Digital Radio Mondiale in the 21st Century

*Thiago Novaes and DRM-Brasil**

For over two years a group of researchers have been investigating the possibility of providing the Brazilian government, radio producers and listeners with information about the social and technical possibilities that the DRM standard of digital radio can offer social communication.

A number of documents have been produced in Brazil during this period, published on the internet [1], [2], [3], [4], [5], pointing to the imense technical advantages of the DRM standard. In short, DRM is an open standardised system, regulated by the ITU, which works in all frequencies and has the same audio codec that the Brazilian Digital TV system operates on, and thus optimises the spectrum. It works on low potency and consumes very little energy. Developed to become a global standard of public interest, DRM is a favourite for educational and state broadcasters in various countries, and slowly winning new markets, which combine economic development with social development.

Such a profile should be enough to elect DRM to become standard for digital radio and adopted in Brazil as Índia e a Rússia have done.

And even more is possible!

Digital radio transmissions, as well as TV, are not limited to the traffic of audio or video signals, it can also send data, turning these platforms which use electromagnetic propagation and the Ionosphere, as a means of communication with a high capacity for flux of data: in the case of Digital TV we are speaking of bandwiths of up to 19MB/s, making the transmission of a feature film in high definition possible in just 25 minutes.

So what does all this information mean?

When we refer to the internet‘s free services such as Facebook, Blogspot, Gmail, Youtube, etc., we tend to forget that this communication and access, of utmost importance in our post-industrial daily life, is dependent on an infrastructure that is out of the control of its users, in the same way that optical fibres guarantee, with some security, that surgerys can be realized remotely, DNS address which is still centralized within very few countries.

With Digital Radio Mondiale, not only can you broadcast high quality audio within our own continent and others, we can also send files, making new services possible that radically change established concepts of the analogic era, since the audio-visual can also be broadcast via digital radio, such as Diveemo, broadcasting video footage via radio.

If you have read this post up to here and have had a look at the links, you can imagine why the communication monopolys are working against DRM becoming the Brazilian standard of Digital Radio. Instead of DRM, many communications executives prefer the HD radio standard, which is property of Ibiquity, and although aproved by the ITU, its audio codec is like a "black-box", an industrial secret owned by Ibiquity, which does not operate well on AM, doesn't read shortwaves and doesn't operate well on low potency, it consumes a lot more energy than its competitor DRM and does not optimise the use of the spectrum. As a strategy to delegitimize DRM, recent dubious statements have proliferated, including from members of the brazilian government, such as Genildo Lins's claim that "os testes com rádio digital não foram bons" (recent digital radio tests were not good). The Government's Electronic Communications Secretary is infact referring to the standard that maintains high-potency broadcasters, HD. On the other hand, DRM works well in high-potency, and attends to low-potency. It is the only standard that works on all the frequency bands.

The proposal of deferring a decision about digital radio's standard, is a stratedy to migrate AM radios (in reality, AM and medium wave broadcasters) to VHF, which will see an end to AM bands, since HD radio has had a poor performance on the AM bandwith.

If HD doesn't work for AM, it will be terminated, that is what the commercial broadcasters are proposing!

Paralel to choosing the standard, research has taken place in a broadening of the possibilities for communication in the spectrum, such as the FHSS tecnique, and an awareness of the Espectro Livre (Free Spectrum).

Legally, it's worth noting the recent government initiatives in Argentina and Equador have sustained in their constitutions, and promoted the divison of the spectrum into three, in view to ensure complementary private, public and state broadcasting. If succesful, this policy could greatly expand citizen access not only to the consumption of plural content, but enable people's free and diverse expression through the Free Spectrum.

We hope this article will serve as a reference to Brazilian and South American citizens, as well as the whole world, to take part in defining the technology standard for digital radio that will vigor in our global society for decades to come. Our interest is to promote public debate in favour of public interest, and to challenge private interests that time again try to underestimate what is best for everyone.

We count on you in this fight!

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