

***Junghanns.NET***

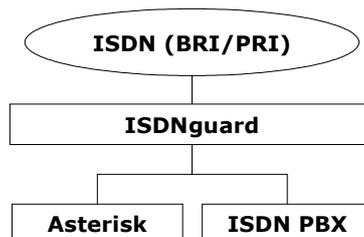
# ISDNguard

## Installation Guide

## **Installing the Junghanns.NET ISDNguard**

- Connecting the cables

### **Scenario A (Integration of an ISDN PBX):**



If an ISDN PBX is integrated with Asterisk into the new VoIP world the Asterisk server will be placed between the telco ISDN lines and the existing ISDN PBX. In the case of Asterisk failing the ISDN PBX would be inoperable. To work around this single point of failure the Junghanns.NET ISDNguard can be used as follows:

- connect the telco ISDN lines to the "ISDN NET" ports
- connect the ISDN PBX to the "ISDN CPE/PBX" ports
- connect the serial heartbeat cable to the Asterisk server

If you are connecting ISDN PRI lines (or ISDN BRI lines NOT using a Junghanns.NET octoBRI PCI ISDN card)

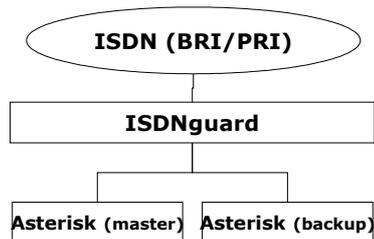
- connect the Asterisk TE/CPE ports (those that should be connected to the telco ISDN lines) to the "Asterisk CPE" ports
- connect the Asterisk NT/NET ports (those that should be connected to the ISDN PBX) to the "Asterisk NET" ports

If you are connecting ISDN BRI lines using a Junghanns.NET octoBRI PCI ISDN card

- do not connect any ports to the "Asterisk CPE" and "Asterisk NET" ports
- jumper the first 4 ports of the octoBRI PCI ISDN for TE mode and the other 4 ports for NT mode
- connect the octoBRI PCI ISDN with 8pin 1-to-1 cables to the port "octoBRI PCI ISDN"

When the Asterisk server stops sending the serial heartbeat then the Junghanns.NET ISDNguard will physically connect the ISDN PBX directly to the telco ISDN lines. This allow applies if the ISDNguard is switched off or mains power fails.

## **Scenario B (Failover to a backup Asterisk server):**



To failover ISDN lines from an Asterisk server to a backup Asterisk server (hot standby) the Junghanns.NET ISDNguard can be used as follows:

- connect the telco ISDN lines to the "ISDN NET" ports
- connect the master Asterisk server to the "Asterisk CPE" ports
- connect the backup Asterisk server (hot standby) to the "ISDN CPE/PBX" ports
- connect the serial heartbeat cable to the master Asterisk server

When the master Asterisk server stops sending the serial heartbeat then the Junghanns.NET ISDNguard will physically connect the telco ISDN lines directly to the backup Asterisk server (hot standby). This allow applies if the ISDNguard is switched off or mains power fails.

### **Configuring the software**

There are two ways to interface Asterisk with the ISDNguard

- a) directly accesing the serial device
- edit `/etc/asterisk/watchdog.conf` and add a section like:

```
[ISDNguard-direct]
type = isdnguard
device = /dev/ttyS0      ; serial heartbeat device
interval = 200          ; interval in milliseconds
```

This will generate the serial heartbeat as long as Asterisk is running. If Asterisk is stopped or dies the serial heartbeat will stop and the ISDNguard will go into failover state (indicated by the red blinking LED).

- b) using the ISDNguard daemon
- edit `/etc/asterisk/watchdog.conf` and add a section like:

```
[ISDNguard-with-daemon]
type = isdnguard
device = /var/run/guard.ctl ; fifo to the daemon
interval = 200             ; interval in milliseconds
```

- start the ISDNguard BEFORE starting Asterisk:

```
/usr/sbin/ISDNguard /dev/ttyS0 &
```

Until now the behaviour is identical to the direct access of Asterisk to the ISDNguard. If you want to prevent the ISDNguard from going to failover state while stopping or restarting Asterisk (so it wont reset layer 1 on your PRI eventually triggering an alert at your telco) you can autogenerate the heartbeat:

```
echo "AUTO" > /var/run/guard.ctl
```

and then stop or restart Asterisk. You can revert to normal mode by:

```
echo "START" > /var/run/guard.ctl
```

Or totally prevent serial heartbeat generation with:

```
echo "STOP" > /var/run/guard.ctl
```