

OPAL and OpenH323 Project Update

Free Software/Open Source Telephony Summit 2006

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**Post
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**VOX
Gratia**

What are OPAL and OpenH323 ?

- Open Source VoIP protocol stack available on most platforms. Started in 1999 by Craig Southeren and Robert Jongbloed
- OpenH323 sold to QTI in 2000. Craig and Robert left in 2003. Post Increment started by Craig in 2004
- OpenH323 is H.323 only. OPAL includes H.323, SIP, IAX2 + others
- Mozilla Public License (MPL) - business friendly
- Code is C++, highly multi-threaded
- Includes platform portability library (called PWLib) for Windows, Linux, Solaris, xBSD, MacOSX, VxWorks, Windows CE
- Supports signalling, or media+signalling.
- Supports audio and/or video. Wide range of codecs
- Many sample applications provided
- Code is very stable and used both commercially and by open source projects
- Post Increment: commercial support for OPAL/OpenH323.
Vox Gratia: open source support for OPAL/OpenH323

Companies/projects using OPAL/OpenH323? (that we know of)

Ekiga
GnuGK
Xmeeting
Yate
Bayonne
Asterisk
 asterisk-oh323
 channel_h323
 chan_woomera
SofaSwitch
FreeSwitch
Myphone
CPhone

PacPhone
Gridborg HMP
Chinese telco
Many more...

Distributions
Debian
RedHat
QNX
Many more...

What are OPAL and OpenH323 ?

- **Principal developers**
 - Craig Southeren (founder, coordinator)
 - Robert Jongbloed (founder)
 - Damien Sandras (SIP)
- **Contributors**
 - Derek Smithies (IAX2)
 - Simon Horne (H.460, crypto)
 - Hannes Friederich (MacOSX, H.224)
 - Vyacheslav Frolov (T.38)
 - Kilian Krause (Debian release coordinator)
- **Corporate support**
 - Transnexus (OSP support)
 - StoneVoice slc (OpenMCU)
 - Codec plugins (not yet public!)
 - Many others...

What are OPAL and OpenH323 ?

- OPAL architecture designed to allow easy routing and interconnection of protocols and devices. Does media translation, signalling only connections,
- simpleOPAL command line OPAL client can be.
 - softphone
 - back-to-back user proxy
 - SIP <-> H.323 converter
 - IVR/media server/answering machine
 - Supports video and audio
- OpenMCU - Multipoint conference Unit based on OpenH323
- VGProxy – back-to-back user proxy using OpenH323 including outgoing call retry. Supports OSP routing, gatekeeper,

Previous year

● Releases

- OPAL : Stable - Phobos (v2.2); three development releases; Current release Deimos (v2.3 dev, v2.4 stable)
- OpenH323 : Stable - Mimas (v1.15) and Atlas (v1.18); six development releases; Current release is Titan (v1.19 dev, v1.20 stable)
- OpenMCU: Stable - v2.0, v2.1, Current development release v2.2.0 (Video branch)
- VGProxy:

Previous year

- OPAL
 - SIP stability, compatibility and load testing
 - SIP NOTIFY support (message waiting indication)
 - SIP and H.323 Video
 - IAX2
 - Migrate H.323 functionality from OpenH323
 - Audio and video codec plugins
 - H.224/H.281

Previous year

- OpenH323
 - H.460.x
 - Endpoint authentication and crypto
 - USB HID plugins
 - Thread aggregation
 - OSP functionality

Previous year

- OpenMCU v2.2.0
 - Conferencing system
 - H.263/H.261
 - Invite user
 - Record audio
 - Custom mixer
 - Highly extensible

Open
MCU



Next year

- Development focus is OPAL
- Next OPAL release Deimos v2.4
 - July/August 2006
 - Video and audio plugins
 - SIP Presence
 - Woomera client
- OPAL Centauri
 - Towards end of 2006
 - Hot plug audio and network devices
 - SIP registrar
 - Radius support

Next year

- Applications
 - OPAL Media server
 - OPAL B2B proxy
 - OPAL OpenMCU 3
 - OPAL SIP Registrar
 - OPAL Woomera server
- Codecs
 - H.264, MPEG4, GSM-AMR, Wideband anything
- OpenH323
 - Titan v1.20 : June/July 2006
 - Video plugin backport
 - New work as required and requested

Long term strategy

- Woomera
- SIP functionality (presence, video)
- H.323 functionality (H.460.x)
- High volume testing
- Applications
- More configurable (smaller code)
- Move to STL
- Windows Mobile
- More codecs
- XMPP/Jingle ?

