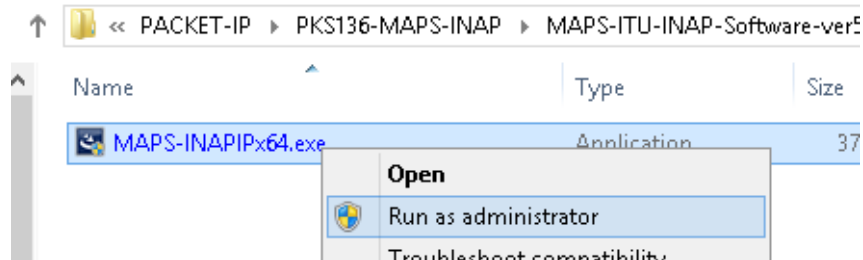


## Software and License Installation

### START WITH DONGLE UNPLUGGED FROM MACHINE

Perform Software installation first, followed by dongle license installation.

- System Requirements – Windows® 7 and higher Operating System. Core i3 to i7 (or equivalent) CPU, 4 GB Memory, USB 2.0 Ports.
- Plug-in the USB installation stick (pen drive) provided with the shipment package by GL Communications.
- From the USB installation stick (pen drive), navigate to folder \PKS136-MAPS-INAP\MAPS-ITU-INAP-Software-verXX. right-click *MAPS-INAPIx64.exe*, and select "**Run as administrator**". Follow the onscreen instructions and complete the installation.





- From the installation USB stick (pen drive), go to \GL-Dongle-License-Installer folder. Right-click on dongle license installable **GLDongleLicenseInstaller\_x64.exe** and select "**Run as administrator**". Follow the onscreen instructions and complete the installation.
- Plug the dongle 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 it is functioning correctly from a physical point of view.
- 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 PKS136 (MAPS-SIGTRAN SS7 INAP) license is listed.

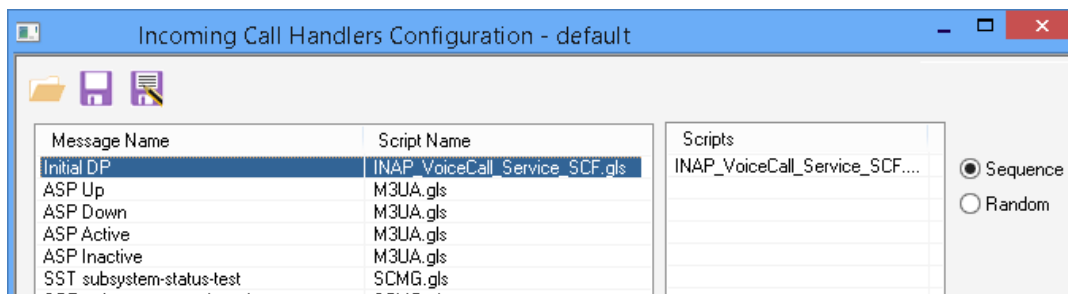
## Verification


For functional verification, 2 instances of MAPS™ INAP IP application can be configured on a single PC. 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 service messages using INAP protocol. The following explains MAPS™ INAP IP configuration on the same PC in loopback mode.

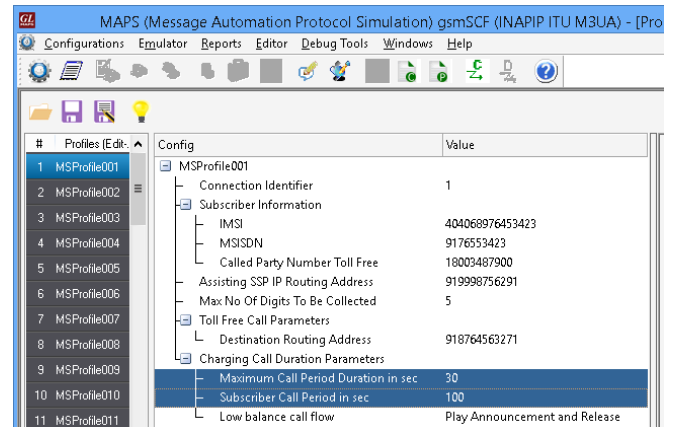
### First MAPS™ INAPIP (GUI) – (gsmSCF)

