



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

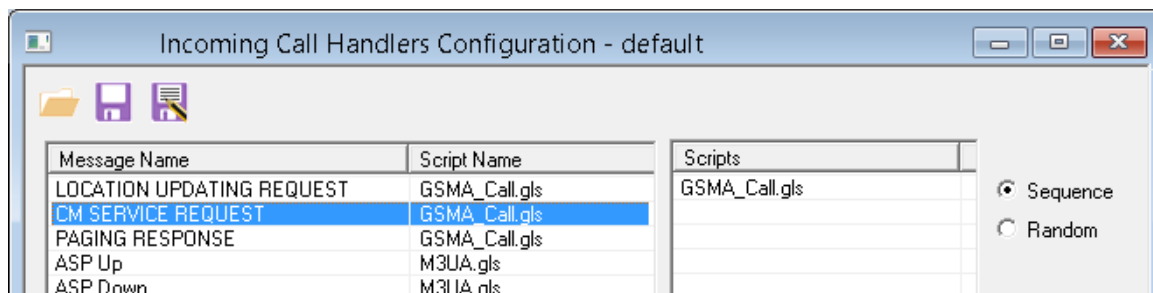
Quick Checkout Procedure


For functional verification of MAPS™ GSM A application, you can invoke 2 instances of MAPS™ GSM A application.

On first instance, MAPS™ is configured as **MSC** (Mobile Switching Center), and on the second instance, MAPS™ is configured as **BSC** (Base Station Controller) nodes to simulate GSM A interface procedures and RTP traffic. The following explains **MAPS™ GSMAIP** configuration on the same PC in loopback mode.




First MAPS™ GSMAIP (GUI) – (MSC)

- Click to invoke **MAPS-GSMAIP** application using shortcut icon on the desktop. This instance of MAPS™ is configured for **Call Reception**.
- While invoking the first MAPS™ GSMAIP instance, verify the following in the **Protocol Selection** window -
 - **Protocol Standard** is set to **GsmAip**
 - **Protocol Version** to **GSM900**
 - Select **Node** as **MSC**
 - Select **Transport** as **M3UA**. Click **Ok**
- By default, **Testbed Setup** window is displayed. Click  and select **MSC_RTP_NIC** and check for the parameter default values as listed below:
 - **M3UA Termination Type** is set to **SGP**, to handle server association.
 - **Enable RTP Simulation**
 - **RTP Hardware Interface Type** as “PC NIC”
 - Set **MSC IP Address** to the PC IP address
 - Set **MGW IP Address** to the PC IP address
 - Verify that **MSC Point Code** is set to **2.2.2**
 - Set **BSC IP Address** to the PC IP address
 - Verify that **BSC Port** is set to **2905**
 - Verify that **BSC Point Code** is set to **5.5.5**
 - Verify that **MSC Port** to **2905**
 - Click  **Save** button.
- From MAPS™ GSMAIP main window, select **Configuration > Incoming Call Handler Configuration** and verify that the **GSMA_Call.gls** script is loaded against LocationUpdate and CM Request messages.

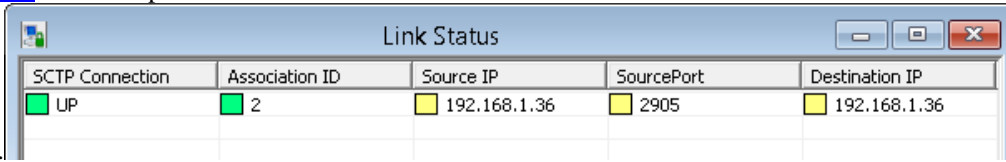


- From MAPS™ GSMAIP (MSC) main window, select **Editor > Profile Editor**. By default, “**MS_Profiles**” profile is loaded in the window. Check for the following parameter default values.
 - Select **MSPProfile0001** profile from left pane
 - Set **Type of Call** to **Terminate MO Call**
 - Set **Service Type for MT Call** = **Speech Call** to allow voice traffic over signaling
 - Scroll down to **Traffic Configuration** > set **Traffic Type** to **Auto Traffic File**. This option allows to automatically send and receive voice files.
 - Set the **Traffic Direction** to **Tx Rx type**
 - Click on  **Save** button. Exit from the Profile Editor window.

