

Asterisk (BRISTuffed)

**Free Software Open Source
Telephony Summit 2006**

02. 05. 2006

Klaus-Peter Junghanns
Junghanns.NET GmbH

<http://www.junghanns.net/>

Presentation Overview

- What ?
- Why ?
- Who ?
- What's different ?
 - How ?
- Common pitfalls
 - What's next?

BR!stuff – What?

- **Collection of patches to zaptel, libpri, asterisk**
(currently about 15000 lines patch)
- **First release (bristuff-0.0.1) in december 2003**
- **Drivers for ISDN hardware**
(hence the name...)
- **Layer 1,2,3 certified ISDN protocol stack**
(introduced in the 0.3.0 versions)
- **Small (dumb!) install script which downloads the required versions of zaptel, libpri, astrisk**

BRIstuff - Why?

- **Technical reasons**
 - **add BRI support to libpri/asterisk (of course!)**
 - **enhance the ISDN support**
(a PRI shouldnt be handled like 30 analog lines...)
 - **improve integration with SNOM SIP phones**
(function keys, call pickup, call recording)
 - **provide a stable platform for production installations**

BR!stuff - Why?

- **Non-technical reasons**

- **dual license model of Asterisk (GPL, non-GPL)**
caused some developers to either fork Asterisk (e.g. Aefirion, OpenPBX) or to start on their own (e.g. YATE).
- **BR!stuff is no fork (it's a spoon!) of Asterisk**
(no need to fix all the Asterisk bugs, hardly can fix my own!)
- **maintain GPL licensed contributions from third parties**

Who is using BRlstuff?

- **quite a few users**
 - around **8000** downloads per release
 - not sure about debian and SuSE packages
- **Manufacturers of VoIP PBX systems**
(e.g. Addix, 4s newcom, ...)
- **Asterisk focused linux distributions**
(e.g. Xorcom rapid, ...)
- **Commercial frontends to Asterisk**
(e.g. starface, Bicom PBXware, ...)
- **Manufacturers of VoIP appliances**
(e.g. D-Link)

What's different?

- **ISDN protocol stack**
(libpri/chan_zap and chan_capi)
- **XAGI** (AGI extension with full audio support)
- **Devstate** (contributed by Liam Kenny, druidsoftware.com)
- **PickUpChan/PickUp/PickDown/Steal/..**
(contributed by Florian Overkamp, speakup.nl)
- **res_watchdog** (ISDNguard support)
- AMI modifications (UniqueID all the way)
- **libgsmat** (AT command signalling for GSM)
- ...

How ? Call Pickup

- **set up a „destination“ button on the SNOM to the extension that you want to monitor (e.g. extension 100).**
- **add a hint and extension in Asterisk (extensions.conf):**

exten => 100, hint, SIP/snom

exten => 100, 1, Dial(SIP/snom)

exten => 100, 2, Hangup

- **add a pickup extension for extension 100:**

exten => *8100, 1, PickUpChan(SIP/snom)

exten => *8100, 2, Hangup

How ? app_devstate

- Devstate uses a „dummy“ channel driver DS
- Using „hints“ an extension state can be mapped to DS
- app_devstate can change the extension state from the dialplan
- CLI / manager commands
- **set up an extension state (mapped to DS):**
 - exten => 500, hint, DS/500
 - exten => 500, Macro(toggleLED)
- **change the extensionstate from CLI:**
 - devstate 500 2

Common pitfalls

- **make sure other ISDN drivers are not loaded!**
- **some distributions come with preinstalled BRlstuff drivers which are NOT installed in the default location (SuSE!)**
- **stay away from the Busy() and Congestion() applications**
(use Hangup(17) or PlayTones(busy) instead)
- **dont randomly use options from the zapata.conf sample file**
(busydetect = yes is not for ISDN)
- **install and configure kernel sources before BRlstuff**

What's next?

- **multiple registrations for chan_sip and chan_iax2**
- **AOC (advice of charge) proxying and generation**
- **improved transparent integration of existing ISDN infrastructure (HLC, LLC, supplementary services)**
- **ISDN related manager/CLI events and commands**
- **improved chan_iax2 authentication**
- **subversion repository for developers**
- **better/more/any documentation, mailinglist**
- **automated test system**

Questions...???

Comments...???