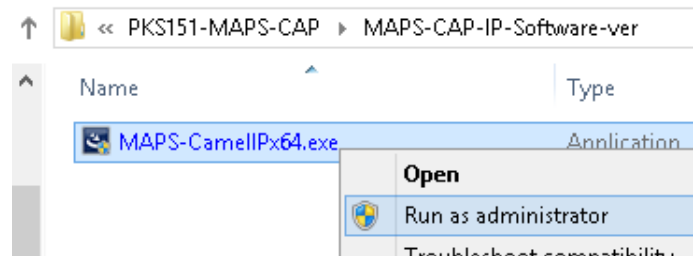


## Software and License Installation

**DO NOT CONNECT USB DONGLE TO THE PC FIRST.** Perform Software installation first, followed by License installation and then plug-in the USB hardware dongle to the PC.

- PC Requirements
  - Windows® 7 and above Operating System (**64 bit Only**).
  - Core i3 to i7 (or equivalent), 4 GB Memory, NIC, and USB 2.0 Ports.
- Plug-in the **USB Installation Stick** (pen drive) to the PC. This is provided with the shipment package by GL Communications.
- Navigate to \PKS151-MAPS-CAP\MAPS-CAP-IP-Software-verXX folder, right click **MAPS-CamelIPx64.exe** and select **Run as Administrator**. Follow the onscreen instructions and complete the installation.



- Navigate back to root directory in USB installation stick (pen drive) to **GL-Dongle License Installer** folder, execute **GLDongleLicenseInstaller\_x64.exe**. Follow the onscreen instructions and complete the installation.
- NOW PLUG-IN the USB Dongle to the PC to the USB 2.0 port of your computer. Windows® should install all required drivers automatically. A red light should appear on the dongle indicating that the device is functioning correctly and ready to use.
- It is recommended to reboot the system after the software installation. If you had problems with installation so far, refer to [Troubleshoot](#) section explained in this document.
- You can verify if the required licenses are installed. Navigate to **C:\Program Files\GL Communications Inc\GLDONGLE** directory, execute **appl\_list.exe** and confirm that the PKS151 (MAPS-CAP Emulation over IP) license is listed.

## Verification


For functional verification, **MAPS-CamelIP** application can be configured on a single PC in loopback mode.

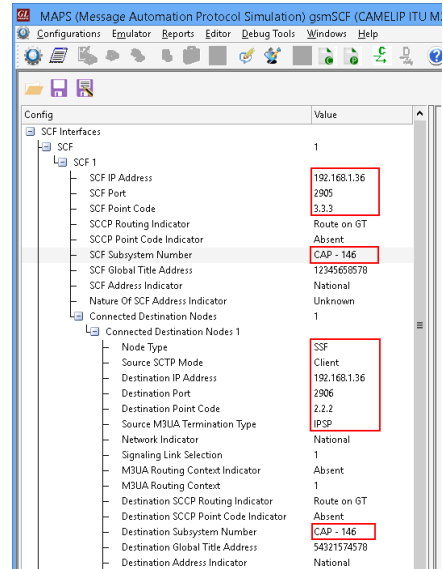
On first instance, MAPS™ is configured as **gsmSCF** (Service Control Function), and on the second instance, MAPS™ is configured as **gsmSSF** (Service Switching Function) nodes to simulate **IN services** (Ex: Apply Charging GPRS) over IP. The following explains **MAPS-CamelIP** configuration on the same PC in loopback mode.


### First MAPS™ CAMELIP (GUI) – (gsmSCF)

- Right-click on the **MAPS-CamelIP** 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 first **MAPS-CamelIP** instance, verify the following in the Protocol Selection window -
  - **Protocol Standard** is set to **CamelIP**
  - **Protocol Version** to **ITU**
  - Select **Node** as **gsmSCF**
  - Select **Transport** as **M3UA**
  - Click **Ok**

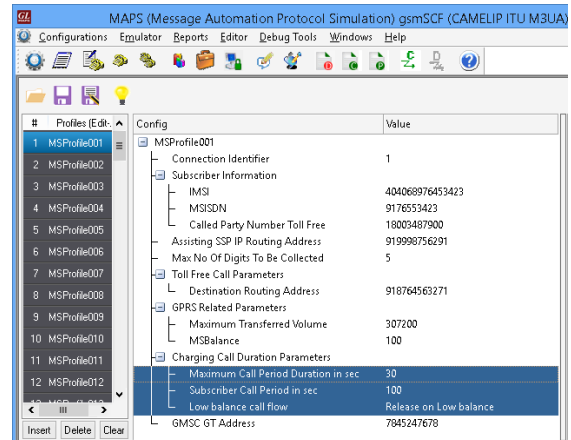
- By default, **Testbed Setup** window is displayed loaded with **TestBedDefault** configuration. Check for the parameter default values as listed below:

- Set **SCF IP Address** = PC IP address
- Set **SCF Port** = 2905
- Set **SCF Point Code** = 3.3.3
- Set **SCF Subsystem Number** = CAP-146
- Set **Node Type** = SSF
- Set **Source SCTP Mode** = Client
- Set **Destination IP address** = PC IP address
- Set **Destination Port** = 2906
- Set **Destination Point Code** = 2.2.2
- Set **M3UA Termination Type** = IPSP
- Set **SSF Subsystem Number** = CAP-146
- Click on the **Save**  button and overwrite the **TestBedDefault** configuration file.

