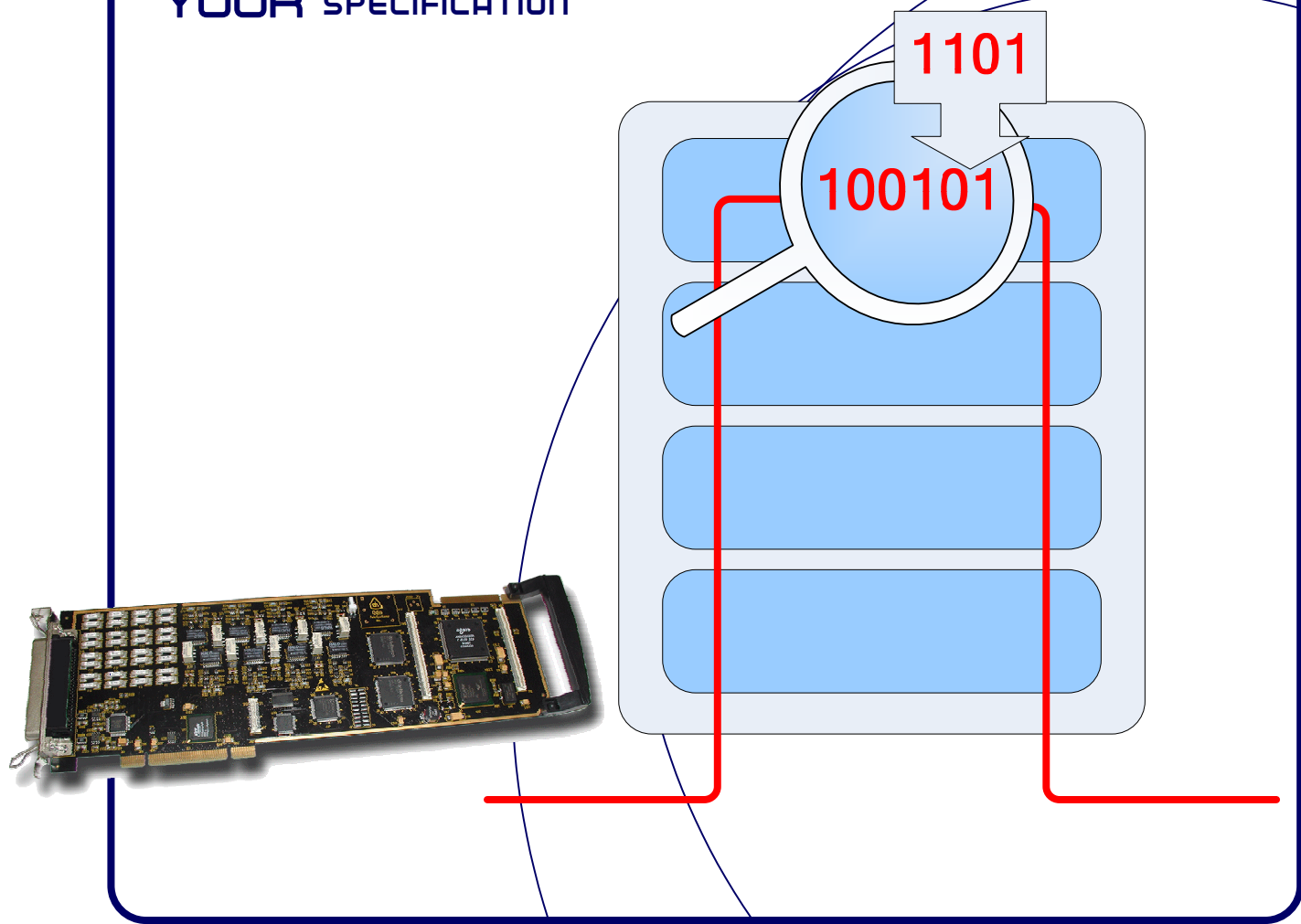


STINGA

DROP INSERT SERVER

DROP INSERT SERVER FOR
DIFFERENT PROTOCOLS ON
YOUR SPECIFICATION



GAIN CUSTOMERS AND MONEY BY IMPROVING YOUR NETWORKS

WHETHER YOU'RE INTO MOBILE, VOIP, PSTN, OR ISDN BUSINESS,
GET ON TOP OF YOUR PROBLEMS NOW!



