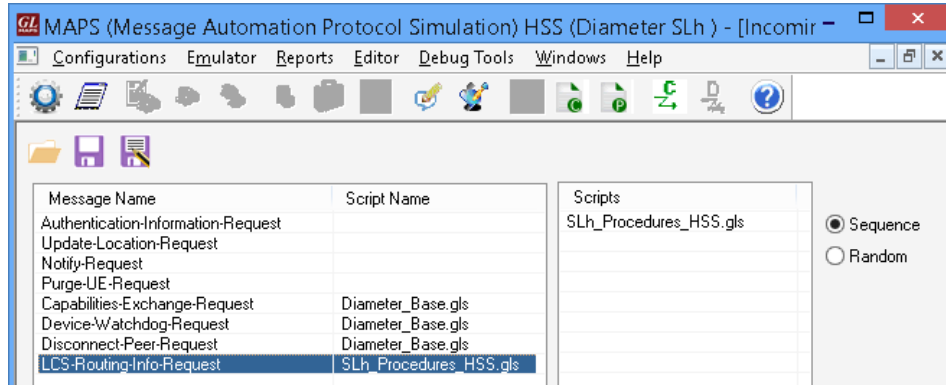


## Second MAPS™ Diameter (GUI) – (HSS)

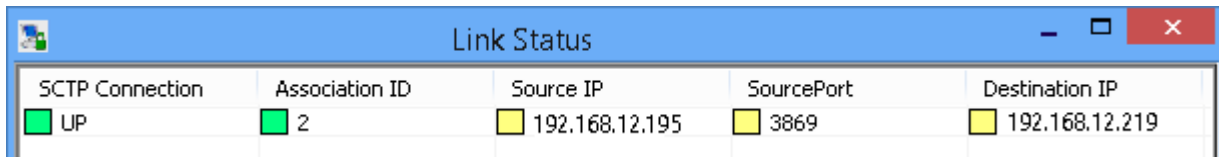
- Right-click on the **MAPS-Diameter** application using shortcut icon created on the desktop and select ‘Run as Administrator’. This instance of MAPS™ is configured for **Call Reception**.
- While invoking the second MAPS™ Diameter instance, verify the following in the **Protocol Selection** window -
  - **Protocol Standard** is set to **Diameter**
  - **Protocol Version** is set to **SLh**
  - Select **Node** as **HSS**. Click **Ok**
- By default, **Testbed Setup** window is displayed. Click  and select **TestBedDefault** configuration and check for the parameter default values as listed below:
  - **Transport Type** is set to **SCTP**
  - **Diameter Node Type** is set to **Server**
  - Set **HSS IP Address** to PC IP Address (NIC #2)
  - Set **HSS Port** to **3868**
  - Verify if **Destination Node** is set to **GMLC**
  - Set **Destination IP Address** to PC IP Address (NIC #1)
  - Set **Destination Port** to **3868**
  - Click **Save**  button and save the changes to the same configuration file.





- From MAPS™ Diameter (HSS) main window, click  icon and invoke **Incoming Call Handler Configuration** window. Verify that the **SLh\_Procedure\_HSS.gls** script is loaded against the **LCS-Routing-Info-Request** message. Exit from the window.

