

It is assumed that the PacketScan™ Analyzer Software and License installations (PKV100, PKV105) are already performed referring to the Software Quick Installation Guide ([Packetscan-Quick-Install-Guide.pdf](#)). Now proceed with the verification steps below for capturing and analyzing SIGTRAN protocol.

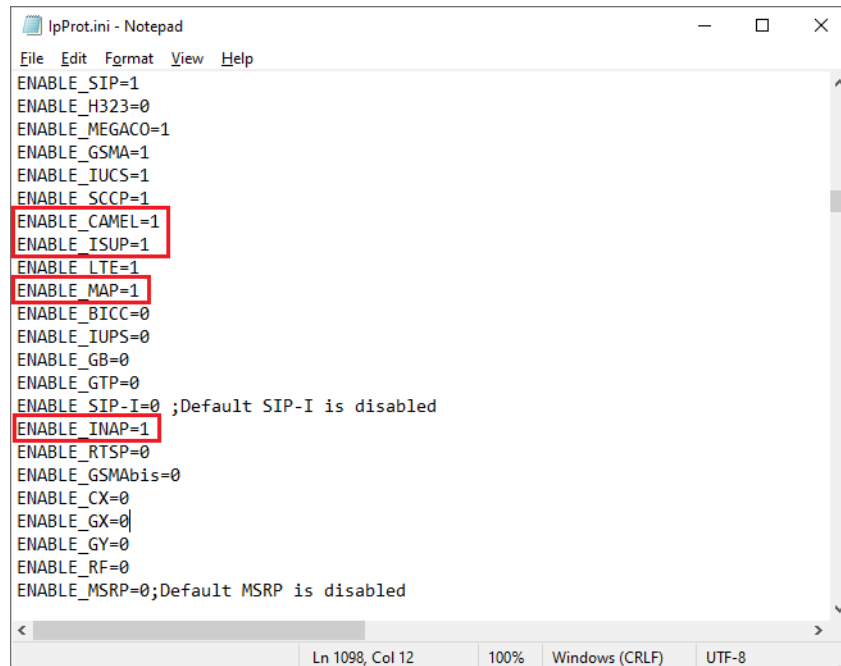


Note:

- Verify that Windows® Firewall is disabled before proceeding with the instructions given 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 make sure that Firewall is not blocking any packets or frames.
- PacketScan™ SIGTRAN protocol does not support Packet Data Analysis.

Verification

- To make sure that **SIGTRAN** protocols are enabled, user need to update **IpProt.ini** file.
- Navigate to PacketScan™ Installation directory **C:\Program Files\GL Communications Inc\PacketScan** and look for **IpProt.ini** file and open with notepad.
- Set values for the parameters **ENABLE_ISUP**, **ENABLE_CAMEL**, **ENABLE_MAP**, **ENABLE_INAP** as **1** (1 to enable & 0 to disable) For example: **ENABLE_ISUP=1**, **ENABLE_CAMEL=1**, **ENABLE_MAP=1**, **ENABLE_INAP=1**
- Save and exit the file.



The screenshot shows a Notepad window titled 'IpProt.ini - Notepad'. The file contains a list of parameters for enabling or disabling various protocols. The parameters are: ENABLE_SIP=1, ENABLE_H323=0, ENABLE_MEGACO=1, ENABLE_GSM=1, ENABLE_IUCS=1, ENABLE_SCCP=1, ENABLE_CAMEL=1, ENABLE_ISUP=1, ENABLE_LTE=1, ENABLE_MAP=1, ENABLE_BICC=0, ENABLE_IUPS=0, ENABLE_GB=0, ENABLE_GTP=0, ENABLE_SIP-I=0 ;Default SIP-I is disabled, ENABLE_INAP=1, ENABLE_RTSP=0, ENABLE_GSMabis=0, ENABLE_CX=0, ENABLE_GX=0, ENABLE_GY=0, ENABLE_RF=0, and ENABLE_MSRR=0;Default MSRR is disabled. The parameters ENABLE_CAMEL=1, ENABLE_ISUP=1, ENABLE_MAP=1, and ENABLE_INAP=1 are highlighted with red boxes. The status bar at the bottom indicates 'Ln 1098, Col 12', '100%', 'Windows (CRLF)', and 'UTF-8'.

