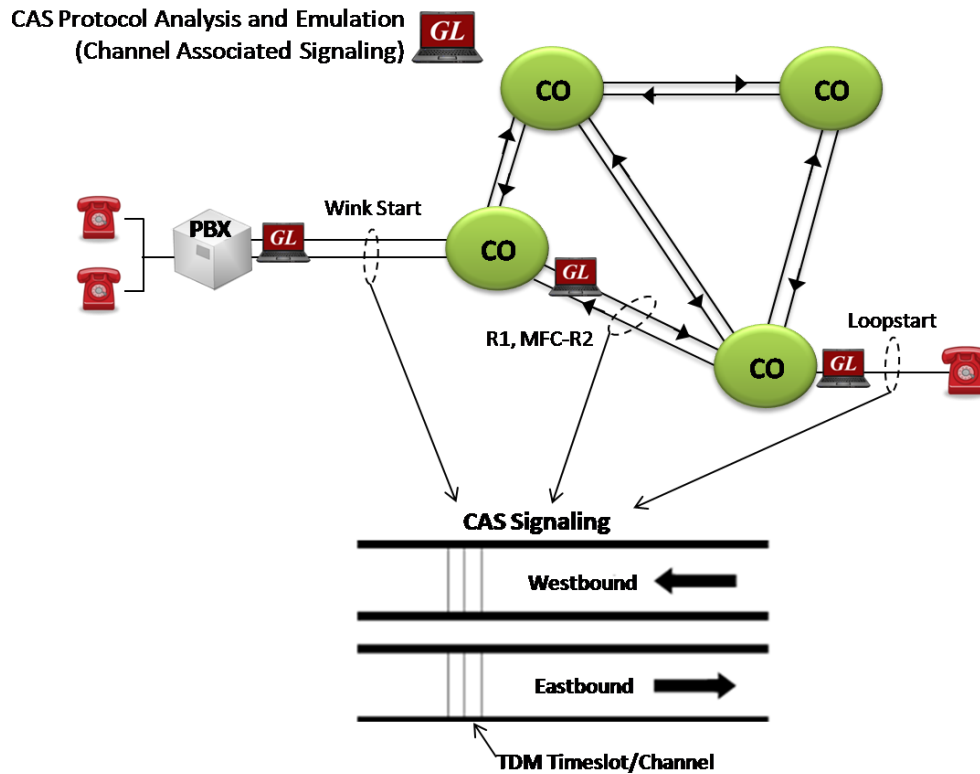


Channel Associated Signaling (CAS) Simulator



Overview

Channel Associated Signaling (CAS) is a method of signaling in telephone networks where each channel or timeslot carrying speech also carries with it the signaling and addressing to set up and tear down that same channel. CAS signaling types include Loopstart, Groundstart, Feature Group D (FGD), Winkstart, MFC-R2 and others.

GL's [Channel Associated Signaling \(CAS\) Simulator](#) is a client-side application that works along with GL's T1 E1 Analyzer Cards and Windows Client/Server software. It is an optional application that simulates any user defined CAS protocol by providing signaling bit transitions and forward/backward frequency digits and tones.

CAS emulation is also available with GL's **Message Automation and Protocol Simulation (MAPS™)**. MAPS™ is a multi-protocol, multi-technology platform used for the emulation of a variety of communication protocols over IP, TDM, and Wireless networks. [MAPS™ CAS](#) can automate the testing procedure allowing the users to establish calls, and send/receive TDM traffic such as DTMF/MF digits, Tones, Fax, and Voice.

In addition, GL supports various E1 MFCR2 analysis and simulation solutions.

For more information, please visit [MFC R2 Analysis Simulation](#) webpage.

Supported Protocols

- E1 MFC-R2 (All variants, full /semi compelled)
- E1 European Digital CAS (EUC), Digital E & M, International Wink Start
- E1 AP2 (Australian P2 protocol)
- T1 Winkstart (R1 wink)
- T1 Loopstart , Groundstart, Immediate Start , Feature Group D
- Any User-Defined CAS Protocol



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Main Features

- Accesses the T1 (or E1) analyzer remotely
- Supports called number and calling number identification
- Customized signaling for each channel through scripts
- Ready-to-use scripts for quick testing.

Call Generation/Reception with Signaling Status

GL's CAS Simulator processes the receipt of Dialed Number Identification Service (DNIS) and Automatic Number Identification (ANI) information, which is used to support addressing, routing and other functions. The screenshots to the right display the manual call generation, and call control features available in GL's CAS Simulator.

