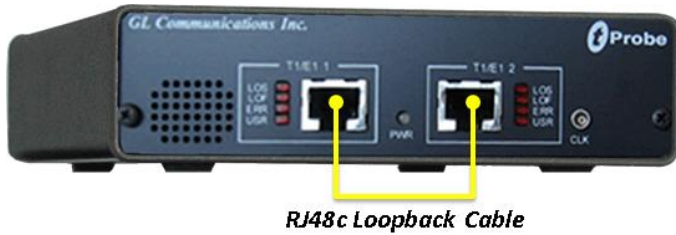*It is assumed that the T1/E1 Analyzer Hardware, Software and License installations are already performed referring to the purchased Hardware Installation Guide.*

MAPS™ ISDN Application Verification

For functional verification, 2 instances of **MAPS™ ISDN** application is configured on a single PC, as source and destination nodes. The following steps explain MAPS™ ISDN configuration on the same PC in loopback mode to simulate ISDN call control scenario.

On the first instance, MAPS™ is configured as **Switch**, and on the second instance, MAPS™ is configured as **Subscriber** generating ISDN call control messages.

### *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 Analyzer**, configure Port #1 and Port #2 with the following
   Framing = ESF, Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal

  ➢ For **E1 Analyzer**, configure Port #1 and Port #2 with the following
   Framing = CCS, Loopback = No Loopback, Termination = Terminate, Clock = Internal, Cross Port = Normal
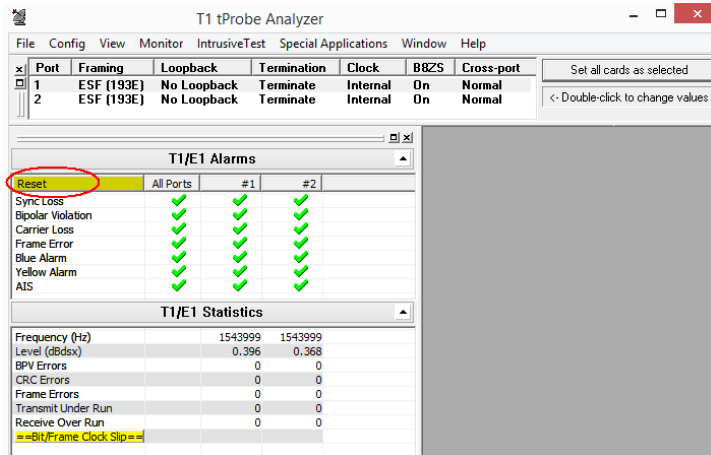
- Verify the **Sync and Alarm Status** between the ports are indicated in **Green** ✔ in **T1/E1 Alarms** pane. Click **Yellow Reset** button to reset the alarms.

- From T1/E1 Analyzer main window, invoke the **WCS Server: Special Applications > Windows Client Server (WCS) > WCS Server.**
- Configure WCS as follows -

- ➢ Listen Port = 17080 (for T1 systems); 17090 (for E1 systems)
- ➢ Messaging = Binary
- ➢ Version = 4
- ➢ Click on **Start GL Server** button. Minimize the window.