Second MAPS™ GSMAIP (GUI) – (BSC)

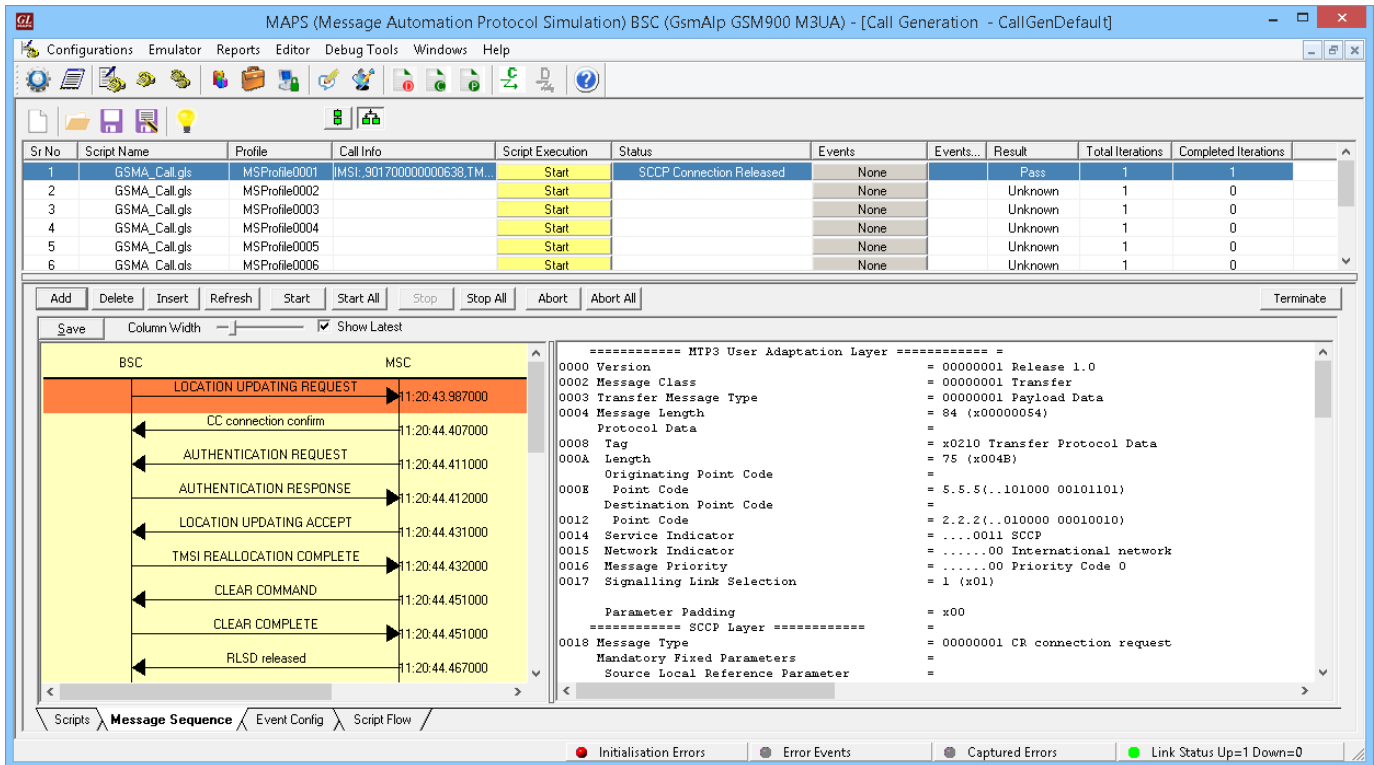
- Click to invoke **MAPS-GSMAIP** application using shortcut icon on the desktop. This instance of MAPS™ is configured for **Call Generation**
- While invoking the second MAPS™ GSMAIP instance, verify the following in the **Protocol Selection** window -
 - **Protocol Standard** is set to **GsmAIP**
 - **Protocol Version** to **GSM900**
 - Select **Node** as **BSC**
 - Select **Transport** as **M3UA**. Click **Ok**
- By default, **Testbed Setup** window is displayed. Click  and select **BSC_RTP_NIC** and check for the parameter default values as listed below:
 - **M3UA Termination Type** is set to **ASP**, to handle client association.
 - **Enable RTP** Simulation
 - **RTP Hardware Interface Type** as “PC NIC”
 - Set **BSC IP Address** to PC IP address
 - Set **MGW IP Address** to PC IP address
 - Verify that **BSC Port** is set to **2905**
 - Verify that **BSC Point Code** is set to **5.5.5**
 - Set **MSC IP address** to PC IP address
 - Verify that **MSC Port** is set to **2905**
 - Verify that **MSC Point Code** is set to **2.2.2**. Click  **Save** button.
- From MAPS™ GSMAIP (BSC) main window, select **Editor > Profile Editor**. By default, “**MS_Profiles**” profile is loaded in the window. Check for the following parameter default values.
 - Select **MSPProfile0001** profile from left pane
 - Set **CM Service Type** to **Mobile Originating Call Establishment**
 - Set **Location Update Type** to **Normal location updating**
 - Scroll down to **Traffic Configuration** > set **Traffic Type** to **Auto Traffic File**. This option allows to automatically send and receive voice files.
 - Set the **Traffic Direction** to **Tx Rx type**
 - Click on the  **Save** button. Exit from the Profile Editor window.
- **Start** the testbed on both the MAPS™ GSM A IP (MSC and BSC) 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. If SCTP connection is not up, then refer to [Troubleshoot](#) section explained in this document.



