

Ekiga

Free IP Telephony

LinuxTag – 31 May 2008



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About Myself (1)

- Damien Sandras
 - Graduated from the Université Catholique de Louvain – FSA / INGI
 - Open Source & Standards Advocate
 - Author of Ekiga
 - Co-Creator of FOSDEM
 - GNOME Foundation Member
 - Working for NOVACOM
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30 Years of VoIP (1)

- 1977
 - First VoIP Publication by D. Cohen, Issues in transnet packetized voice communication
- 1995
 - First Proprietary Solutions Running on the Market
 - SIP standardization begins thanks Prof. H. Schulzrinne
- Late 90's
 - Bitter SIP vs H.323 battles



30 Years of VoIP (2)

- 1999
 - RFC 2543 released
- 2000
 - SIP chosen for IMS (IP Multimedia Subsystem)
 - IMS is an architectural framework for delivering IP multimedia to mobile users
- 2001
 - First sub-\$-100 SIP IP Phones and adapters appear



30 Years of VoIP (3)

- 2002
 - SIP vs H.323 battle is over – 3GPP R5 released with SIP
 - Standard battlefield moves to presence: Jabber vs SIMPLE
 - RFC 3261 is released
- 2004
 - SIP goes to consumers: freenet, 1x1, sipphone

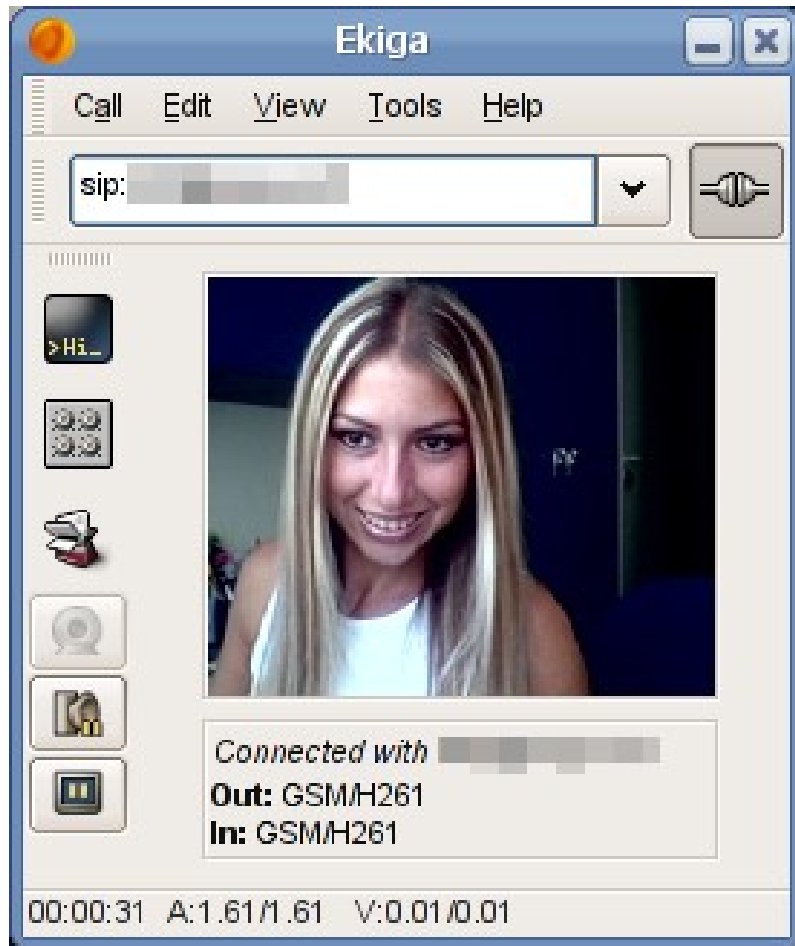


30 Years of VoIP (4)

- 2005
 - Bigger providers roll out: T-mobile/PTT, T-Online-VoIP, BT Broadband,...
 - Increasing PBX deployment base
 - Presence deployments in place



What is Ekiga? (1)



- A softphone for
 - Regular users
 - Corporate users
- Comparable to
 - EyeBeam
 - SJPhone
 - Netmeeting
 - ...