## On the first MAPS™ ISDN (Switch) Instance

- From T1/E1 Analyzer main window, from **Special Applications > Protocol Emulation > MAPS™ ISDN**
- While invoking the first MAPS™ ISDN instance, verify the following in the **Protocol Selection** window -
  - ➢ Protocol Standard = **ISDN**
  - ➢ Protocol Version = **ITU**
  - ➢ Node = **Switch.** Click **Ok**
- This instance of MAPS™ is configured for **Call Reception**
- By default, **Testbed Setup** window is displayed. Click [folder icon] and select '**1 Switch_Card2**' and check for the following parameter default values:
  - ➢ Channel Mapping = **Timeslot Based**
  - ➢ T1/E1 Port Number = **2**
  - ➢ Signaling Timeslot = **16**
  - ➢ Signaling Subchannel = **1..8**
  - ➢ End User Configuration = **Switch_Profiles.xml**
- From MAPS™ ISDN main window, select **Configuration > Incoming Call Handler Configuration**. Verify that the **Recvcall.gls** script is loaded against the **SETUP** message. Close the window
- From MAPS™ ISDN main window, select **"Editor"** menu -> invoke **Profile Editor** window:
  - ➢ Click [folder icon] and load **"Switch_Profiles"** file. Scroll down the left pane and select **Card2TS01** profile. Set **Card Number = 2,** and **Timeslot = 1** parameter values. Click [save icon] **Save** button.
  - ➢ In the same Profile Editor window, click [folder icon] and load **"TrafficProfile"** file. Scroll down the left pane and select **Card2TS01** profile. Set **Enable Traffic** to **AutoTraffic-File** and **Traffic Direction for AutoTraffic** to **Tx-Rx**. Click [save icon] **Save** button.
  - ➢ Exit from the Profile Editor window.
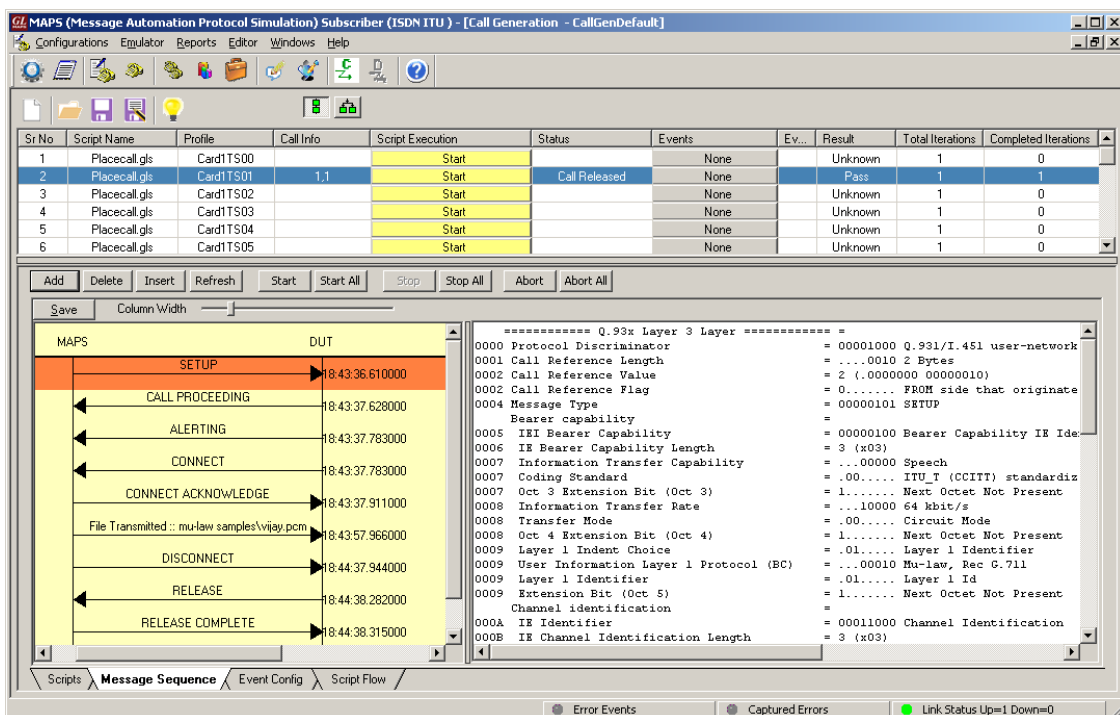
On the second MAPS™ ISDN (Subscriber) Instance

- From T1/E1 Analyzer main window, from **Special Applications > Protocol Emulation > MAPS™ ISDN**
- While invoking the second MAPS™ ISDN instance, verify the following in the Protocol Selection window -
  - ➢ Protocol Standard = **ISDN**
  - ➢ Protocol Version = **ITU**
  - ➢ Node = **Subscriber.** Click **Ok**
- This instance of MAPS™ is configured for **Call Generation**
- By default, **Testbed Setup** window is displayed. Click [folder icon] and select '**1 Subscriber_Card1**' and check for the configuration settings as below:
  - ➢ Channel Mapping = **Timeslot Based**
  - ➢ T1/E1 Port Number = **1**
  - ➢ Signaling Timeslot = **16**
  - ➢ Signaling Subchannel = **1..8**
  - ➢ End User Configuration = **Subscriber_Profiles.xml**
- From MAPS™ ISDN main window, select **"Editor"** menu -> invoke **Profile Editor** window.

➢ Click [icon] and load **"Subscriber_Profiles"** file. From the left pane, select **Card1TS01** profile. Set **Card Number = 1,** and **Timeslot = 1** parameter values. Click [icon] **Save** button.

➢ In the same Profile Editor window, click [icon] and load **"TrafficProfile"** file. From the left pane, select **Card1TS01** profile. Set **Enable Traffic** to **AutoTraffic-File** and **Traffic Direction for AutoTraffic** to **Tx-Rx**. Click [icon] **Save** button.

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

- **Note**: Once the test bed setup is started on both the instances of MAPS™ ISDN (Switch and Subscriber), select **Reports** menu > invoke **Link Status** window. Verify that the **Link Status** is **UP** (indicated in Green color) before placing the call.
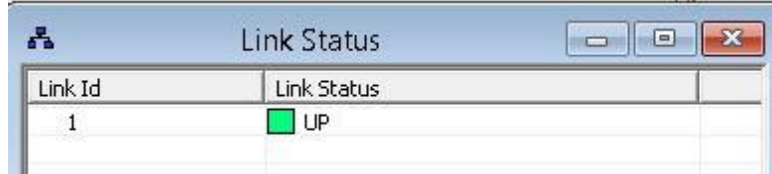
- In the second instance MAPS™ ISDN (Subscriber) main window, click [icon] **Call Generation** icon from the top toolbar
  ➢ By default, multiple call instances loaded with **Placecall.gls** script and **Card1TS**** profiles respectively are displayed.
  ➢ Verify that **Parallel Execution** [icon] is enabled in the Call Generation window to execute the scripts simultaneously
  ➢ Select the instance loaded with Placecall.gls script and Card1TS01 profile and click on the yellow **Start** button.

- Return to the first instance of MAPS™ ISDN (Switch), from the top toolbar, click [icon] **Call Reception** icon. Observe that the calls are automatically received in the **Call Reception** window running the Rx (**Recvcall.gls**) 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.