

Hybrid Switch

HS-30

VoIP - Least Cost Switch

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- **E1-VoIP Least Cost Switch DSS1**
- **Speech-Codec G.729, G.726, G.711**
- **Plug & Play installation (no configuration necessary)**
- **Multiprotocol mode**
support H.323 / SIP and NOSIP®-protocol
- **AOC – charging simulation for hotels, hospitals etc.**
- **Fallback to ISDN or VoIP if any problems**
- **BDR (bidirectional routing) allow termination**
- **CDR-logging**
- **Div. types of cases (stand-alone box or 19“ 1HE)**
- **Integrated firewall**
- **Integrated IP-Router**

Overview:

The HS-30 combines a E1-VoIP-Gateway and a E1-Least Cost Router. With using this hardware you are able to connect active PBX to the world of VoIP without any changes. The Fallback-service will give the customer the security of the ISDN network and increase the availability and the quality of your services. The Hybrid Switch can be used as a VoIP-Gateway to generate and terminate VoIP-calls at the same time. The decision of the IP-adress and protocol will be done by routing-tables or by the corresponding gatekeeper. For inhouse billing services the HS-30 supports any AOC (Advice of charge) and additional hardware is not necessary.

Multi-protocol-Mode:

The HS-30 support three different VoIP-Protocols:

1. NOSIP[®]
2. H.323
3. SIP

Please notice that you can use all protocols at the same time without updating the firmware.

Depending on the termination hardware the protocol will be switched which increase the quantities of termination points.

Benefit NOSIP[®]:

Our target is to keep the installed PBX to reduce the costs and the investment. Most of the companies invest in new telecommunication hardware the last years without VoIP-equipment.

With NOSIP[®] we don't change the habit of calling which means there is no difference in telephones, dialing and quality. NOSIP[®] (NOSIP[®] = Number Orientated Session Initial Protocol) is a protocol developed by Ratotec.

Popular protocols like H.323 and SIP need a sign to realize the end of the dialing procedure. This could be done by a special sign (# or *) or with using a timeout (IDT = Inter digital timeout). This behaviour will be notice by the user.

With NOSIP[®] the behaviour is like the using ISDN-dialing procedure.

To use the HS-30 in existing telecommunication networks it supports H.323 and SIP as additional protocols in multiprotocol-mode.

Charging simulation (AOC):

In some cases it is a must to simulate charging information for inhouse-billing-systems. The HS-30 produce charging info's depending on the configured charging table.

Fallback:

The HS-30 will be connected to the E1-port to the ISDN network and to the broadband network. If there is any problems on the ISDN- or broadband-port the HS-30 make an automatically fallback to have an secure connection. The fallback will be done by inactivity of the ports and special cause values. Call-by-Call-providers can be configured in fallback-procedures.

Limit of capacity / Broadband

In the configuration you are able to set a limit of VoIP-calls. If the broadband is not able to transfer 30 VoIP-channels the quantity can be reduce between 1 and 30 channels. After reaching the limit the next call will be done over the ISDN-network.

Call detail records (CDR's):

The HS-30 save more than 8000 call records in a secured memory area. This records can be read out by the remote-management-system (RMS).

You can use this call detail records and import to a billing system.

Subsidiary network / Termination Point:

