Open Source Interactive TV

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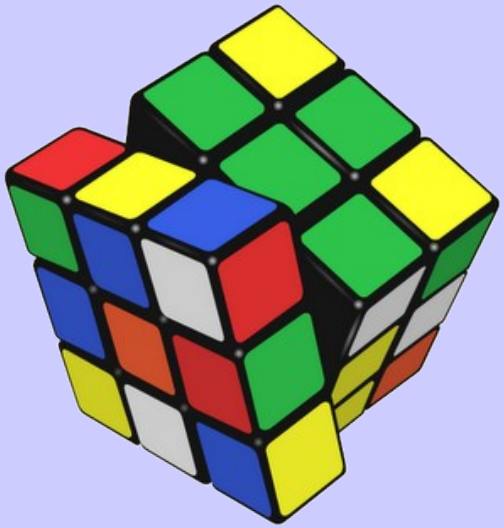
Avalpa mission

"**Enable content providers bring high quality interactive multimedia to the masses** with an open approach using proven technologies and networks."

Current digital tv switch over is key!

Italian switch over

- It's a mess, as usual.. they call it a Rubik Cube issue!
- Two/Three national broadcasters
- More then 500 other operators
- No past clear freq. planning
- Citizens are really tech clueless
- Internet is not an option in the short term



Decoder on field

- In Dec 2009, record of 2.9 million decoder sold.
  - 62% are standalone STB,
  - 38% (1.089.000) are decoder integrated into other devices.
- The overall DTT since feb 2004 to dec 2009 accounts for 28.874.000 devices.
  - 59,8% are standalone STB,
  - 40,2% (11,6 millions) are decoder integrated.

Source: DGTVI Digita newsletter 19.2.2010

Interactive TV devices

Main interactive standards device:

- MHP DVB-T (5 million..)
- MHP DVB-S (~300K for tivusat service)
- MHP-HD v1.1 (hybrid DVB-IP)
- BluRay players / PS3
- Hybrid TV (high end only..),

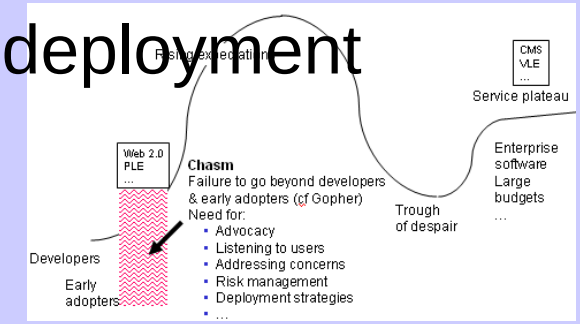
Low-end idtv..

MHEG!

- Did you know that **all the italian idtv** do have already an interactive standard on board?
- It's the freeview **MHEG** presentation engine!
- Of course it's disabled if country not UK..
- A wise political choice!?
- Technically, we tested that MHP & MHEG can live and work together.

Italian interactive history

- In 2004, first big subsidy for citizens (150€ for box) and for operators for interactive tv trials.
- The 2 main operators created a massive amount of interactive content, many local too!
- 2 main lines of funding for 30 and more t-goverment services (we got one with **T-islessia**)
- In 2006/07, **the hell froze** for commercial deployment when unheard royalties were asked
- Now, i believe we are at a second start..

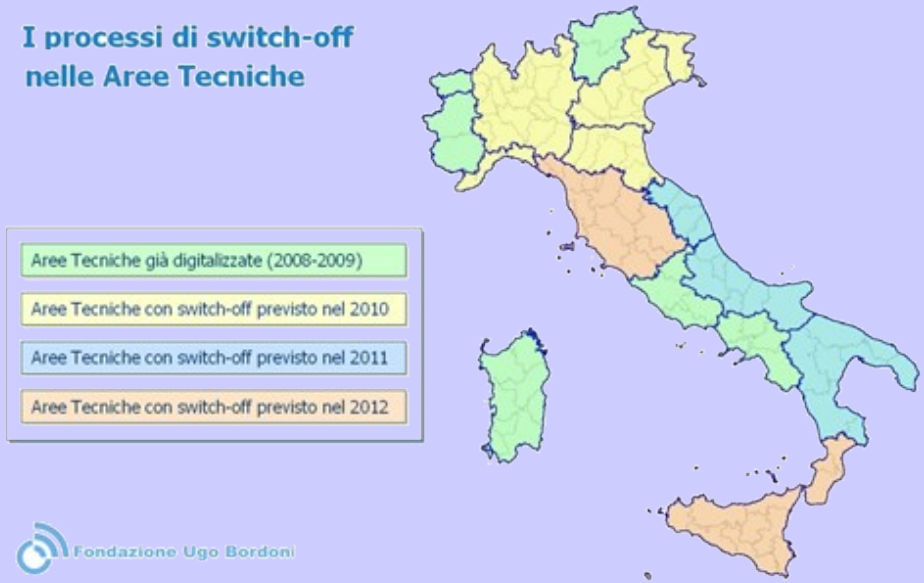


Interactive tv

- TV is going to become the more pervasive “digital interface” at home, in public spaces and everywhere.
- Viewer experience is made of audio and video services, since more then 60 years.
- Teletext is the last 30 yr old add-on! :-)
- Interactive services, EPG first of all, will be key to enrich the show and stick people in front of tv.

How to keep everybody in the loop

- Dvb technology is only a marginal aspect
- We cant forget customers and broadcasters
- Economical feasibility is a major issue
- **New features should spin new revenues**



Floss: freedom and no-cost?

Plain vanilla TV has gone as we know it. Some capital expenditure is needed.