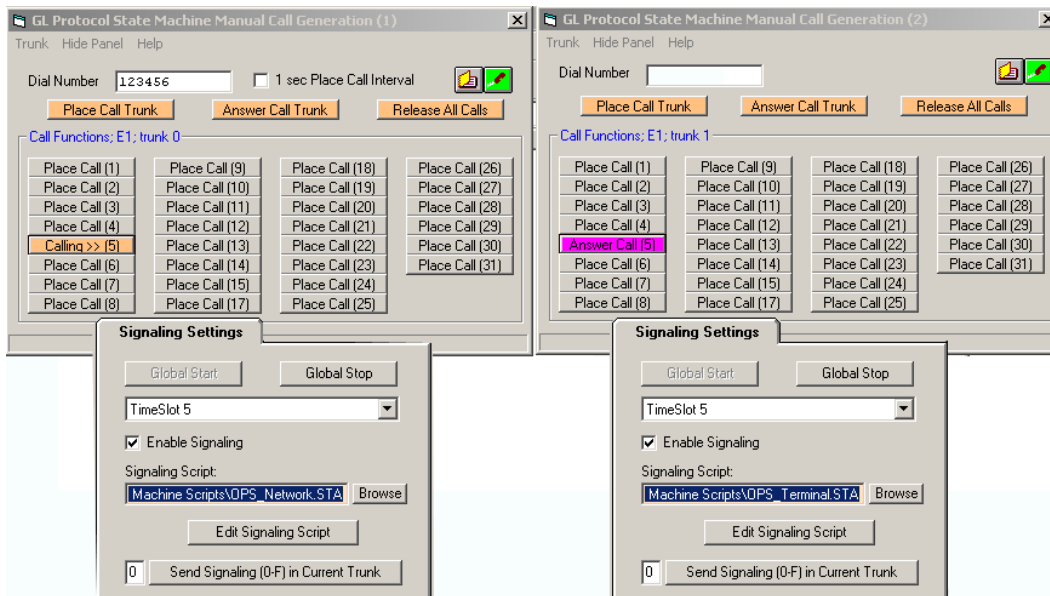


Figure: Call Generation/Reception with Signaling Status

Flash Hook

The application also provides a way for the users to send a Flash Hook signal manually. Users can vary Flash Hook On Signal (O-F), Flash Hook Off Signal (O-F) and Flash Hook Interval (ms) for a given timeslot.

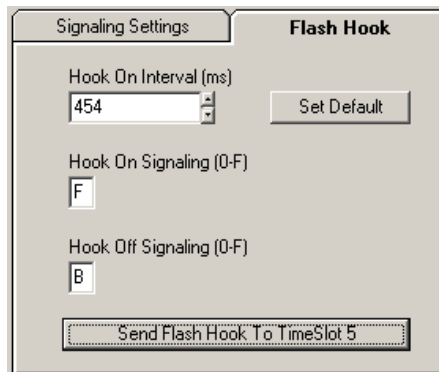


Figure: Flash Hook

Capture Events

GL's CAS Simulator **Status Events** screen chronologically lists the entire CAS State Machine signaling bit transitions, digit detections, and tone detections generated by each timeslot of trunks. These transitions can be directed to a text (.txt) file in real-time or after they have appeared in the events list.

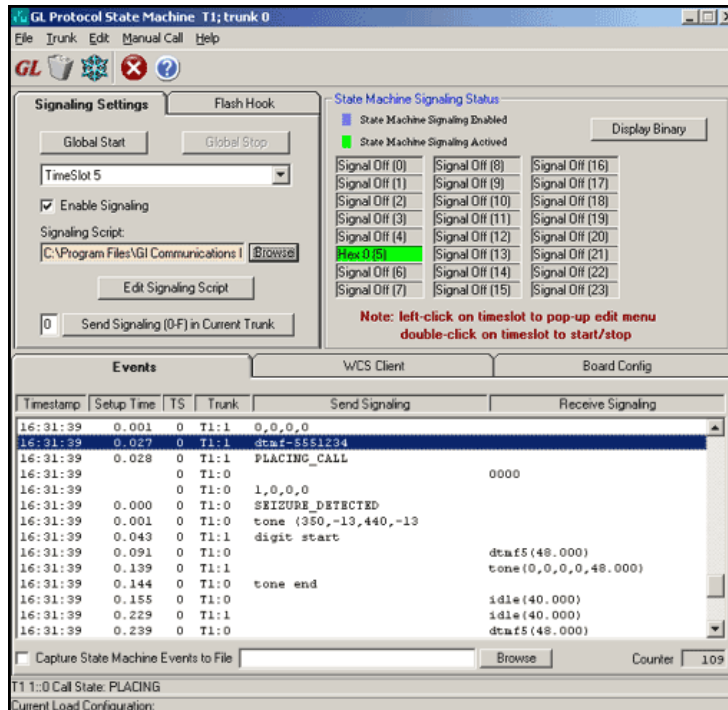


Figure: Capture Events

Script Editor

The GL CAS Simulator script is based on a self-describable language that can define the behavior of CAS Call Control procedure. Functions such as Place Call, Answer Call, Incoming Call, and Disconnect call are all defined within the script. Additionally more advanced script may also be defined in the script editor. Definitions for Signaling Bit Transitions and forward/backward digits/tones are user definable within each script.