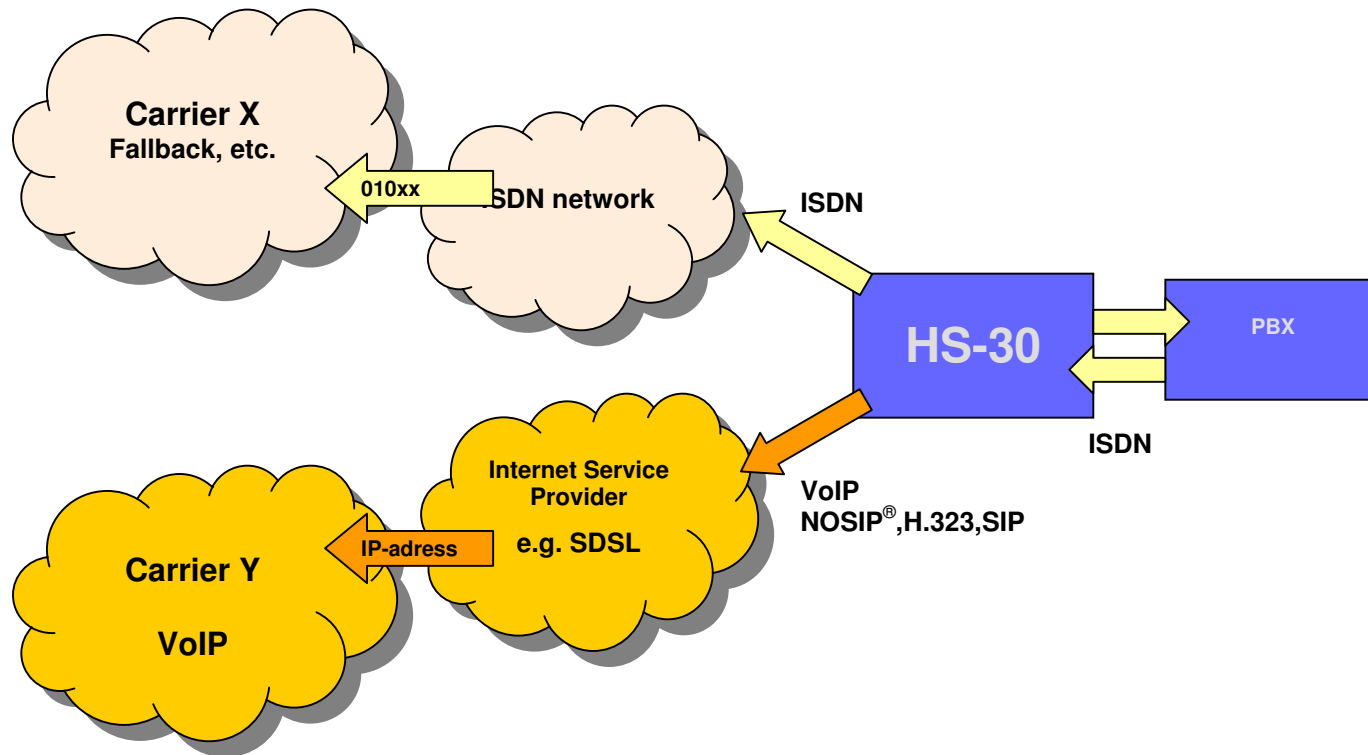
The bi-directional-mode of the HS-30 allows termination of calls between installed devices.

In subsidiary networks (Picture II) all calls are routed in the "HS-30-private VoIP-network". All IP-Adress-information are configured in the network.

Picture I (single user):

The ISDN-network (NT) and the broadband are existing.

The calls are routed to internet and ISDN. Incoming calls automatically routed to the internal port.

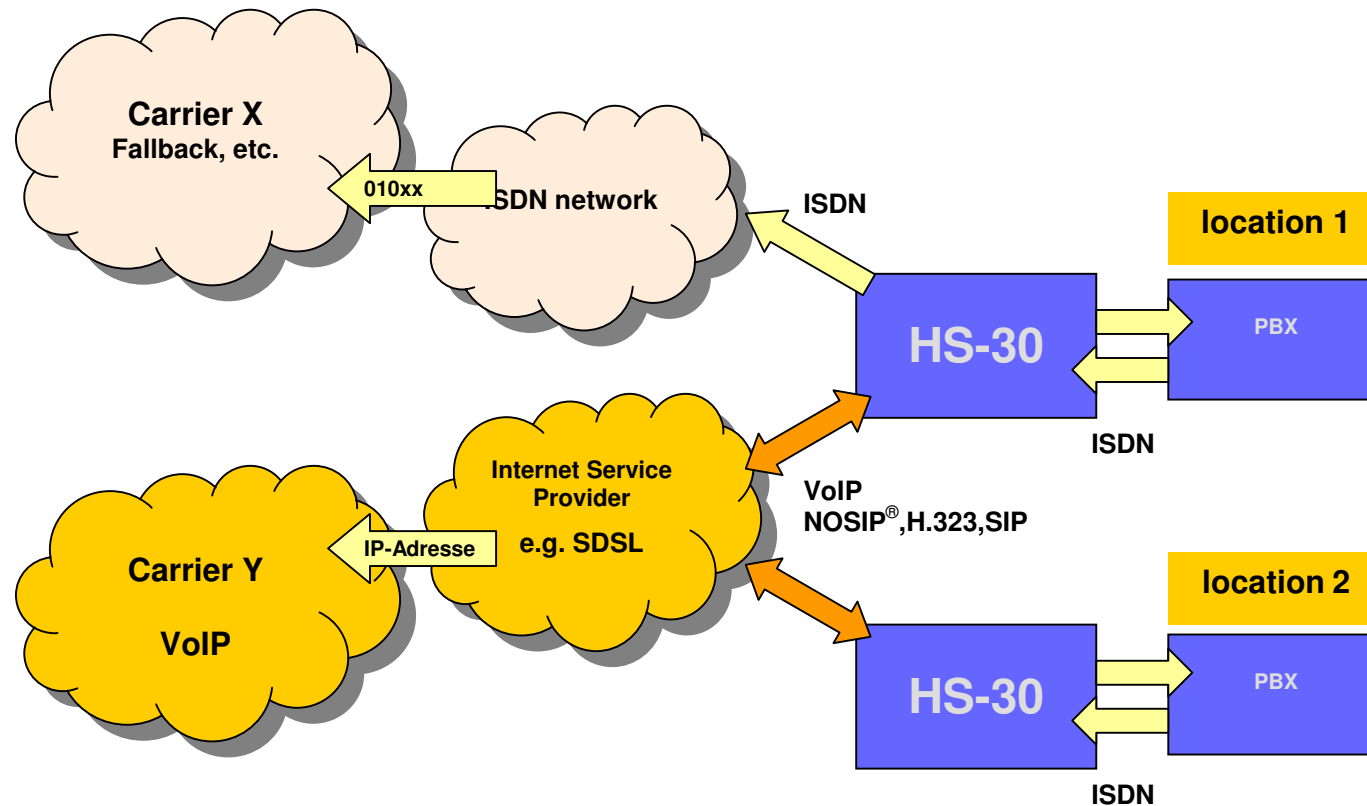


Picture II (subsidiary company):