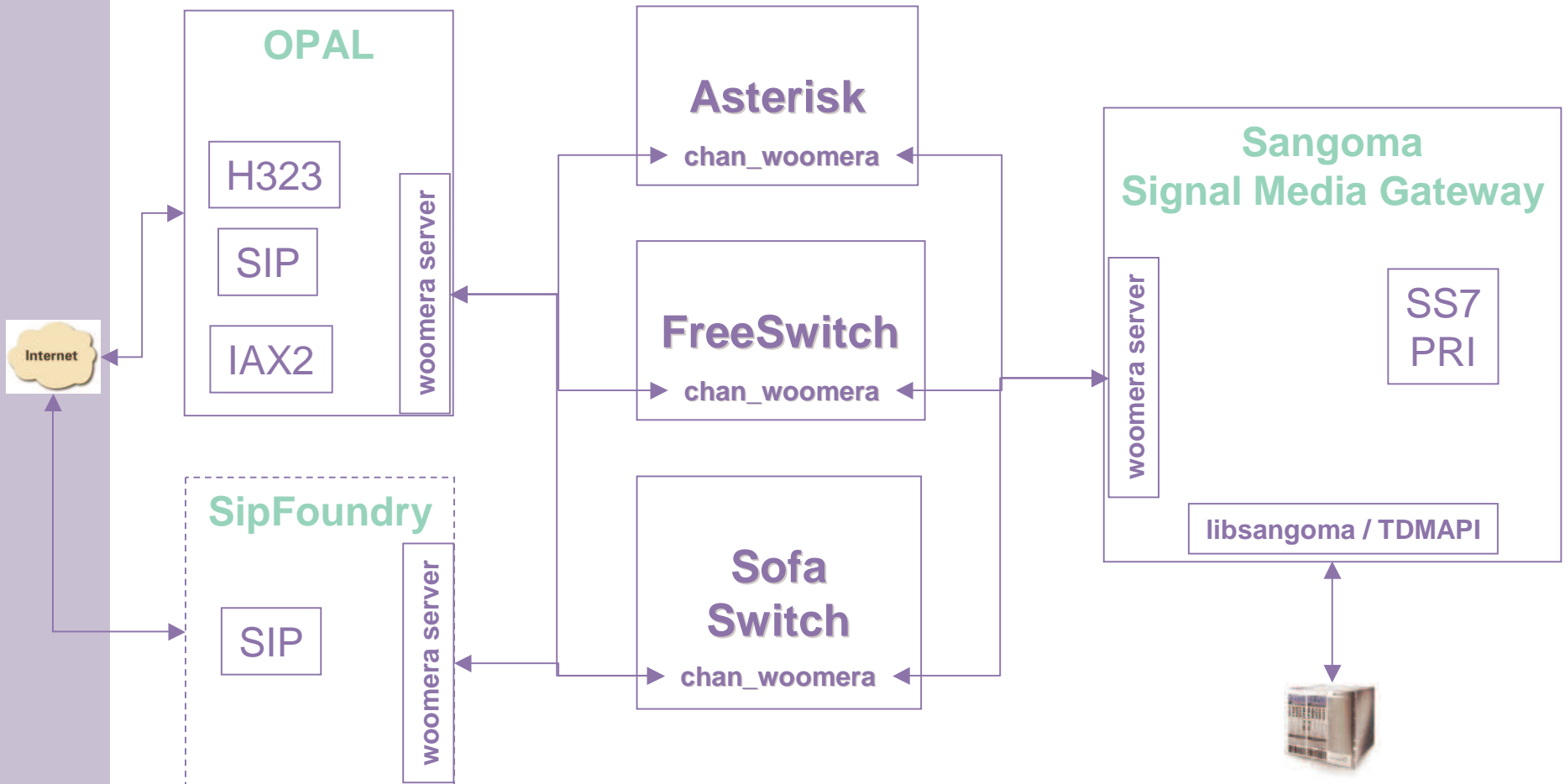
Woomera

- Woomera created at Open Source Telephony Summit 2004 in Geilenkirchen
- Client/server architecture. Text commands over TCP/IP control channel. UDP for media
- Problems addressed:
 - Uses FSF approved mechanism to separate code with different licenses provide simple way to control sessions.
 - Control can be written in any language that can use TCP/IP sockets- Perl, Python, Ruby, Java, C, C++, sh, telnet)
 - Not protocol dependent (SIP, H.323, IAX, SS7, PRI etc etc)
 - Bridge between commercial and open source products without license problems
 - allow distribution of devices across multiple machines (redundacy, scalability, performance, fault tolerance, geographic requirements, security)
 - Mixed architecture configurations: example - Asterisk on Linux talking to Woomera server on Windows or Solaris
 - Concurrent access to shared resources: example – one PRI can be shared by multiple Asterisk boxes
 - Code reuse: write one Woomera server for a protocol which can be used with ANY Woomera client
- More information: <http://www.voxgratia.org/projects/woomera>

Woomera

- **Servers**
 - OpenH323
 - SS7
 - Sangoma media server
 - PRI (in progress)
 - OPAL (in progress)
- **Clients**
 - chan_woomera for asterisk
 - Sofaswitch
 - FreeSwitch
 - OPAL (in progress)

Sample Woomera architecture



Vox Gratia

- <http://www.voxgratia.org>
- Latest OPAL/OpenH323 code
- FAQ
- Documentation
- Open Source VOIP release info
- Industry news

More information

- OPAL/OpenH323
 - Vox Gratia : <http://www.voxgratia.org>
 - FAQ: <http://www.voxgratia.org/docs/faq.html>
 - Mailing list: openh323@openh32.org
- Post Increment
 - <http://www.postincrement.com>
- VoIP standards
 - <http://www.packetizer.com>

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