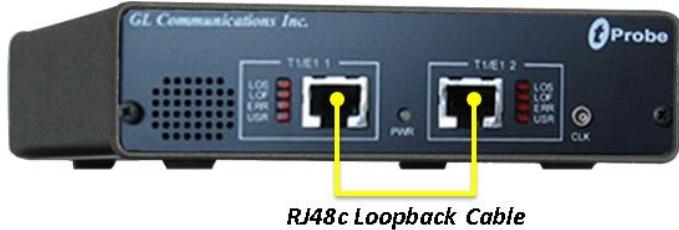


It is assumed that the T1/E1 Analyzer Hardware, Software and License installations are already performed referring to the purchased Hardware Installation Guide.

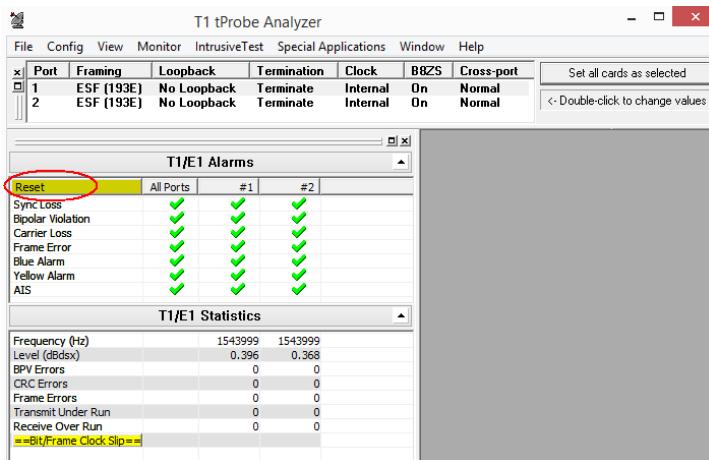
MAPS™ MAP Application Verification

For functional verification, 2 instances of **MAPS™ MAP** application can be invoked on a single PC configured as source and destination nodes. The following steps explain **MAPS™ MAP** configuration on the same PC in loopback mode to simulate MAP protocol supporting procedures.

Cross-connect T1/E1 Port #1 and Port #2 of the Hardware unit back-to-back using RJ48c loopback cable.



- Click on the **T1/E1 Analyzer** icon created on the desktop (or) from the installation directory, click on **UsbNGT1.exe** and launch T1/E1 Analyzer application.
- Note:** The application may take some time to get started due to hardware and software initializations.
- Verify the following **Interface** settings in the T1/E1 main GUI
 - For T1 Analyzers, configure Port #1 and Port #2 with the following
Framing = D4 (or ESF), Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal
 - For E1 Analyzers, configure Port #1 and Port #2 with the following
Framing = CCS, Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal



- Verify the **Sync and Alarm Status** between the ports are indicated in **Green ✓** in T1/E1 Alarms pane. Click **Yellow Reset** button to reset the alarms.
- From T1/E1 Analyzer main GUI, invoke the **WCS Server: Special Applications > Windows Client Server (WCS) > WCS Server**.
- Configure WCS as follows -
 - Listen Port = 17090 (for E1 systems); 17080 (for T1 systems)

- Messaging = Binary
- Version = 4
- Click on **Start GL Server** button. Minimize the window.

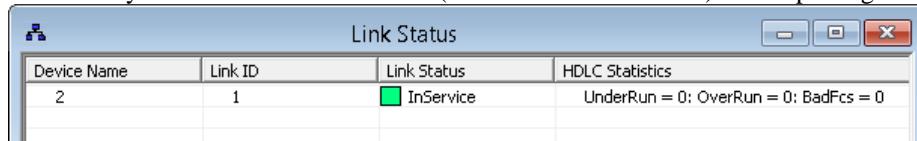
For the test setup, configure, two MAPSTM instances, one as **HLR** (Home Location Register), and the other MAPSTM MAP instance as **MSC** (Mobile Switching Center) node to generate supported procedure messages.

First MAPSTM MAP (GUI) – (HLR)

- From T1/E1 Analyzer main GUI, invoke an instance of **MAPSTM MAP** application from **Special Applications > Protocol Emulation > MAPSTM MAP Emulator**.
- This MAPSTM instance is configured for **Call Reception**
- While invoking the MAPSTM MAP instance, verify the following in the Protocol Selection window -
 - Protocol Standard = MAP
 - Protocol Version = 3GPP
 - Node = HLR. Click **Ok**
- By default, Testbed Setup window is displayed. Click  and select **HLR_MSC** configuration file and check for the settings as below:
 - T1/E1 Port Number = 2
 - Timeslot =23 (for T1 Systems); 31 (for E1 Systems)
 - HLR Subsystem Number = 6
 - **Node or Interface Type with SSN** is set to **MSC-8**
- From MAPSTM MAP main window, select **Configuration > Incoming Call Handler Configuration** from the main menu and verify that the **UpdateLocationRes_HLR.gls** script is loaded against the **updateLocationArg** message. Exit from the window.