The ISDN-network (NT) and the broadband are existing.

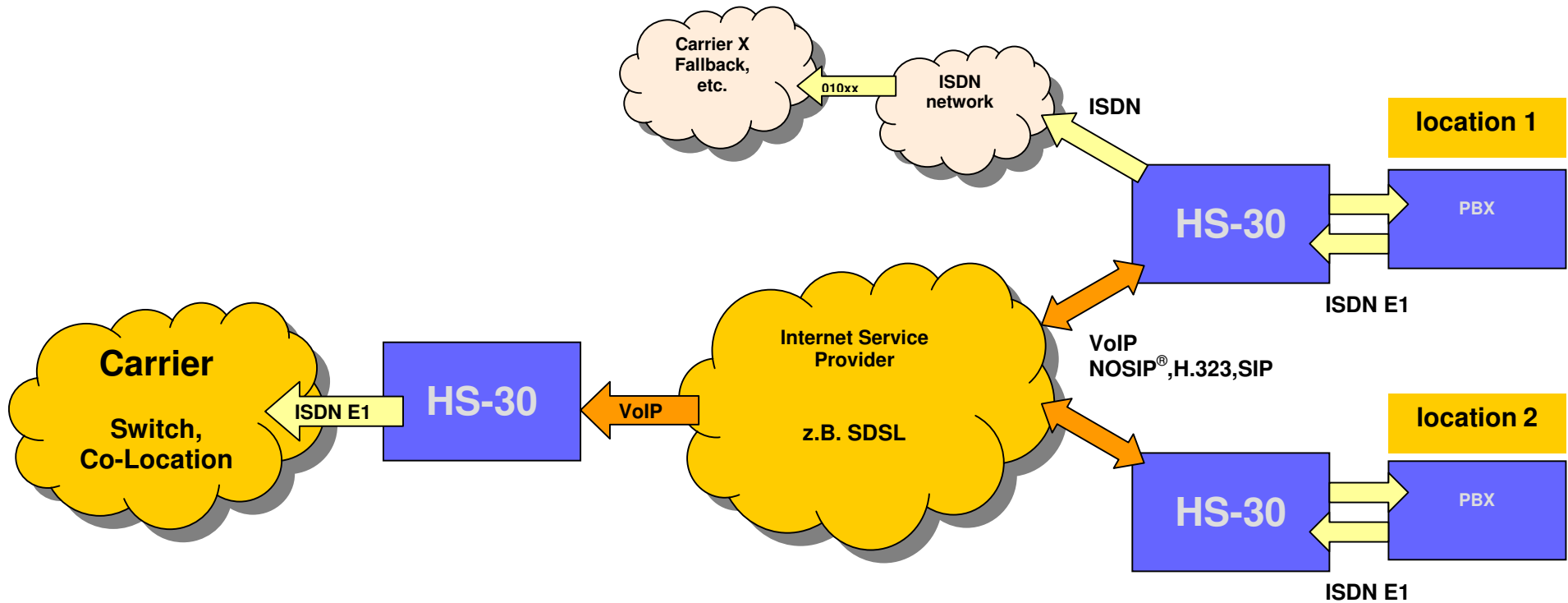
The calls are routed to internet and ISDN. Calls between the locations are routed directly over the internet.

Incoming calls automatically routed to the internal port.



Picture III (Carrier-termination):

All calls are terminate by a carrier.



Technical data:

Features: E1-VoIP Least Cost Switch DSS1 ISDN Least Cost Routing VoIP Gateway multiprotocol Termination of speech CDR-logging	Standards: Ethernet-Specification IEEE 802.3 Fast-Ethernet-Specification IEEE 802.3u Fullduplex-Specification IEEE 802.3x E1-EURO ISDN DSS1 NOSIP® H.323 SIP Speech-Codec G.729 / G.726 / G.711
Interfaces: E1 INT - EURO ISDN DSS1 E1 EXT – EURO ISDN DSS1 LAN 10/100 Mbit/s, Fullduplex DSL 10/100 Mbit/s, Fullduplex V.24 / RS232 serial port 115,2 kBit/s	Hardware specification: External power supply 24V DC dimensions Stand-alone Box 200x240x70 mm weight 500g

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