What is Ekiga? (2)

- A pure VoIP/ToIP application
 - Not aimed at being a simple chat application
 - Telephony is important
 - Message Waiting Indications
 - Call Transfer
 - Call Forwarding
 - Call Hold
 - IM & Presence
 - Multiple Calls (coming soon)
 - Call Pickup (via signalisation coming soon)



What is Ekiga? (3)

- A Video Conferencing Solution
 - Interoperable with Hardware Vendors
 - High-Quality Codecs
 - Accelerated Full Screen Support



What is Ekiga? (4)

- But also a Simple Chat application
 - Presence
 - Instant Messaging
 - PSTN-to-Ekiga
 - Ekiga-to-PSTN



What is Ekiga? (5)

- Supports several standard protocols
 - H.323 : old and mature
 - SIP : since 2.00
 - SIP/SIMPLE : from 3.00
 - IAX2 : patch pending



The Ekiga Team (1)

- Growing and Growing and Growing...
- No Paid Developers
- People Driven by Passion
- All Areas
 - Coders
 - Documentation
 - Servers
 - Packagers



History (1)

- Academic project at the Université Catholique de Louvain
- First lines of code in December 2000



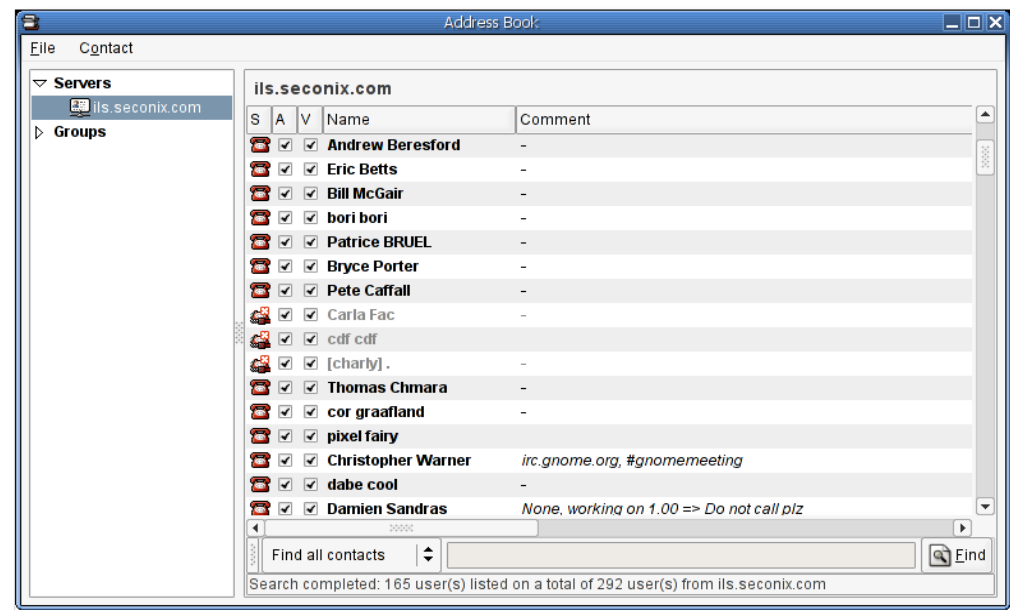
History (2)