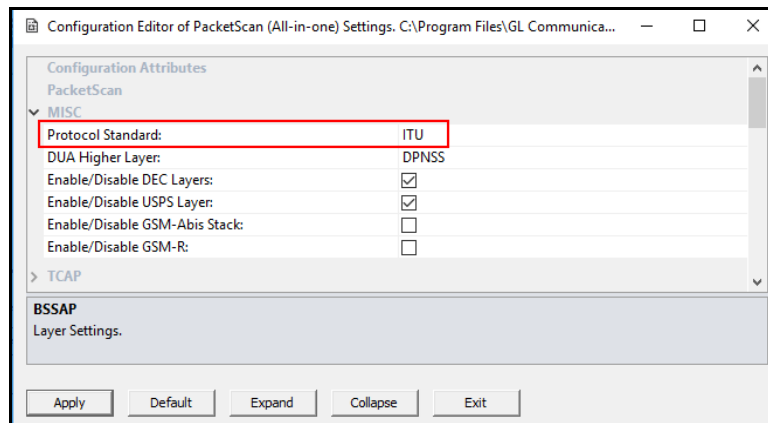
```
File Edit Format View Help
ENABLE_SIP=1
ENABLE_H323=0
ENABLE_MEGACO=1
ENABLE_GSM=1
ENABLE_IUCS=1
ENABLE_SCCP=1
ENABLE_CAMEL=1
ENABLE_ISUP=1
ENABLE_LTE=1
ENABLE_MAP=1
ENABLE_BICC=0
ENABLE_IUPS=0
ENABLE_GB=0
ENABLE_GTP=0
ENABLE_SIP-I=0 ;Default SIP-I is disabled
ENABLE_INAP=1
ENABLE_RTSP=0
ENABLE_GSMabis=0
ENABLE_CX=0
ENABLE_GX=0
ENABLE_GY=0
ENABLE_RF=0
ENABLE_MSRR=0;Default MSRR is disabled
```



- Double click on the **PacketScan™** shortcut icon created on the desktop to launch the application.

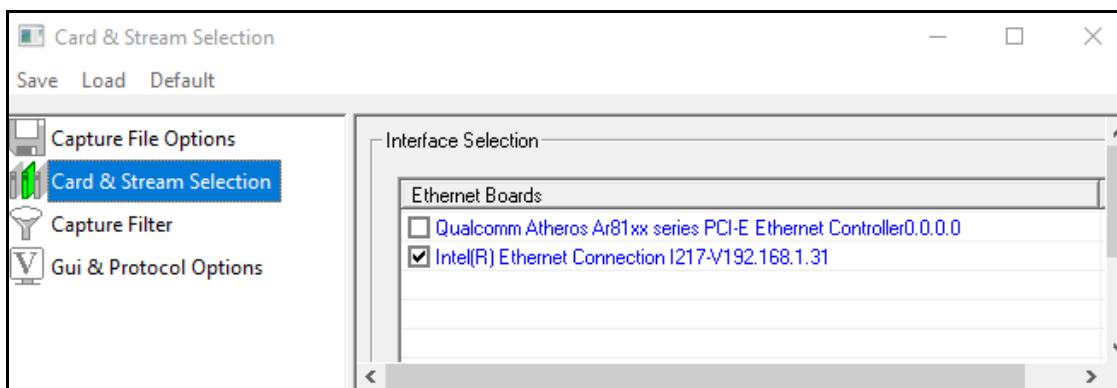
Follow the steps below for functional verification of PacketScan™ **Real-time** analysis feature.

- From the **PacketScan™** main menu, select **Configure → Settings**. This will invoke **Configure Editor of PacketScan Settings** window.
- Expand **MISC** option, select **Protocol Standard** as **ITU** from drop-down list. User can also select **ANSI** or **ETSI Protocol Standards** as required. Click on **Apply** and **Exit**. Refer to the below screenshot.