- Right click on **MAPS-INAPIP** application icon created on desktop and select "**Run as administrator**". This instance of MAPS™ is configured for **Call Reception**.
- While invoking the first MAPS™ INAPIP instance, verify the following in the [Protocol Selection](#) window -
  - **Protocol Standard** is set to **INAPIP**
  - **Protocol Version** to **ITU**
  - Select **Node** as **gsmSCF**
  - Select **Transport** as **M3UA**. Click **Ok**
- By default, [Testbed Setup](#) window is displayed. Click  and select **TestBedDefault** and check for the default parameter values as listed below:
  - Set **SCF IP Address** to PC IP address

- Set **SCF Port** to **2906**
  - Set **SCF Point Code** to **3.3.3**
  - Set **SCF Subsystem Number** to **INAP-12**
  - Verify if the **Node Type** is set to **SSF**
  - Set Source SCTP Mode to Client
  - Set **Destination IP Address** to PC IP address
  - Set **Destination Port** to **2905**
  - Set **Destination Point Code** to **2.2.2**
  - Set **M3UA Termination Type** to **IPSP**
  - Set **SSF Subsystem Number** to **INAP-12**
  - Click  **Save** button and overwrite the **TestBedDefault** file.
- From MAPS™ ITU INAP main window, select **Configuration > Incoming Call Handler Configuration** from the main menu and verify that **INAP\_VoiceCall\_Service\_SCF.gls** is loaded against the **Initial DP** message.





- In the MAPS (**gsmSCF** node) instance, from **Editor** -> invoke **Profile Editor** window. Click  and select **MS\_Profiles**, and choose **MSProfile001** profile from the left pane and check for the following parameter values required to perform **prepaid call**:
  - **Maximum Call Period Duration in sec = 30**
  - **Subscriber Call Period in sec = 100** (required for prepaid call)



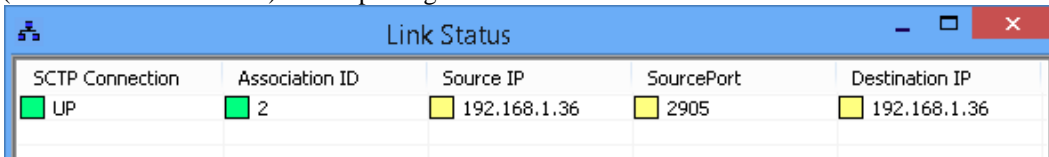
## Second MAPS™ INAPIP (GUI) – (gsmSSF)

- To invoke another MAPS INAPIP instance, right click on **MAPS INAPIP** application icon created on desktop and select "**Run as administrator**". This instance of MAPS™ is configured for **Call Generation**.
- While invoking the second MAPS™ **gsmSSF** instance, verify the following in the **Protocol Selection** window -
  - **Protocol Standard** is set to **INAPIP**
  - **Protocol Version** to **ITU**
  - Select **Node** as **gsmSSF**
  - Select **Transport** as **M3UA**. Click **Ok**

- By default, **Testbed Setup** window is displayed. Click  and select **TestBedDefault** configuration and check for the default parameter values as listed below:
  - Set **SSF IP Address** to PC IP address
  - Set **SSF Port** to **2905**
  - Set **SSF Point Code** to **2.2.2**
  - Set **SSF Subsystem Number** to **INAP-12**
  - Verify that the **Node Type** is set to **SCF**
  - Set **Source SCTP Mode** to **Server**
  - Set **Destination IP Address** to PC IP address
  - Set **Destination Port** to **2906**
  - Set **Destination Point Code** to **3.3.3**
  - Set **M3UA Termination Type** to **IPSP**
  - Set **Destination Subsystem Number** to **INAP-12**
  - Click  **Save** button and overwrite the **TestBedDefault** file.