- First release in July 2001, huge success



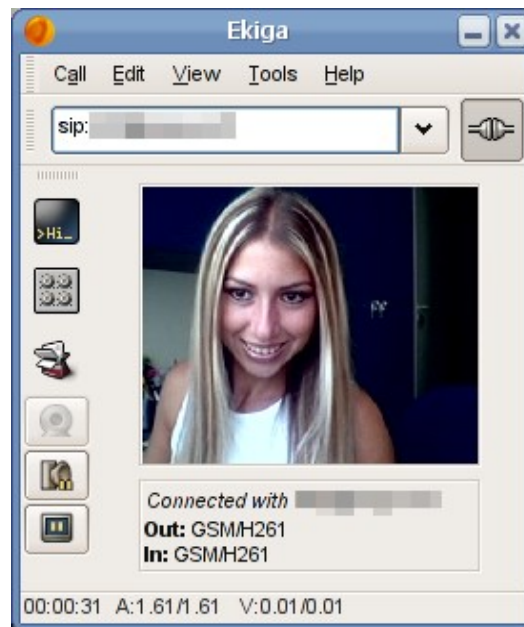
History (3)

- 1.00 release in March 2004



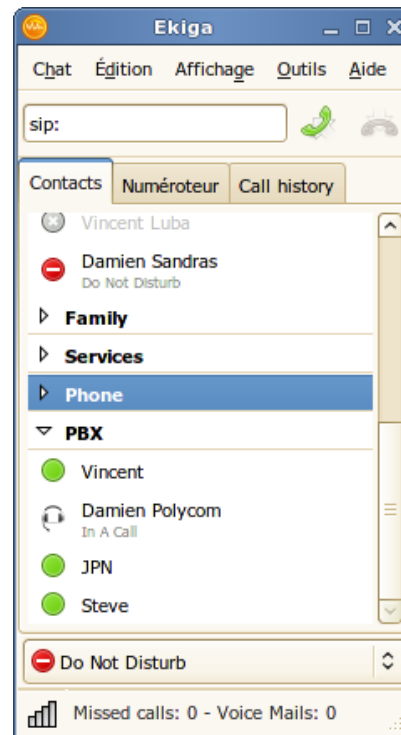
History (4)

- 2.00 release in March 2006



History (5)

- 3.00 release in 2008



Why Standards?

- Because of several good reasons
 - They allow interoperability
 - They are widespread
 - They give the user the freedom to choose
 - The user knows what happens with his data
 - And ...

THEY WILL WIN THE BATTLE!



A Few Words About SIP (1)

- SIP in 2008
 - A fully working standard for IP Telephony
 - More uses being added like gaming, messaging
 - Many interoperable equipment
 - Hard phone clients like SNOM, Polycom, CISCO, Mitel, Avaya, ...
 - Soft phone clients like Microsoft Windows Messenger, Ekiga, X-Lite, ...
 - Gateways like CISCO, Alcatel, ...
 - Servers like Asterisk, Hotsip, Ubiquity (Avaya), ...
 - Service providers like Vonage, SIPPhone, T-Online, ...
 - Fixed mobile convergence like Telio, Pirelli, ...



A Few Words About SIP (2)

- A Full Definition of
 - The components of an infrastructure
 - User Agent
 - Redirect Server
 - Proxy Server
 - Registrar
 - Location Service
 - Their interactions



A Few Words About SIP (3)

- A Full Definition of
 - What other protocols are being used
 - SDP : Media description
 - RTP / RTCP : Media transport