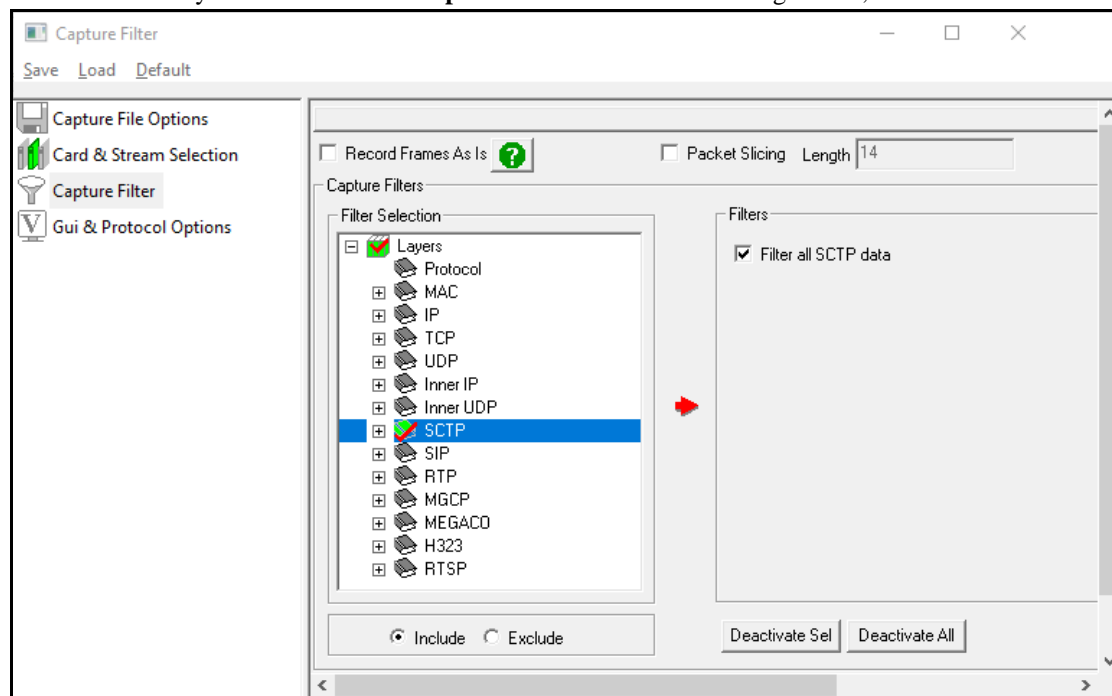




- A warning message will appear to restart the PacketScan Analyzer. Click on **OK**.
- Close the **PacketScan™** application and invoke again to apply the changes as per configuration settings.

- Select **Capture → Stream/Interface Selection** and enable the Ethernet card on which packet needs to be captured.

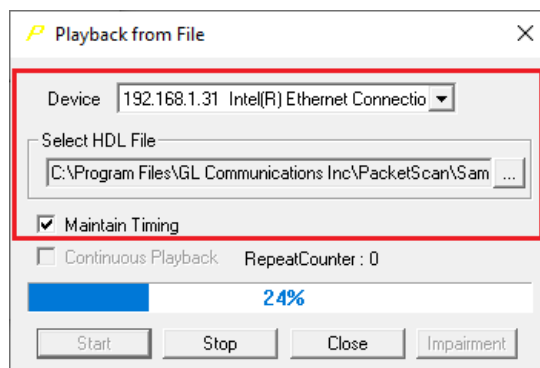


- On the left pane, select **Capture File Options** and verify that **Circular Capture Buffer** is checked.
- Now, on the left pane, select **Capture Filter** option, click **SCTP** in the Filter Selection and check **Filter all SCTP data**. Do not activate any other filters in the **Capture Filter**. After Filter configuration, close the window.