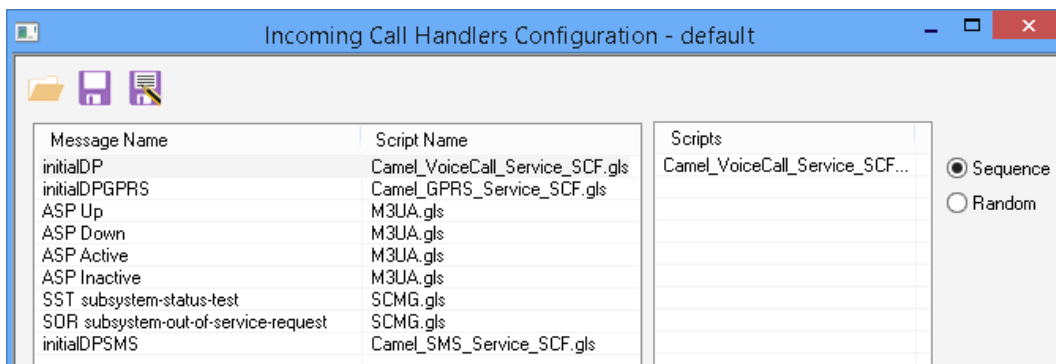


- At MAPS gsmSCF node, from **Editor** -> invoke **Profile Editor** window. Click  and select **MS\_Profiles**, and choose **MSPProfile001** profile from the left pane. Verify and validate the following parameter settings required to perform prepaid voice call:


- Maximum Call Period Duration in msec = 30
- Subscriber Call Period in msec = '100'

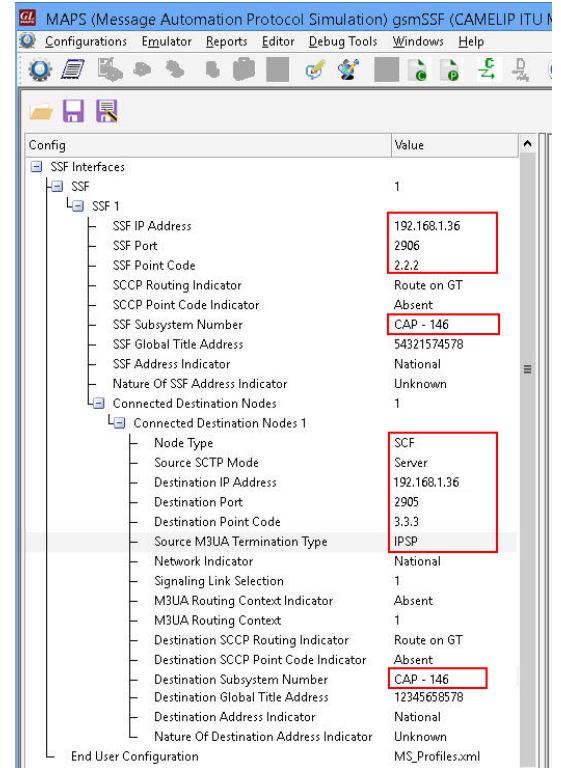


- From **MAPS-CamelIP** main window, select **Configuration > Incoming Call Handler Configuration**. Verify that the **Camel\_VoiceCall\_Service\_SCF.gls** script is loaded **initialDP** message. Exit from the window.