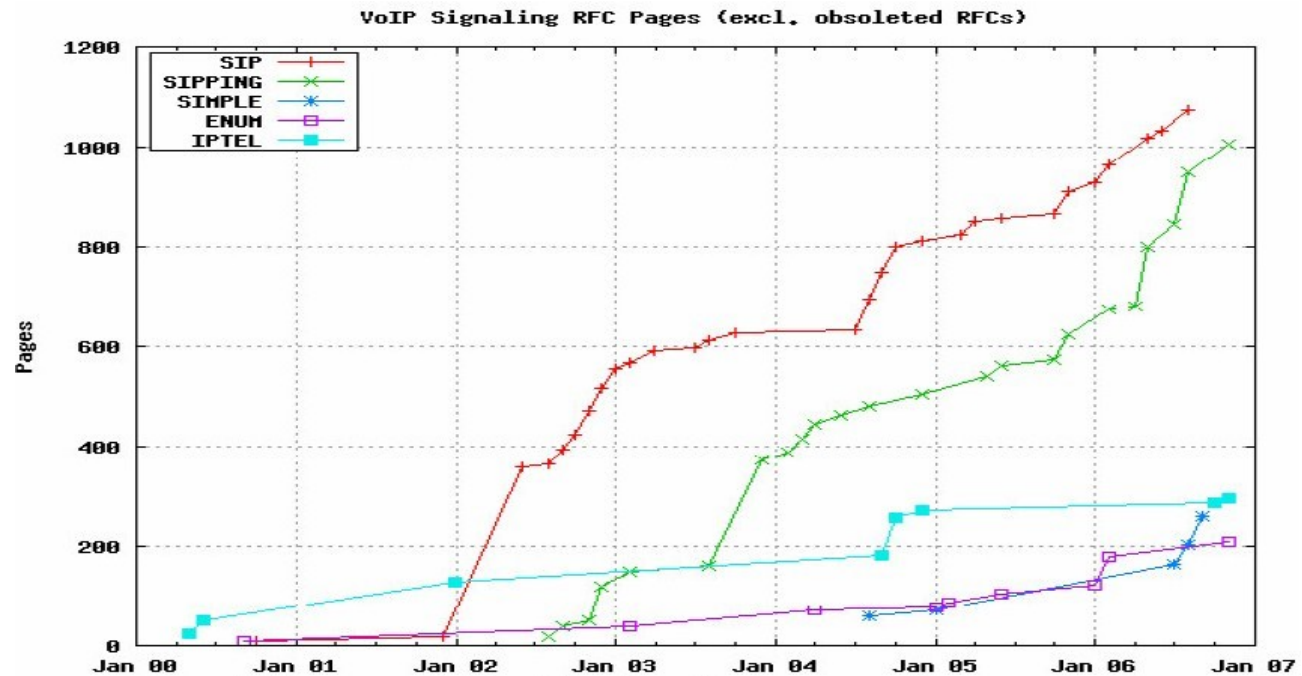
A Few Words About SIP (4)

- The IETF
 - Is a standardisation body
 - Created many Internet Protocols : TCP/IP, SMTP, FTP, RTP, POP3, ...
 - The participation is open
 - Participation from both data and telecom industry world
 - Participation from academia
 - Contributions from individuals



A Few Words About SIP (5)

- S in SIP Does NOT Stand for SIMPLICITY
 - New RFCs : far too many
 - New drafts : 133



A Few Words About SIP (6)

- Example of SIP trace :
 - ----> INVITE
 - <---- 200 OK
 - ----> ACK



A Few Words About SIP (7)

- Other VoIP protocols
 - H.323
 - The oldest one
 - IAX
 - Open Source, but not a standard
 - Everything on one port
 - MGCP
 - Skinny
 - Skype (ouch!)



Ekiga 3.00 (1)

- Better modularity : UI / Backend separation
 - Ekiga Engine
 - Full C++ stack with various components for all features
 - Reusable in other projects
 - Ekiga GUI
 - Depends on the Ekiga Engine
 - Reacts to events thanks to signals