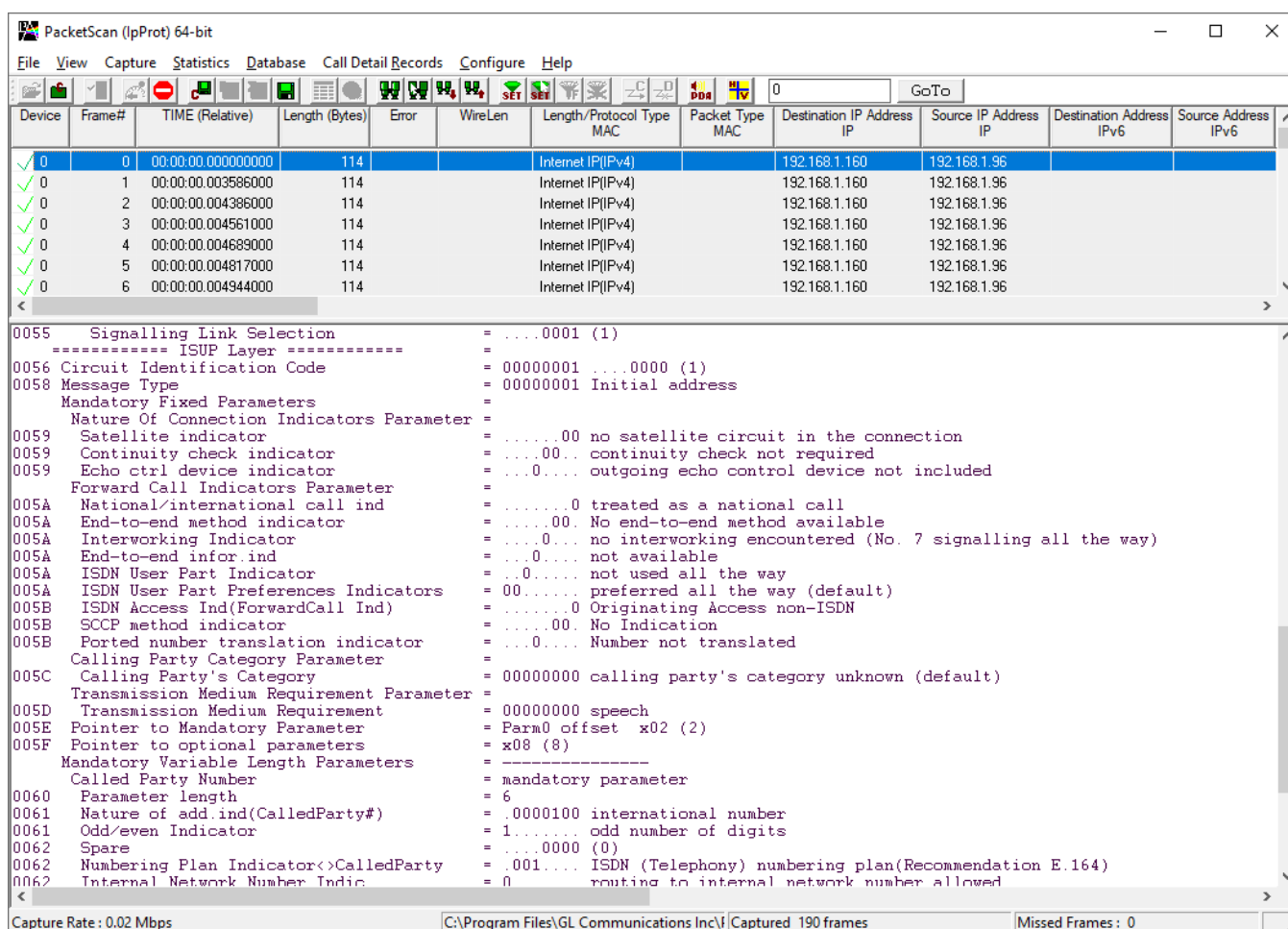


- From the **PacketScan™** main menu, select **File → Start Real-time** or Click **Start Real-time**  icon from the toolbar.
- If the Temp.hdl file already exists in the PacketScan installation directory, a warning message will appear to replace Temp.hdl file, click **Yes** to overwrite the file.
- Generate traffic by playing HDL file using PacketscanUtilities application. From the PacketScan installation directory (C:\Program Files\GL Communications Inc\PacketScan) double-click on  **PacketScanUtilities** application. This will invoke **PacketScan Utility** application.

- Select **Utilities** → **HDL Playback** from the menu.
- In the **Device** option select NIC card on which PacketScan™ Real-time capture is configured. **Note:** Ensure that selected NIC card is enabled in PacketScan™ under **Capture** → **Stream/Interface Selection**.
- In the **Select HDL File** option click on browse button to browse and select **C:\Program Files\GL Communications Inc\PacketScan\SampleTraces\Sigtran\ISUP_Sigtran_ITU.hdl** file from the PacketScan installation directory.
- Enable **Maintain Timing** option and click **Start**.



- Observe the **ISUP SIGTRAN** decodes displayed in PacketScan™ analyzer summary and detail views.