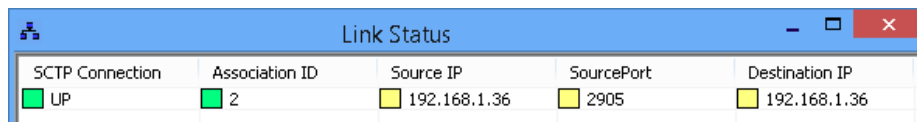


## Second MAPS™ CAMELIP (GUI) – (SSF)



- Right-click on the **MAPS-CamelIP** application using shortcut icon created on the desktop and select ‘Run as Administrator’. This instance of MAPS™ is configured for **Call Generation**.
- While invoking the second **MAPS-CamelIP** instance, verify the following in the **Protocol Selection** window -
  - **Protocol Standard** is set to **CamelIP**
  - **Protocol Version** to **ITU**
  - Select **Node** as **gsmSSF**
  - Select **Transport** as **M3UA**
  - Click **Ok**
- By default, **Testbed Setup** window is displayed loaded with **TestBedDefault** configuration. Check for the parameter default values as listed below:
  - Set **SSF IP Address** = PC IP address
  - Set **SSF Port** = 2906
  - Set **SSF Point Code** = 2.2.2
  - Set **SSF Subsystem Number** = CAP-146
  - Set **Node Type** = SCF
  - Set **Source SCTP Mode** = Server
  - Set **Destination IP address** = PC IP address
  - Set **Destination Port** = 2905
  - Set **Destination Point Code** = 3.3.3
  - Set **M3UA Termination Type** = IPSP
  - Set **Destination Subsystem Number** = CAP-146
  - Click on the **Save**  button and overwrite the **TestBedDefault** configuration file.



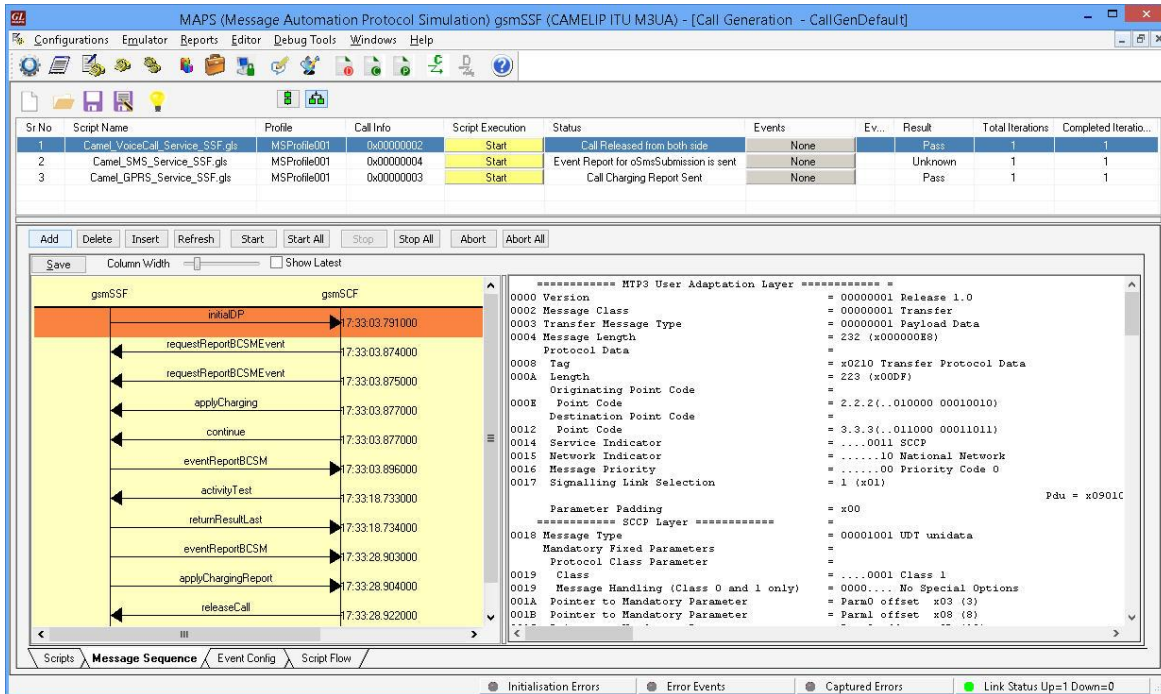
- **Start** the testbed on both the MAPS (gsmSSF and gsmSCF) instances.
- On both the MAPS instances main window, from **Reports** menu > select **Link Status** option to verify the link status. Verify that the **SCTP Link** Status is **UP** (indicated in Green color) before placing the call.



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-CamelIP** (gsmSSF and gsmSCF) main window, click **Call Reception**  icon and observe that the **Check\_SCTP\_Status.gls** script is activated.
- In the second **MAPS-CamelIP** (gsmSSF) instance, click the **Call Generation**  icon on main window, and invoke the **Call Generation** window.
  - By default, you will observe multiple call instances loaded with supported procedure scripts and **MSPProfile0\*\*** profiles.
  - Select the call instance loaded with **Camel\_VoiceCall\_Service\_SSF.gls** script and **MSPProfile001** profile in the Call Generation window, and click **Start** button to initiate the call generation.

- Return to first instance of **MAPS-CamelIP** (gsmSCF), 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.



## 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™ CAMELIP 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 **PKS151 MAPS-CAP 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 -
  - Run **MAPS CamelIP application as administrator** – right-click select Run as Administrator option.
  - **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](mailto:info@gl.com) for technical support.