- **Start** the test bed on both the MAPS™ instances


- On both the MAPS instances main window, from **Reports** menu > invoke **Link Status** window. Verify that the **Link Status** is **UP** (indicated in Green color) before placing the

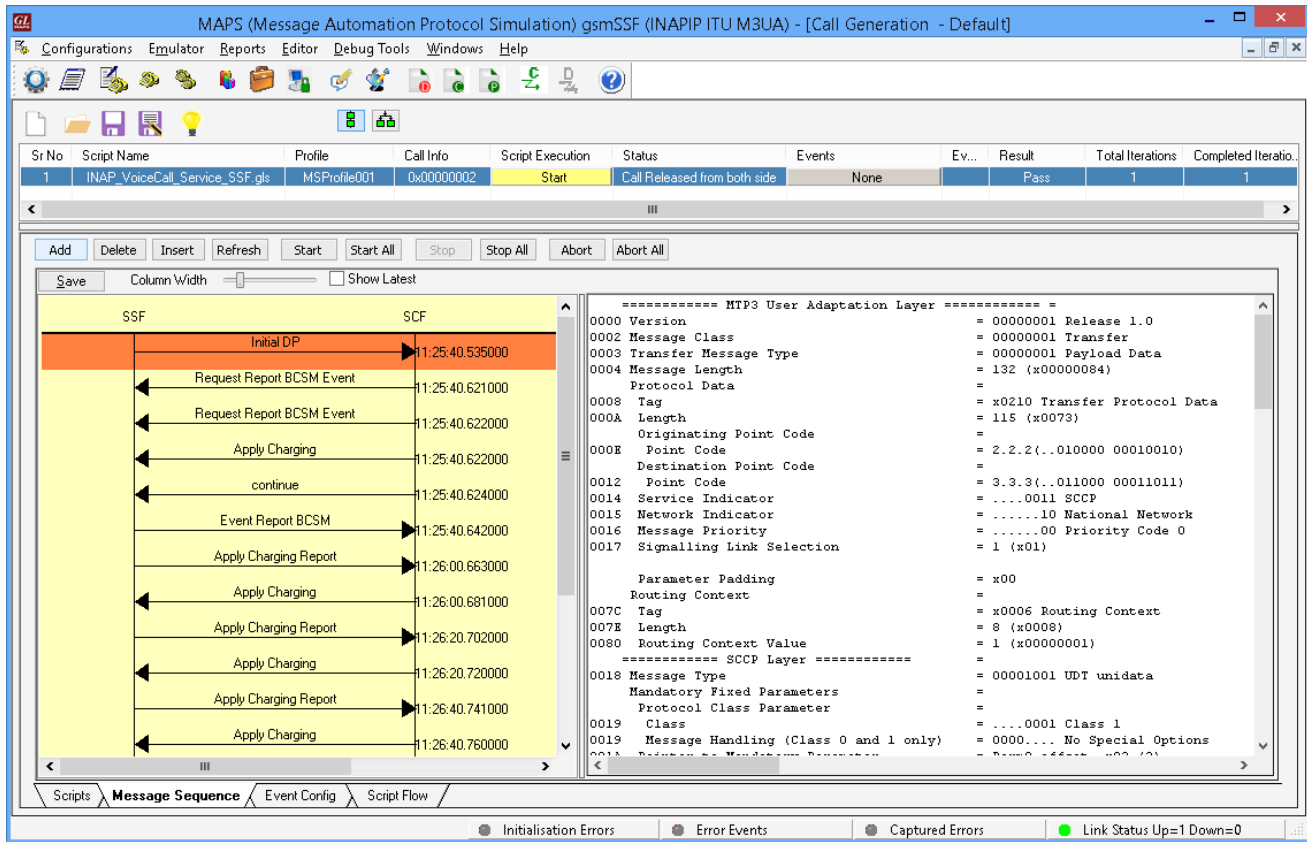


Sctp Connection	Association ID	Source IP	SourcePort	Destination IP
UP	2	192.168.1.36	2905	192.168.1.36

call. On both the MAPS™

instances main window, click  icon and invoke **Call Reception** window. Verify that M3UA script is activated.

- In the second MAPS™ instance (**gsmSSF**) window, click  icon and invoke **Call Generation** window.
- By default, you will observe a single call instance loaded with **INAP\_VoiceCall\_Service\_SSF.gls** script and **MSPProfile001** profile respectively. Select the call instance and click **Start** button.
- Return to first instance of MAPS™ INAPIP (**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 **Message Sequence** flow 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.
- **Error: “Security Error: Application is not licensed”,** if you see this error when you run MAPS™ INAPIP, 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 *PKS136 MAPS-SIGTRAN SS7 INAP* 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 INAPIP 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.