



# NETBRICKS

## IWF-Bricks ISDN

### ISDN-SIP SIGNALLING GATEWAY

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#### ISDN-SIP SIGNALLING GATEWAY FEATURES

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*ISDN SIP SIGNALLING GATEWAY* (IWF-Bricks ISDN) consists of the following main software entities:

- q MPH and PH : Physical Framer and Transceivers and HDLC drivers with an optional HDLC by software solution,
- q DL : Data Link,
- q NS : Network Signaling,
- q CC : Call Control.
- q SIP, SSC : Session Initiation Protocol,
- q ISDN-SIP-GW : ISDN-SIP signaling Gateway

PH implements PRI layer 1 :

- q "F" User side Finite State Machine,
- q Alarm reporting,
- q Statistics reporting,
- q Provisioning and re-provisioning,
- q Support of Infineon QUAQ-FALC (4xE1, 4xT1, 4xJ1),
- q Standard : ITU-TS I.431 (E1), ANSI T1

PH implements for a synchronous full duplex bit stream :

- q Frame delimitation (HDLC frame),
- q HDLC bit stuffing and un-stuffing,
- q CRC16 calculation and error detection,
- q Error Rate Monitoring (Alignment and Normal),
- q Provisioning and re-provisioning,
- q PH and Management APIs,
- q Support of Infineon QUAQ-FALC:
- q Standard : ISO HDLC 3309

Data Link (DL) implements the following functions :

- q TEI management,
- q Core DL,
- q Error correction,
- q Provisioning and Re-provisioning,
- q APIs,
- q Standards : ITU-TS Q.921, ETSI ETS 300 125,

Network Signaling (NS) implements the following functions :

- q Access on demand,
- q Q.931 syntax encoder decode,
- q Q.931 Finite State Machine,
- q Provisioning and Re-provisioning,
- q APIs.
- q Standards : ITU-TS Q.931, ETSI ETS 300 403.

Call Control (CC) implements the following functions :

- q Management of call parameters,
- q Provisioning and Re-provisioning,
- q APIs,
- q Standards : ITU-TS Q.931 and ETSI ETS 300 403,

Session Initiation Protocol SIP implements:

- q SIP protocol in compliance with IETF RFC 3261 and numerous IETF, 3GPP and ETSI extensions for IMS,
- q Transport layer control through a socket adaptation layer mapping local OS SCTP/TCP/UDP/IP interface,

SIP Session Controller SSC implements:

- q Authentication and registration procedures using SIP protocol,
- q Handling of SIP user profiles.

ISDN-SIP IWF Signaling Gateway Call control implements the signaling conversion between ISDN and SIP.

- q System management entity SM
  
- q ISDN drivers :
  - q MPH Physical management entity (line interface)
  
  - q PH entity (HDLC) :
    - ◆ HDLC Interrupt Service Routine.
    - ◆ PH entity
  
- q ISDN stack :
  - q MDL Data Link Management entity
  
  - q DL entity (LAPD)
  
  - q MNS Network Signaling Management entity
  
  - q NS Network Signaling entity
  
  - q CC Call Control entity
  
- q API :
  - q MANAGEMENT-INT entity
  
- q SIP :
  - q SIP and SIP Session Controller entities
  
- q ISDN-SIP signaling gateway :
  - q ISDN-SIP-IWF entity

By replacing ISDN physical and data link layer by Netbricks SIGTRAN-Bricks (SCTP / IUA), the complete interworking software solution can virtually be operated in any location of the IP network able to dialog with a signaling gateway terminating ISDN access.

ISDN-SIP-GW SOFTWARE ARCHITECTURE