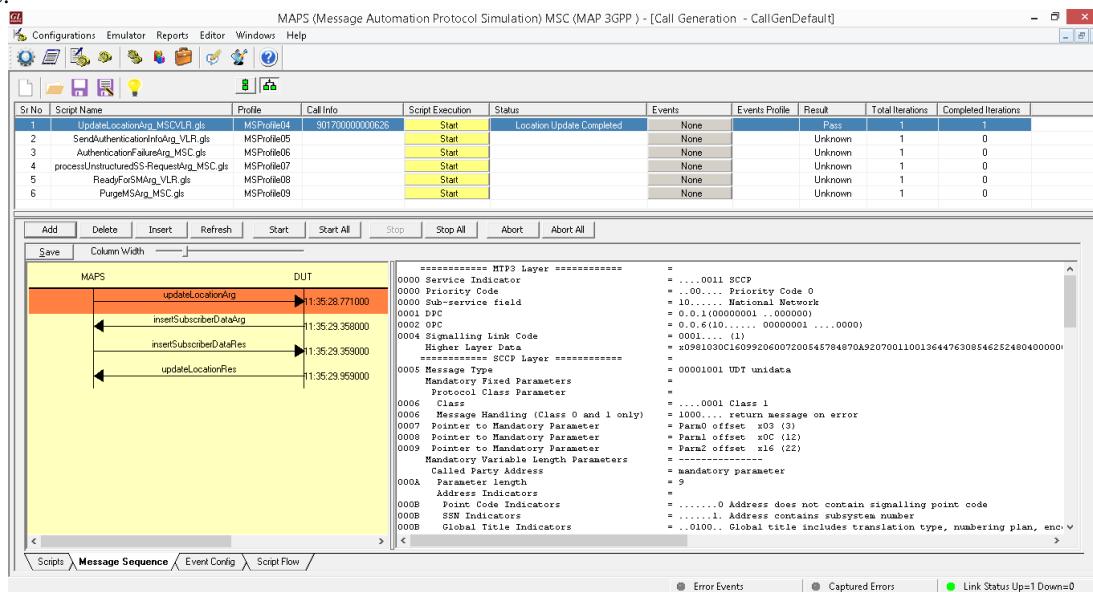
Second MAPSTM MAP (GUI) – (MSC)

- From T1/E1 Analyzer main GUI, invoke another instance of **MAPSTM MAP** application, from **Special Applications > Protocol Emulation > MAPSTM MAP Emulator**.
- This instance of MAPSTM is configured for **Call Generation**
- While invoking the second MAPSTM MAP instance, verify the following in the Protocol Selection window -
 - Protocol Standard = MAP
 - Protocol Version = 3GPP
 - Node = MSC. Click **Ok**
- By default, Testbed Setup window is displayed. Click  and select **MSC_HLR** configuration file and check for the settings as below:
 - **T1/E1 Port Number** = 1
 - **Timeslot** =23 (for T1 Systems); 31 (for E1 Systems)
 - MSC Subsystem Number = 8
 - **Node or Interface Type with SSN** is set to **HLR-6**
- **Start** testbed on both the MAPSTM instances
- **Note:** Once the test bed setup is started on both the instances of MAPSTM MAP (MSC and HLR). From the **Reports** menu -> select **Link Status** and verify that the **Link Status** is **UP** (indicated in Green color) before placing the call.



- On both the MAPS™ main window, select **Emulator > invoke Call Reception** window, observe the SLTM script is activated.
- From **MAPS™ MAP (MSC)** main window, select **Emulator > Call Generation** from main menu
 - By default, you will observe multiple call instances with scripts supporting the MAP procedures loaded. Select the call instance loaded with the **UpdateLocationArg_MSCVLR.gls** script and **MSProfile04** profile.
- Click **Start** yellow button in Script Execution column to initiate the procedure.

- In MAPS™ HLR main window, click  icon and open **Call Reception** window. Observe that the calls are automatically received running the Rx script.
- Wait for the call 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 in the right pane for the respective message.



- From the main MAPS™ MAP window on any of the instance, select **Report** menu -> invoke **Events** and observe the occurring call events in the log.