Your customers will notice

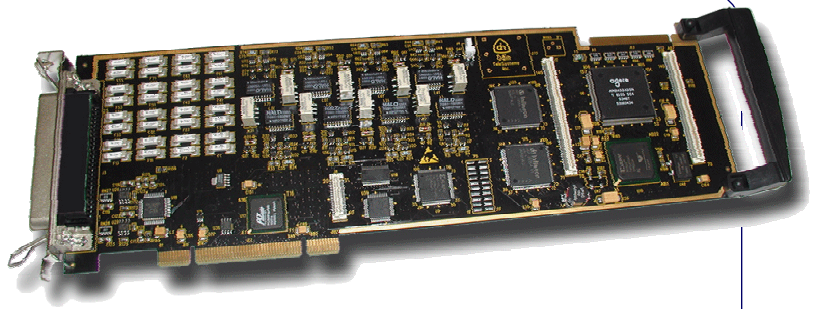


Odin TeleSystems Inc.
Open Telecom for Open Minds

STINGA DROP INSERT SERVER OVERVIEW

IMPROVED BUSINESS WITH LOW COST SOLUTIONS

- ◆ Helps you to get the most out of your existing investments in your network
- ◆ Helps you to reduce Time To Market (TTM)
- ◆ No 1st or 2nd line support anymore, you have 3rd line support directly by world class specialists
- ◆ Tailor made solutions in just a few days
- ◆ Training available by highly experienced and skilled protocol and signalling specialists



KEY FEATURES

- ◆ Drop-Insert Server for any protocol on your specification
- ◆ Any part of any message can be changed in real time
- ◆ PCI based solution for E1/T1/J1 interface or a normal Network Interface Card (NIC) for IP
- ◆ Support for many concurrent E1/T1/J1 interfaces on the same PC
- ◆ Support for implementation of many customer specified functions per E1/T1/J1 interface or IP address
- ◆ Manipulate up to 12 time slots per E1/T1/J1 interface

OVERVIEW

Components

The cost-efficient STINGA Drop-Insert Server from Utel Systems comprises the following components:

- ◆ One or more PCI hardware cards with E1/T1/J1 line interfaces or a NIC
- ◆ A software module based on your specifications

Concept

The content of a message in a timeslot can be changed depending on customer specified criteria. Every message and parameter can be checked and parts of the message data modified. All user parts and protocols can be manipulated e.g. ISUP, INAP and MAP.

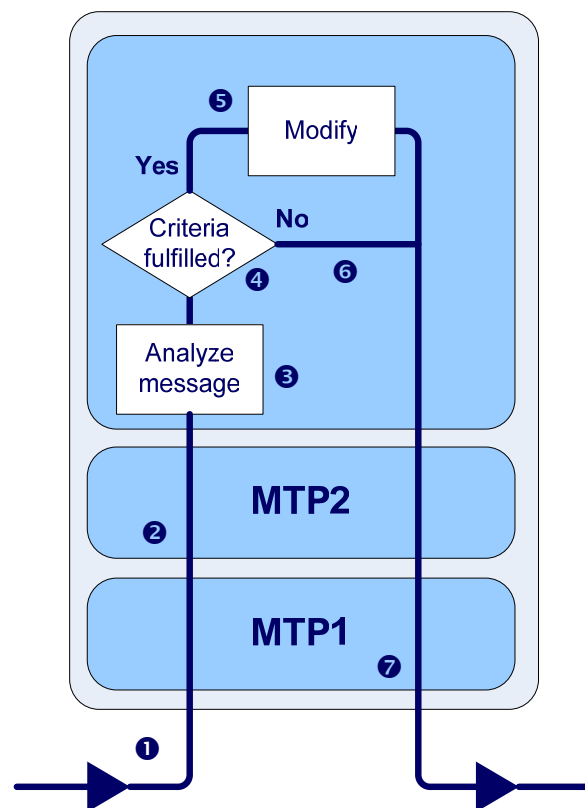
Normally the user timeslots are through connected. By analyzing the messages and parameters in the signalling timeslot, this information can be used as a trigger and the content in the user channel can be manipulated.