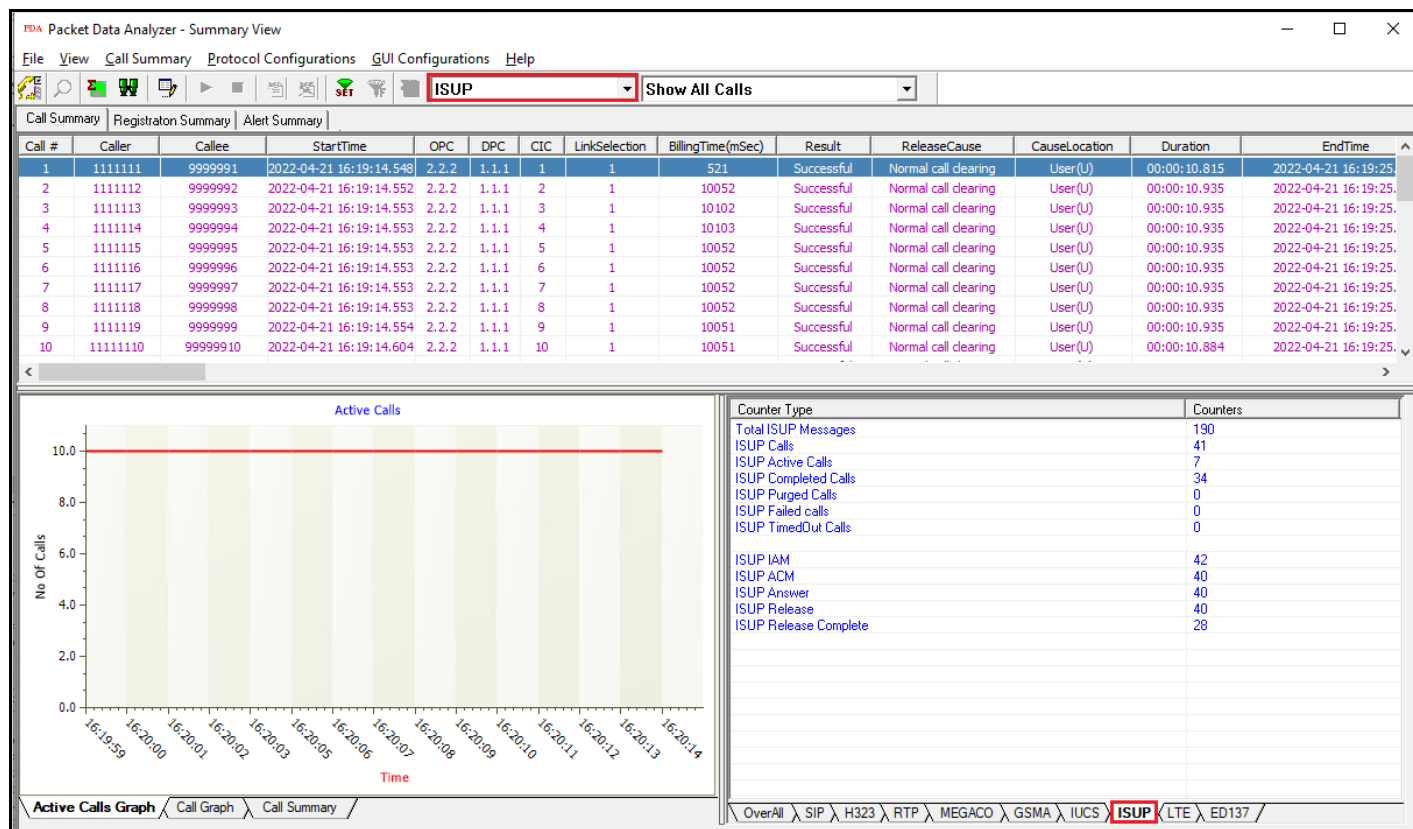
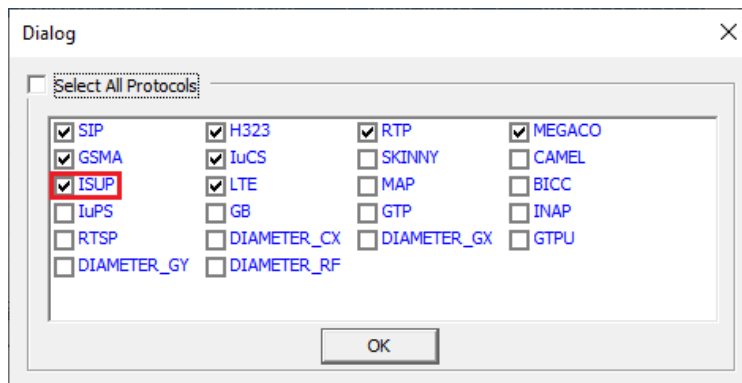
Device	Frame#	TIME (Relative)	Length (Bytes)	Error	WireLen	Length/Protocol Type MAC	Packet Type MAC	Destination IP Address IP	Source IP Address IP	Destination Address IPv6	Source Address IPv6
✓ 0	0	00:00:00.000000000	114			Internet IP(IPv4)		192.168.1.160	192.168.1.96		
✓ 0	1	00:00:00.003586000	114			Internet IP(IPv4)		192.168.1.160	192.168.1.96		
✓ 0	2	00:00:00.004386000	114			Internet IP(IPv4)		192.168.1.160	192.168.1.96		
✓ 0	3	00:00:00.004561000	114			Internet IP(IPv4)		192.168.1.160	192.168.1.96		
✓ 0	4	00:00:00.004689000	114			Internet IP(IPv4)		192.168.1.160	192.168.1.96		
✓ 0	5	00:00:00.004817000	114			Internet IP(IPv4)		192.168.1.160	192.168.1.96		
✓ 0	6	00:00:00.004944000	114			Internet IP(IPv4)		192.168.1.160	192.168.1.96		


```

0055 Signalling Link Selection = ....0001 (1)
===== ISUP Layer =====
0056 Circuit Identification Code = 00000001 ....0000 (1)
0058 Message Type = 00000001 Initial address
Mandatory Fixed Parameters =
Nature Of Connection Indicators Parameter =
0059 Satellite indicator = .....00 no satellite circuit in the connection
0059 Continuity check indicator = ....00.. continuity check not required
0059 Echo ctrl device indicator = ...0.... outgoing echo control device not included
Forward Call Indicators Parameter =
005A National/international call ind = .....0 treated as a national call
005A End-to-end method indicator = .....00. No end-to-end method available
005A Interworking Indicator = ...0.... no interworking encountered (No. 7 signalling all the way)
005A End-to-end infor.ind = ...0.... not available
005A ISDN User Part Indicator = ...0.... not used all the way
