Command Line based ISDN Emulator



Overview

GL's flexible and versatile ISDN Emulator is available as GUI based and scripted applications with T1/E1 Analyzer, through which the various ISDN configurations can easily be created. The scripted ISDN Emulator is similar to GUI ISDN Emulator functionality, which emulates ISDN calls over T1/E1 links. It also allows configuring the ISDN layer parameters, called/calling numbering plan/type, ISDN service type, place / accept call for each timeslot or for the whole trunk, switch and subscriber emulation, simple NFAS setup for T1, and performs various other tasks on remote clients. Additionally, the Windows Client-Server based ISDN Emulator application offers following advantages –

- Simultaneous testing of high capacity T1/E1 systems through a single client
- Remotely control ISDN emulation using simple commands by client applications
- Collection of call records from remote locations

For more details, refer to Command-line based ISDN Emulator webpage.

Main Features

- Switch and Subscriber emulation
- Performs simple NFAS setup for T1
- Call records for complete or incomplete calls
- Place call or accept call for each timeslot or for the whole trunk

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Specifications

ISDN Standards Compliance

- USA ISDN AT&T, Bellcore, National ISDN-2, Nortel, DMS-250, Siemens EWSD
- Euro ISDN Belgium, China, Europe, France, Britain, Germany, Sweden
- ASIA ISDN Australia, Hong Kong, Japan, Singapore and QSIG

ISDN Signaling

- Available Protocol Layers LAPD, Q.931
- Maximum Links 1 to 4

Scripted ISDN Emulation

The client-side application initializes ISDN Emulator on server side, and configures the ISDN layer parameters such as called / calling numbering plan/type, type of ISDN service, switch and subscriber emulation, and place call or accept call for each timeslot or for the whole trunk. The sample script below demonstrates a simple ISDN place-answer call scenario.

Sample script for Call Function

```
run task "ISDNSvrT:ISDNSvr";
inform task 1 "SetISDNProt USA AT&T#4ESS Subscriber #1";
inform task 1 "SetISDNProt USA AT&T#4ESS Switch #2";
inform task 1 "GetISDNProt #1..2";
inform task 1 "StartDChan #1..2";
inform task * "PlaceCall 5551234 5551000 #1:1..31";
inform task * "AnswerCall #2:1..31";
inform task * "DisconnectCall CAUSE_NORMAL_CLEAR #1:1..31";
```

The above script places a call by specifying the called and calling number on all timeslots of card #1. The next task answers the call on all timeslots of card #2. With the third task the successfully established call is disconnected for the specified cause code (Normal Clear).



ISDN Call Functions

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NFAS Grouping (Non-Facility Associated Signaling)

The client-side application also allows users can perform simple NFAS setup for T1. NFAS is a standard option available for ISDN call processing system. NFAS Group-configuration allows number of trunks to be classified into groups, with each group having a unique and identifiable D-Channel. The sample script below demonstrates an ISDN place-answer call with NFAS setup.

Call Placed on Single TS (T1)

```
run task "ISDNSvrT:ISDNSvr";
               "SetISDNProt USA AT&T#4ESS Subscriber #1,2";
inform task 2
               "SetISDNProt USA AT&T#4ESS Switch #3,4";
inform task 2
               "GetISDNProt #1..4";
             2
inform task
               "SetIsdnNfas 1 Primary_D 0 #1";
inform task 2
               "SetIsdnNfas 1 None 1 #2"
inform task 2
              "SetIsdnNfas 2 Primary_D 0 #3";
"SetIsdnNfas 2 None 1 #4";
inform task 2
inform task 2
               "GetIsdnNfas #1..4"
inform task 2
               "StartDChan #1..4";
inform task 2
               "GetStatistics #1..4"
             2
inform task
               "ResetStatistics #1..4";
             2
inform task
               "PlaceCall 5551234 5551000 #2:23";
"AnswerCall #4:23";
             2
inform task
             2
inform task
               "SetAutoReject_On_CAUSE_REJECTED #4";
inform task 2
               "DisconnectCall CAUSE_NORMAL_CLEAR #2:23";
inform task 2
inform task 2
               "StopDChan #1..4";
end task*;
```

Above script groups Trunk 1-Trunk 2 (Group 1), and Trunk 3-Trunk 4 (Group 2) with one trunk in each NFAS group set as 'Primary D-Channel'. Here Trunk 1 is the Primary D-Channel in NFAS group 1 and Trunk 3 is the Primary D-Channel in NFAS group 2.

The script places the call on TS 23 of Trunk 2 and answered on TS 23 of Trunk 4. So, the signaling channel on Trunk 2 and 4 is free for Traffic.

🐉 ISDNSvr_T1.gls - GLClient	
<u>File E</u> dit <u>V</u> iew Connect Script Log User <u>H</u> elp	
D 😅 🖬 X 🖻 🛍 🚭 📪 🎌 D 🚅 🖬 🛤 🐌 🖶 🔒 💡	
inform task "SetIsdnNfas 2 Primary_D 0 #2";	
Task 2 informed	
Task 2: Trunk#2 Set ISDN NFAS Group=2, DChanType=Primary_D, IFId=0	
inform task "SetIsdnNfas 2 None 1 #1";	
Task 2 informed	
Task 2: Trunk#1 Set ISDN NFAS Group=2, DChanType=None, IFId=1	
inform task "GetIsdnNfas #12";	
Task 2 informed	
Task 2: Trunk#1,ISDN NFAS Group=2,DChanType=None,IFId=1,	
Task 2: Trunk#2,15DN NFA5 Group=2,DUnanType=Primary_D,IFId=0,	
Took 2 informed	
//////////////////////////////////////	
run task "ISDNSvrT:ISDNSvr";	
inform task "SetISDNProt USA A1&1#4ESS Subscriber #1,2";	
Inform task "SetISDNProt USA AT&T#4ESS Switch #1,2";	
inform task "GetiaDNProt #12";	
inform task "Setisunitias i Primary_D 0 #1"; inform task "Setisda Mfas 1 None 1 #2";	
inform tack "Satisfundas i None i #2 , inform tack "Satisfundas 2 Driman, D 0 #2"	
inform tack "SetlednNfac 2 None 1 #1"	
inform task "GetIsdoNfas #1, 2"	
inform task "StartDChan #1?":	
inform task "GetStatistics #12":	
Inform took "DoostCtatiation #1_Ally	_
Ready Ver 4 B NUM	1 //

NFAS Grouping

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Buyer's Guide

Item No	Product Description
<u>XX629</u>	WCS based ISDN Emulator
Item No	Related Software
<u>XX105</u>	ISDN Emulator - GUI based (T1 or E1)
<u>XX100</u>	ISDN Analysis Software (T1 or E1)
<u>XX090</u>	HDLC Capture and Playback Software (T1 or E1)
<u>XX130</u>	T1 or E1 Real-Time Frame Relay Protocol Analyzer
Item No	Related Hardware
<u>PTE001</u>	tProbe™ T1 E1 Base Unit

<u>FTE001</u>	QuadXpress T1 E1 Main Board (Quad Port- requires additional licenses)	
ETE001	OctalXpress T1 E1 Main Board plus Daughter Board (Octal Port- requires additional licenses)	
<u>XTE001</u>	Dual Express (PCIe) T1 E1 Boards	

Note: PCs which include GL hardware/software require Intel or AMD processors for compliance.

For more details, refer to <u>Command-line based ISDN Emulator</u> webpage.



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