SCTP Connection	Association ID	Source IP	SourcePort	Destination IP
UP	2	192.168.1.36	2905	192.168.1.36

- On both instances of MAPS™ GSM A IP (BSC and MSC) main GUI, click **Call Reception** icon and observe that the **Check_SCTP_Status.gls** script is activated.
- In the second MAPS™ instance (**BSC**) main window, click icon and invoke **Call Generation** window
- By default, you will observe multiple call instances loaded with **GSMA_Call.gls** script and **MSPProfile00**** profiles respectively.
- Select the first instance loaded with **GSMA_Call.gls** script and **MSPProfile0001** profile and click **Start** button.
- Return to first instance of MAPS™ GSMAIP (**MSC**), in the **Call Reception** window, observe that the calls are automatically received running the Rx script.
- Wait for the calls to terminate, and 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.



The screenshot shows the MAPS (Message Automation Protocol Simulation) BSC (GsmAlp GSM900 M3UA) - [Call Generation - CallGenDefault] window. The main window displays a table of script execution results:

Sr No	Script Name	Profile	Call Info	Script Execution	Status	Events	Events...	Result	Total Iterations	Completed Iterations
1	GSMA_Call.gls	MSPProfile0001	MSI..90170000000638.TM...	Start	SCCP Connection Released	None		Pass	1	1
2	GSMA_Call.gls	MSPProfile0002		Start		None		Unknown	1	0
3	GSMA_Call.gls	MSPProfile0003		Start		None		Unknown	1	0
4	GSMA_Call.gls	MSPProfile0004		Start		None		Unknown	1	0
5	GSMA_Call.gls	MSPProfile0005		Start		None		Unknown	1	0
6	GSMA_Call.gls	MSPProfile0006		Start		None		Unknown	1	0

The Message Sequence tab shows a ladder diagram between BSC and MSC. The sequence of messages is:

- LOCATION UPDATING REQUEST (BSC to MSC)
- CC connection confirm (MSC to BSC)
- AUTHENTICATION REQUEST (BSC to MSC)
- AUTHENTICATION RESPONSE (MSC to BSC)
- LOCATION UPDATING ACCEPT (BSC to MSC)
- TMSI REALLOCATION COMPLETE (MSC to BSC)
- CLEAR COMMAND (BSC to MSC)
- CLEAR COMPLETE (MSC to BSC)
- RLSD released (BSC to MSC)

The right pane shows the decode message for the selected message:

```

===== MTP3 User Adaptation Layer =====
0000 Version = 00000001 Release 1.0
0002 Message Class = 00000001 Transfer
0003 Transfer Message Type = 00000001 Payload Data
0004 Message Length = 84 (x00000054)
    Protocol Data
0008 Tag = x0210 Transfer Protocol Data
000A Length = 75 (x004B)
000E Point Code = 5.5.5(.101000 00101101)
0012 Destination Point Code = 2.2.2(.010000 00010010)
0014 Service Indicator = ...0011 SCCP
0015 Network Indicator = ....00 International network
0016 Message Priority = .....00 Priority Code 0
0017 Signalling Link Selection = 1 (x01)
    Parameter Padding = x00
===== SCCP Layer =====
0018 Message Type = 00000001 CR connection request
    Mandatory Fixed Parameters =
    Source Local Reference Parameter =
    
```

Troubleshoot

- **“Unknown device” error while installing USB Dongle.** If you see this error, ensure you have installed the GL Dongle License Installer software first and then plugged the USB Dongle to the PC. The USB Dongle will then be recognized as “SafeNetInc. USB Key” and appropriate drivers will get installed automatically. If problem still persists, plug the USB Dongle to a different USB2.0 port and try again.
- **“Security Error: Application is not licensed”,** if you see this error when you run MAPS™ GSMAIP it indicates a problem with either your dongle or license file.
 - First verify that the dongle is plugged in and the red light is on
 - To use MAPS™ 64-bit version – use **GLDongleLicenseInstaller_x64.exe** utility to install licenses
 - Navigate to **C:\Program Files\GL Communications Inc\GLDONGLE**
 - Run **haspinfohl.exe**. Verify that Status is **OK** and make a note of the Serial #.
 - Run **appl_list.exe**. Verify that there is a line in the table reading **PKS137 GSM A Emulation Over IP** with the serial number you noted above.
 - If the dongle does not appear in **haspinfohl.exe**, verify that it appears as a USB device in the **Windows Device Manager**. If it does not appear even in the device manager, remove the dongle and plug it into a different USB port, preferably one directly on the motherboard.
- **Fails to start SCTP Services and associated SCTP Link status is Down,** follow the steps below -
 - You should **Turn off Windows Firewall** on Windows® and on any 3rd party Anti-Virus software that may be installed on the PC to allow SCTP Link Status to be up. **Turn OFF Windows Firewall** - navigate to **Control Panel > Systems & Security > Windows Firewall**, click **Turn Off Windows® Firewall** for all networks.
- If you cannot resolve the issues, please contact GL Communications at info@gl.com for technical support.