005A ISDN User Part Preferences Indicators = 00..... preferred all the way (default)
005B ISDN Access Ind(ForwardCall Ind) = .....0 Originating Access non-ISDN
005B SCCP method indicator = .....00. No Indication
005B Ported number translation indicator = ...0.... Number not translated
Calling Party Category Parameter =
005C Calling Party's Category = 00000000 calling party's category unknown (default)
Transmission Medium Requirement Parameter =
005D Transmission Medium Requirement = 00000000 speech
005E Pointer to Mandatory Parameter = Parm0 offset x02 (2)
005F Pointer to optional parameters = x08 (8)
Mandatory Variable Length Parameters =
Called Party Number = mandatory parameter
0060 Parameter length = 6
0061 Nature of add.ind(CalledParty#) = .0000100 international number
0061 Odd/even Indicator = 1..... odd number of digits
0062 Spare = ....0000 (0)
0062 Numbering Plan Indicator<>CalledParty = .001.... ISDN (Telephony) numbering plan(Recommendation E.164)
0062 Internal Network Number Indic = 0 routing to internal network number allowed
  
```

Capture Rate: 0.02 Mbps | C:\Program Files\GL Communications Inc\PacketScan\SampleTraces\Sigtran\ISUP_Sigtran_ITU.hdl | Captured: 190 frames | Missed Frames: 0

- From the **PacketScan™** main toolbar, click on the **PDA** icon  to invoke PDA (Packet Data Analyzer), from the drop-down protocol list select **ISUP** to view detail analysis of each session, call graphs and quality scores for the captured **ISUP** Traffic.
- Select **GUI Configurations → Protocol Statistics Display Configuration** this will display **Dialog** window. Check the **ISUP** option to view the **ISUP** counters on PDA. Refer to the below screenshots



Note:

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