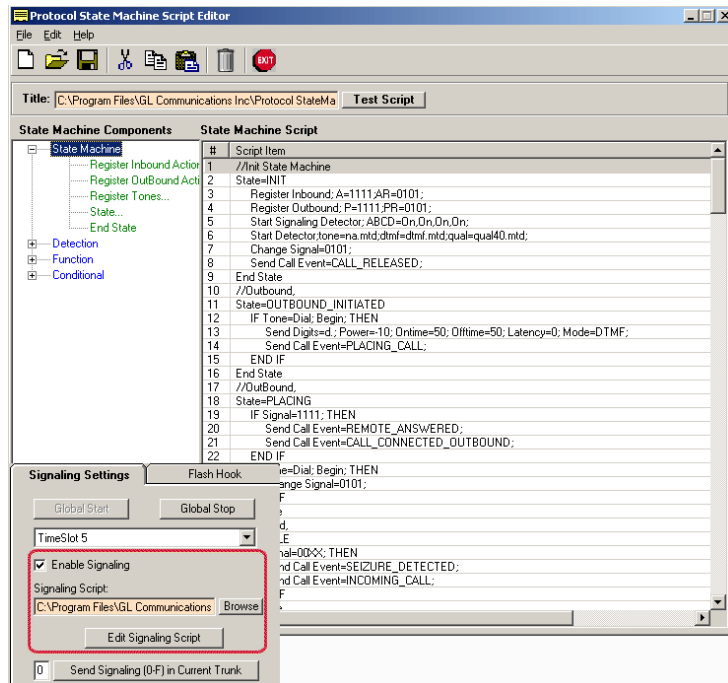


Figure: Script Editor

MAPS™ CAS Emulator

MAPS™ CAS Emulator automates the testing procedure allowing the users to establish calls, and send/receive TDM traffic such as DTMF/MF digits, Tones, Fax, and Voice .

Supports testing of various protocols such as T1 Wink Start (R1 wink), T1 Loop Start and T1 Ground Start, T1 Feature Group D, T1 Immediate Start, E1 MFC-R2 (All variants, full /semi compelled), E1 European Digital CAS (EUC), E1 Digital E & M, E1 International Wink Start, and Any User-Defined CAS Protocol.

E1 MFC-R2 Signaling defined by the ITU Recommendations Q.421-Q.442, uses a multi-frequency compelled signaling protocol to exchange address information. Sends MFC-R2 forward and backward tones per CCITT specifications. Currently, MAPS™ CAS includes ready profiles for India, China, and Mexico. Different country specific implementations will be supported in future.

For more information, please visit [MAPS™ CAS](#) webpage.

The screenshot displays the MAPS (Message Automation Protocol Simulation) (CAS) - [Call Generation - Untitled] application interface. The main window shows a table with columns: Sr., Script Name, Profile, Call Info, Script Execution, Status, Events, Events Profile, Result, Total Itera... The table contains one row with Script Name 'T1_R1_Place Call.gls', Profile 'Card1-TS00', Call Info '0', Script Execution 'Abort', Status 'Call Connected', Events 'OutboundReleaseCall', Result 'Pass', and Total Itera... '1'. Below the table are buttons: Add, Delete, Insert, Start, Abort, Refresh, Start All, Abort All. A 'View Executing Line' checkbox is checked. The 'Script Contents' pane shows a VBS script with a 'mainloop' section. The bottom window is titled 'Events' and has tabs for 'Event Log', 'Error Events', and 'Captured Errors'. The 'Event Log' tab is active, showing a table with columns: Data/Time, Call Trace Id, Script Id, and Captured Events. The table lists various events such as 'Detected Signal=1, 1, 1', 'Seizure Detected', 'Seizure Acknowledged', 'Placing Call: 5', 'Dialing', 'Digits not Detected', 'Call Released', etc. A 'Clear' button is at the bottom left of the Events window.

Figure: Call Generation/Reception and Event Log

Buyer's Guide

Item No	Product Description
XX625	w/Channel Associated Signaling Simulator

Item No	Related Software
XX651	MAPS™ CAS Protocol Emulator
XX022	DTMF/MF/MFR2 Detector and Generator Software
XX020	Record/Playback File Software
XX030	MFC-R2 Call Capture and Analysis Software
XX610	w/ Transmit and Receive File Capability
XX620	w/ DTMF/MF/MFC-R2 + answer/place call Capability
XX630	w/ DSP Capability

Item No	Related Hardware
PTE001	tProbe™ Dual T1 E1 Laptop Analyzer (Require Basic Software)
FTE001	QuadXpress T1 E1 Main Board (Quad Port)
ETE001	OctalXpress T1 E1 Daughter boards (Octal Port)
XTE001	Dual Express (PCIe) T1 E1 Boards
TTE001	tScan16™ T1 E1 Boards

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

For more information, please visit [Channel Associated Signaling Simulator](#) webpage.



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