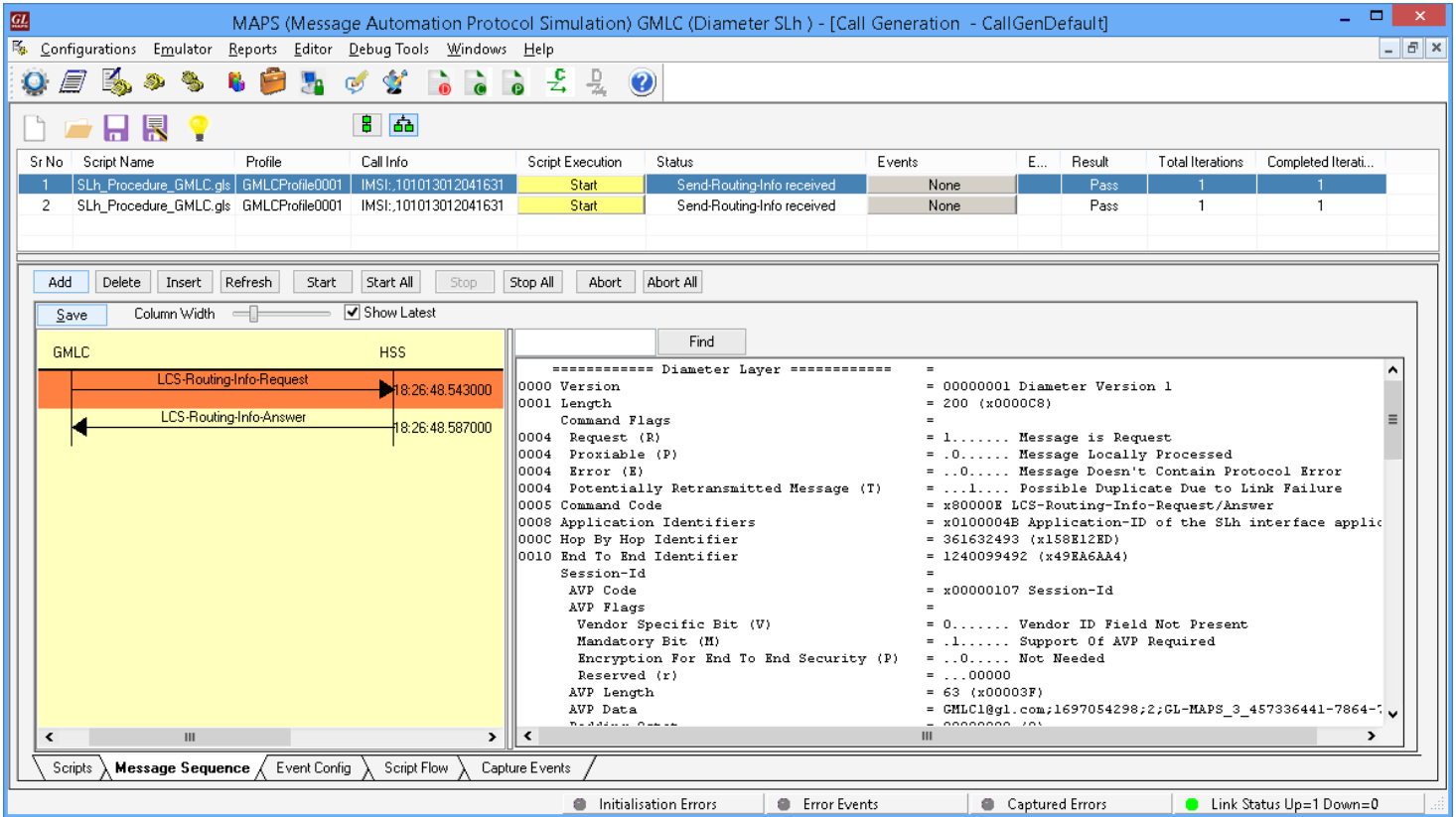


- Start** the testbed on both the MAPS (GMLC and HSS) instances.
- On both the MAPS instances main window, from **Reports** menu > select **Link Status** option to verify the link status. Verify that the **SCTP Link** Status is **UP** (indicated in Green color) before placing the call.



- On both instances of MAPS-Diameter (GMLC and HSS) main window, click **Call Reception**  icon and observe that the **Diameter\_Base.gls** script is activated.
- In the first MAPS-Diameter (GMLC) instance, click the **Call Generation**  icon on main window, and invoke the **Call Generation** window.
- By default, you will observe that multiple call instances are loaded with **SLh\_Procedure\_GMLC.gls** script and **GMLCProfile00\*\*** profiles.
- Select the first call instance in the Call Generation window, and click **Start** button to initiate the call generation.

- Verify the call flow under the **Message Sequence** tab at both generation and reception end. Select any message in the ladder diagram and observe the respective decode message on the right pane for the respective message.



Sr No	Script Name	Profile	Call Info	Script Execution	Status	Events	E...	Result	Total Iterations	Completed Iterati...
1	SLh_Procedure_GMLC.gls	GMLCProfile0001	IMSI:101013012041631	Start	Send-Routing-Info received	None		Pass	1	1
2	SLh_Procedure_GMLC.gls	GMLCProfile0001	IMSI:101013012041631	Start	Send-Routing-Info received	None		Pass	1	1

```

===== Diameter Layer =====
0000 Version                = 00000001 Diameter Version 1
0001 Length                 = 200 (x0000C8)
0002 Command Flags         =
0004 Request (R)           = 1..... Message is Request
0004 Proxiable (P)         = .0..... Message Locally Processed
0004 Error (E)             = .0..... Message Doesn't Contain Protocol Error
0004 Potentially Retransmitted Message (T) = .1..... Possible Duplicate Due to Link Failure
0005 Command Code          = x80000E LCS-Routing-Info-Request/Answer
0008 Application Identifiers = x0100004B Application-ID of the SLh interface applic
000C Hop By Hop Identifier  = 361632493 (x158E12ED)
0010 End To End Identifier  = 1240099492 (x49EA6AA4)
0011 Session-Id            =
0012 AVP Code               = x00000107 Session-Id
0013 AVP Flags              =
0014 Vendor Specific Bit (V) = 0..... Vendor ID Field Not Present
0015 Mandatory Bit (M)      = 1..... Support Of AVP Required
0016 Encryption For End To End Security (P) = .0..... Not Needed
0017 Reserved (r)           = ...00000
0018 AVP Length             = 63 (x00003F)
0019 AVP Data               = GMLC1@gl.com;1697054298;2;GL-MAPS_3_457336441-7864-7
0020 Padding Octets        = 00000000 00
  
```

- Return to second instance of MAPS-Diameter (HSS), in the **Call Reception** window, observe that the calls are automatically received running the Rx script.