The Drop-Insert Server does not need a point code (only relevant for SS7), since all the MTP messages are through connected.

In case of E1/T1/J1 interfaces layer 1 is terminated on each side. In case of IP, the IP addresses to the communicating devices have to be set up.

Basic functionality

To explain how the STINGA Drop-Insert Server works we have explained the case where an E1/T1/J1 interface is used.



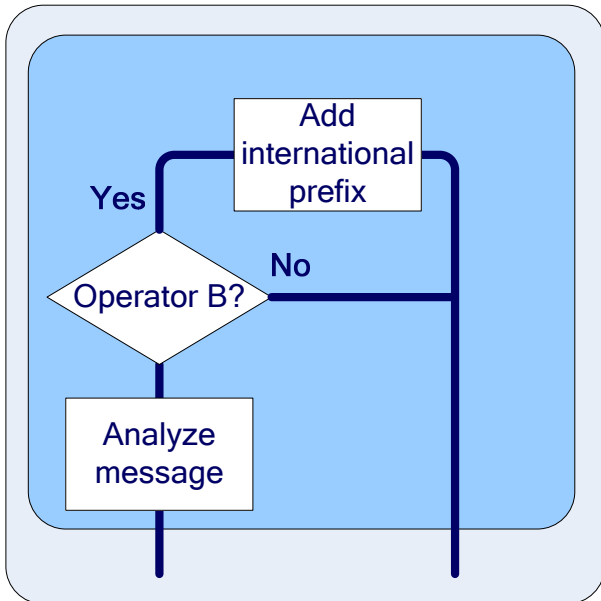
Basic functionality of the STINGA Drop Insert Server using a E1/T1/J1 interface.

The SS7 messages are received on the E1 interface from the line ①. A protocol stack ② takes care of the physical layer and the link layer, and the messages is passed on for analysis ③. If the customer specified criteria is not met ④, no modification will take place ⑥, and the message is sent out on the outgoing link ⑦. However, if the criteria ④ are met, the message is modified ⑤ according to the functionality specified by the customer. The modified message is sent on the outgoing link ⑦.

STINGA DROP INSERT SERVER APPLICATION AREAS

APPLICATION EXAMPLES

Prefix for calling party number



Operator A in country A receives calls from operator B in country B. Operator A receives calls from many other operators around the world, always with an international prefix. The problem with operator B is that this operator does not send an international prefix. Operator A would like to have international prefix from all operators, but have to find some solution himself since operator B won't agree to put an international prefix on the messages sent to operator A. Operator A has to find a solution himself. The solution is to put a STINGA Drop Insert Server on the international link where operator B's calls are received. The server analyses all the messages, and when an IAM message is received from operator B, the message will be modified to include the international prefix. No expensive custom changes were necessary to be implemented on any exchange in operator A's network. Operator A saved both a lot of time and money.

Rejection of certain mobile subscribers
Operator A offers international roaming services for certain mobile subscribers from operator B. The problem is that operator A has to upgrade his exchange for an unacceptable cost to implement this service for operator B. The solution was to acquire a STINGA Drop Insert Server. The list of all

subscribers from operator B that are allowed to roam to operator A's network was stored on the Drop Insert Server. If a roaming subscriber from operator B was identified by the list the call setup was allowed to proceed. However, if a roaming subscriber from operator B was not identified by the list, his IMSI number was changed to zero. When operator B's exchange received a call from operator B's exchange with IMSI set to zero, naturally the call was terminated because operators B's exchange regarded the IMSI number as invalid.

So what really took place within the STINGA Drop Insert server? The messages from, in this case, the E1 interface were handled by the internal MTP protocol stack making the messages available to the system. All MAP messages were decoded, and the IMSI numbers compared to the list. Then the MAP messages were changed if the criteria for that were met. Lastly the MAP messages were coded and sent to operator B through the MTP protocol stack end E1 interface.

