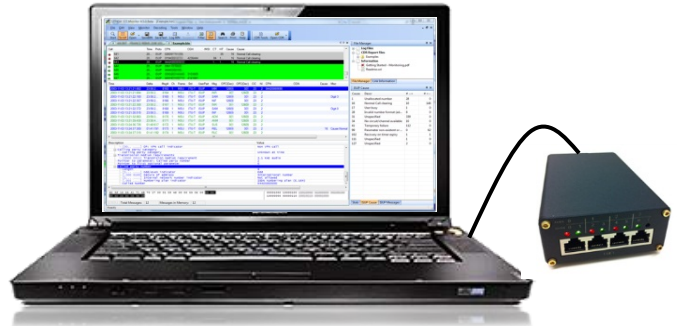


The STINGA product family covers solutions for:

- **Network Monitoring & Analysis**
- **Protocol Simulation & Analysis**

**STINGA Protocol Simulator** is suitable for SSP, STP, SCP, SGP, ASP, ISDN PRI NT & TE, V5 LE & AN simulation, intelligent network testing, mobile testing, error tracking, interconnect testing, regression testing, conformance testing, load & performance testing and more.

Protocol stacks within SS7, SIGTRAN, ISDN PRI and V5 networks are supported.



## Features

### Simulation of SS7oTDM and SS7oIP:

- SCTP, M2PA and M3UA Protocol State Machines:
  - Simulating an SGP handling several ASPs
  - Simulating one or more ASPs
  - Multiple routing keys
  - Scriptable handling of M3UA endpoints and SCTP associations
  - Multiple SCTP associations and SCTP streams
  - CRC-32c and Adler-32 checksum support
- MTP2 Protocol State Machine - multiple MTP links
- Automatic handling of MTP2 and MTP3 SMH
- ISUP and TCAP Protocol State Machines
- Win32 API for integration with 3<sup>rd</sup>-party solutions

### Simulation of ISDN PRI:

- ISDN PRI Protocol State Machine
- Simulation of ISDN PRI TE and NT

### Simulation of V5:

- Simulation of V5 LE and AN
- Supporting pure E1 and V5 line interfaces making it possible to simulate LE connected to PBX and AN

### General Features:

- Simulation on multiple TDM (E1/T1/J1) interfaces and timeslots
- Simulation on dual electrical and optical Ethernet interfaces
- Script-based testing
- Script Editor and Parameter Builder
- Automatic response to incoming messages
- Conformance Test Suite Framework
- Call Generator for Load & Performance Testing
- Voice input/output through PC microphone/speakers
- DTMF generation and detection
- Real-time and offline decoding and analysis
- Call Trace and Interleaved Message Trace
- Call Detail Record (CDR) generation, reporting, search & filtering
- Advanced Message and Call Trace Filtering
- Message Flow Diagram
- ITU, ETSI, ANSI, Japan TTC, Chinese ITU and national protocol standards supported
- Portable laptop and desktop solutions
- TDM hardware: USB, ExpressCard, PCI and PCIe
- Ethernet hardware: Standard onboard or PCIe
- Running on Windows 10, Windows 8, Windows 7, Windows Server 2008 R2 and Windows Server 2012 R2 (32-bit and 64-bit)

## Specifications

### Interfaces:

- TDM (E1/T1/J1) interfaces
  - E1/T1/J1 alarm signals and link status
  - MTP (ITU, ANSI, Japan TTC, Chinese ITU)
- Ethernet interfaces (10/100/1000) – electrical and optical
  - Ethernet, IP
  - SIGTRAN: SCTP, M2PA, M3UA
  - SIP-T

### SS7 Simulation:

- ISUP (ITU, ANSI, UK, SPIROU, Japan TTC)
- BICC (ITU, UK)
- TUP (ITU, Chinese ITU, SSUTR2, IUP)
- SCCP (ITU, ANSI, Japan TTC, Chinese ITU)
- TCAP (ITU, ANSI)
- INAP (INAP CS1, INAP CS2, INAP CS1+ variants)
- CAP, MAP, SMS
- IS-41/ANSI-41, IS-637, IS-826, IS-848
- Supplementary Services

### ISDN PRI Simulation:

- DSS1 layer 2 (Q.921/I.441)
- Euro-ISDN layer 2, LAPD, LAPDE, LAPB, LAPBE
- DSS1 layer 3 (Q.931/I.451)
- Euro-ISDN layer 3
- North American National ISDN-2 (NI-2)
- X.25 (B and D channel, layer 3)
- Layer 6 and 7, ASN.1 (Supplementary Services)

### V5 Simulation:

- V5-Protection, V5-Link Control, V5-Control, V5-BCC, V5-PSTN
- LAPV5-EF, LAPV5-DL, LAPD
- ISDN PRI, ISDN BRI

## Software & Hardware

### Software Modules:

- 20551: STINGA SS7 Simulator, SS7oTDM
- 20561: STINGA SS7 Simulator, SS7oIP
- 20562: STINGA SS7 Simulator, SIP-T
- 20563: STINGA SS7 Simulator, SCTP
- 20531: STINGA ISDN PRA Simulator
- 20536: STINGA V5 Simulator

### Hardware Modules:

- 20146: PIST-8M-TDM-USB, 4xE1/T1/J1 (4 x TX/RX, 4xRX/RX)
- 20147: PIST-8-TDM-PCIe, 8xE1/T1/J1
- 20160: PIST-55x4-ASM (req. by PCIe cards)



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