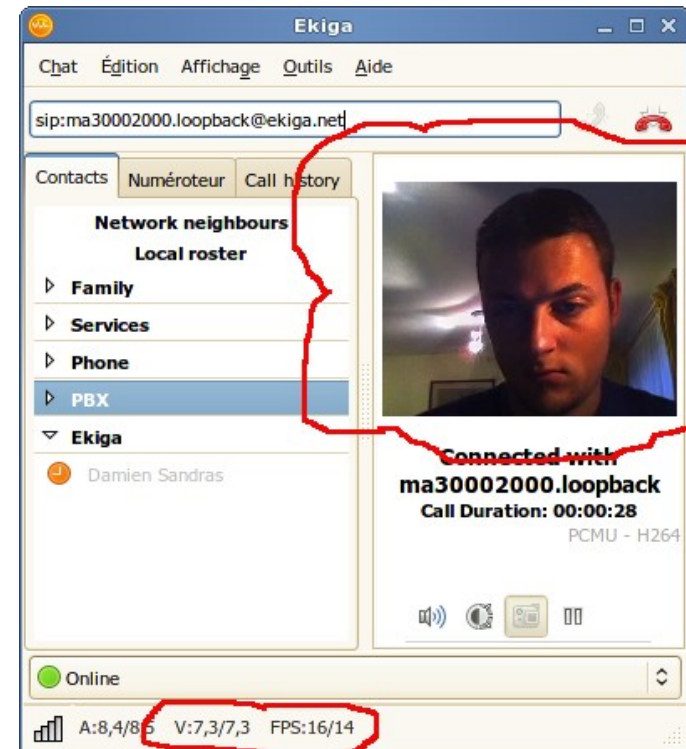
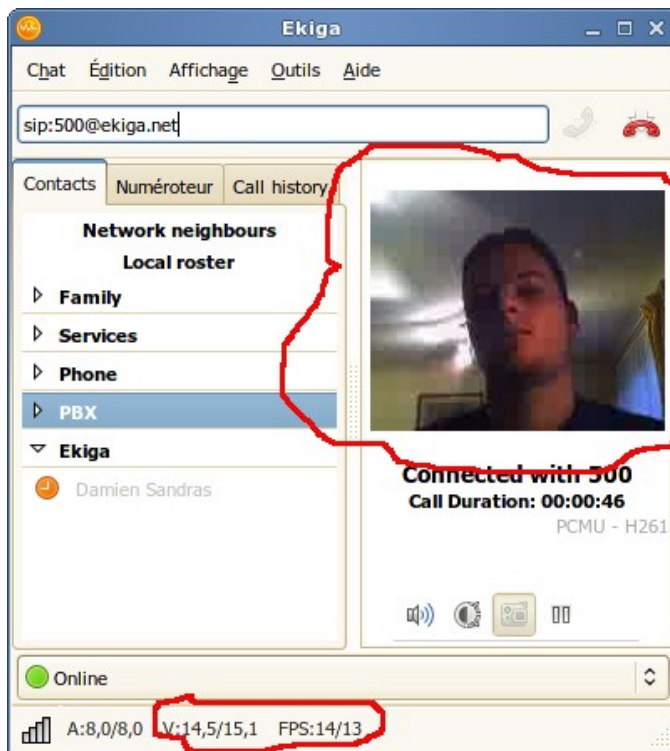
Ekiga 3.00 (2)

- Codecs improvements
 - Available as plugins
 - Better video codecs available
 - H.261
 - H.263
 - H.264
 - MPEG4
 - Theora



Ekiga 3.00 (3)

- Codecs improvements, from H.261 to H.264



Ekiga 3.00 (4)

- Accelerated display
 - XVideo
 - DirectX
 - Good fullscreen quality
- Non-accelerated display
 - Pure X11



Ekiga 3.00 (5)

- Revamped User Interface
 - Sexy
 - Does not break people habits
 - Suited to wide screens (MID's, ...)



Ekiga 3.00 (6)

- Many user oriented enhancements
 - Support for multiple network interfaces
 - Dynamic addition/removal of
 - audio devices
 - video devices
 - network interfaces



Ekiga 3.00 (7)

- Unsure features
 - SRTP
 - ZRTP (thanks to Phil Zimmermann and his team)
 - TCP support



Post-Ekiga 3.00 (1)

- Multiple Calls Support
- Consultative Transfer
- IAX2 Support
- XCAP Support
- IPv6 Support
- Improved WIN32 Release



Demonstration



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Questions?



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