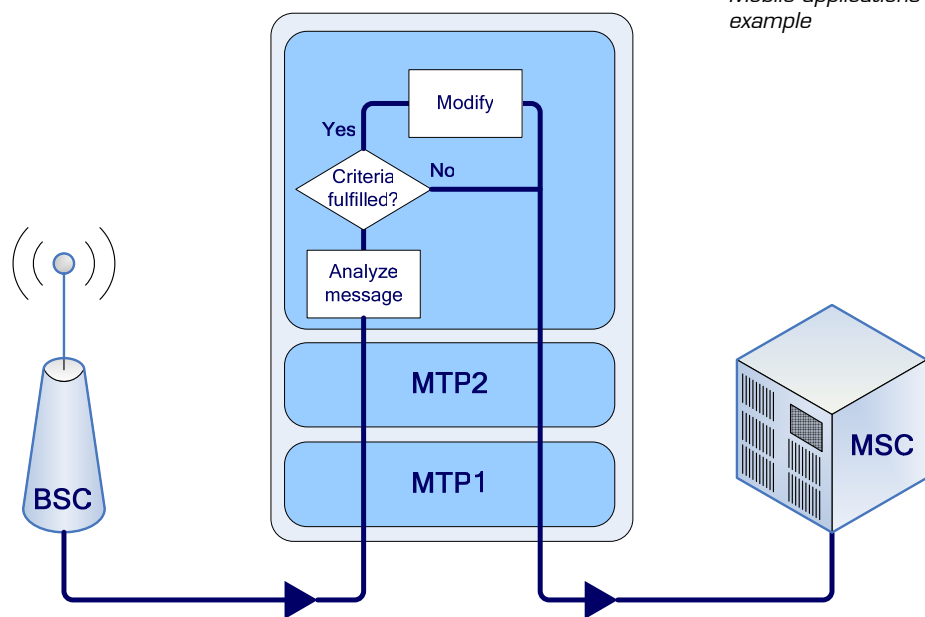
DTMF

It is possible to monitor the speech channel for specific DTMF numbers. Depending on the number received, a new number can be issued in place of the old one depending on the criteria specified.

Mobile applications

It is possible to modify the messages between the BSC (Base Station Controller) and the MSC (Mobile Switching Center) on the A interface. It is also possible to modify messages on the Ga, Gi, Gn and Gp interfaces. All parameters and data can be used to determine the data and parameter modifications necessary to implement a certain function.

Mobile applications example



STINGA DROP INSERT SERVER SPECIFICATIONS

TECHNICAL SPECIFICATIONS

Hardware & Software Requirements

- ◆ Software modules running on Windows Vista/XP/2003 Server/2000.
- ◆ Half or full length PCI cards with up to eight E1/T1/J1 interfaces.

Protocols Supported

- ◆ E1/T1/J1 interfaces
 - ◆ E1/T1/J1 alarm signals and link status
- ◆ SS7
- ◆ GSM
- ◆ CDMA
- ◆ GPRS
- ◆ NGN
- ◆ ISDN
- ◆ V5
- ◆ Other protocols and national protocol variants are implemented on customer requests.

Cables

Cables included with the E1/T1/J1 interface card:

- ◆ One 1:1 twisted pair cable with RJ45 connectors for simulation (TE).

Options

Optional products available for the E1/T1/J1 interface card:

- ◆ Impedance Converter: A small external adapter for 75 Ohm dual coax (BNC or Type 1.6/5.6) termination to 120 Ohm twisted pair RJ45 termination. No AC power or batteries required.

Related Products

- ◆ STINGA BICC Monitor & Simulator
- ◆ STINGA IRI Analyser
- ◆ STINGA ISDN PRA Monitor & Simulator
- ◆ STINGA ISDN BA Monitor & Simulator
- ◆ STINGA MEGACO Monitor & Simulator
- ◆ STINGA MOBILE Monitor
- ◆ STINGA NGN Monitor
- ◆ STINGA PNNI Monitor & Simulator
- ◆ STINGA SCTP Simulator
- ◆ STINGA SIP Simulator
- ◆ STINGA SS7 Monitor & Simulator
- ◆ E1/T1/J1 support for Wireshark (Ethereal)

Note: The **BICC** products includes all the functionality of the **SS7** products, in addition to support for the **BICC** protocol. The **SS7** test instruments can easily be upgraded to the **BICC** products.

Manufacturer

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