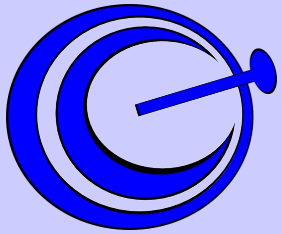
- Broadcasters do like freedom if they can choose..
- Broadcasters do want no-cost solutions too, but there's no choice here, really!

FLOSS for interactive tv

We have been working since 2004 in the interactive tv market with early development of **free and open source SW**:

- **OpenCaster**: the transport stream server
- **Jet**: a java based middleware for interactive STB, based on **Sun PhoneMe Advanced VM;** we'll not thank them enough!
- **Yambo**: a simple MHP XML presentation engine

OpenCaster



OpenCaster is a set of tools for TS management and design with main features:

- PSI/SI signal generator,
- DSMCC carousel server,
- PES encapsulation (audio, video MPEG2, txt)
- Section encapsulation (OTA, IP)

Jet the middleware

- Jet is running today on Vulcan SOC by IBM
- Actually is Mpeg2 SD PVR STB
- Hardware coming from some Korean manufacturer
- HD platform being developed based on ST710x SOC.

Success stories

Main projects with open source flavour:

- **T-islessia**, an e-care project for kids on TV
- **LepidaTv**, a i-television service from PA
- **IDTVOS**, STB for disabled people.

Quality is key for open source to become testimonial of such a susteinable model!

T-islessia

A health service made on top of first gen MHP

- Low power CPU
- Games for kids
- Return channel
- Smart card
- Audio

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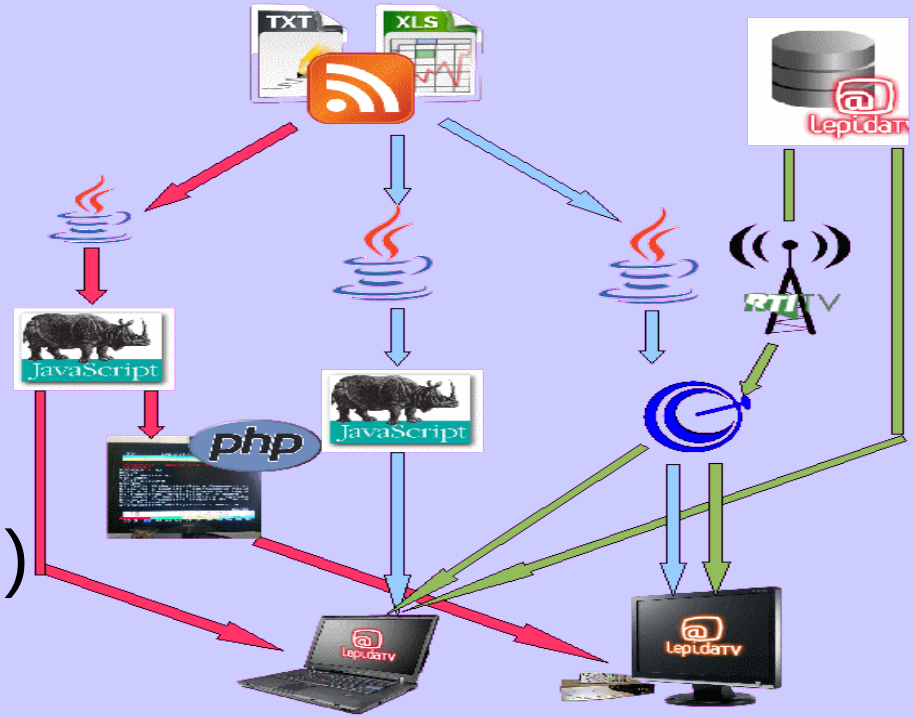
LepidaTV

- Interactive digital television service from Emilia Romagn
- An interactive play out and headend system in a box.
- Dual delivery:
  - DVB-T MHP,
  - WebTV (flash embedded)



IDTVOS: accessible decoder from Inteco

- Inteco is a large Spain ICT company for PA services
- Jet as middleware enabling easy customization for embedded platforms
- easy GUI, bright colours
- application specific features like “text to speech” (*flite*)

Tech Roadmap

- Opensource playout for audio and video files H24
- Hybrid DVB/IP env: AV streams and Java based apps over IP
- Compatibility with high definition
- And maybeee **3D TV!** (...i had to put it here for David Wood blog!)

Some endorsement

Some OpenCaster adopters are already taking advantage of this wide open environment:

- **Adb global**: OpenCaster as a tool for easy injection of malformed PSI/SI tables
- **BBC** for a DRM setup (digital radio mondiale..)
- **UniCauca**: EdiTV, T-learning in Colombia

You can see here in action the power of control that free soft gives you! Many are undercover..

Further fields of application

- Opensource solutions enable feasible deployment of “femto-DVB-networks” like:
  - Dvb nets for hospitality and large condo
  - Digital signage and security control
  - Learning in educational sites (universities)
- Price of DVB modulators are going down, like it has been for PAL and UHF Ch36 in VCR.

Avalpa community

Some figures about connection with third parties:

- More the 1400 registered users in 2 years on Avalpa.com download area
- More then 700 subscribed to CIN-ECAST mailing list. (it's a legacy ML running since 2005)

Open source biz model

How can be feasible a sharing model?

- Let prospects try for themselves
- Enlight people about future steps
- Be accountable and transparent
- Stay slim and healthy (low fixed costs)
- Feed word of mouth (for marketing purposes)
- Sell “insurance” for software bugs

The power of open source

"*..If I have seen farther than others, it is because I was standing on the shoulder of giants...*"

Isaac Newton