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Wi-Fi cast [in English]

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– pgquiles @ 13:48:55 [Edit This](#)

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Introduction

It's been ten years since the first Internet radios showed up, carrying a bad quality and audio formats just invented ([Real Audio](#)) or inadequate for that purpose ([AIFF](#), [WAV](#), etc.). With the advent of the [MP3](#), [WMA](#), [Ogg Vorbis](#) and other formats, and the improvements in Real Audio, Internet radios are a reality for some years.

Last year [Adam Curry](#) invented [podcasting](#), which essentially is creating a [RSS feed](#) with a list of songs or audio files, and allow people to download them for they to listen to it on their [iPod](#) or [alike](#). The problem: you need a long time to download a podcast feed (the playlist) and when you pull the plug from the network, podcasting is over.

A month ago I come with a new idea, the next step to podcasting. I christened it "wi-fi cast".

Description of the stuff

It essentially lies in having a mobile MP3 player with a wi-fi network card and "tune" the broadcasting stations people would have set up here and there. Each station could be as simple as a PC with a wi-fi network card and an open network (sort of [wardriving](#)) in order to get as much "listeners" as you can. You got it: it's like a podcasting, but moving on.

Whenever I say MP3 I could say Ogg Vorbis, WMA with [DRM](#), Real Audio, etc; whenever I say a mobile MP3 player with a wi-fi card, I could say a PDA with a wi-fi card and MP3 player software; or even an ad hoc created receiver (it could be quite cheap, according to my estimations: less than 30 EUR).

A bit of technology

- How can we make that common guy that goes up the street with his receiver finds a wificast station?

First I proposed a fuzzy approach: define some standard IPs and ports for the broadcasting stations. For instance, the 192.168.80.x range could be all servers (wificast broadcast stations).

Each broadcasting station would get a random IP from that range, and whenever two b-stations try to use the same IP, the newcomer would try another random IP (maybe we could create an algorithm for choosing IPs). It'd be a need to find the conflict in the IP, but it's quite easy (for instance, Windows 2000 does it).

Although for the example I have used a class C IP range, we could also define a class B

range (for large cities) and a class A range (but I think it won't ever be used).

Later Heimy came with a better idea: using RendezVous for b-station discovery. I think it's a great idea.

- Could we have more than one channel per b-station?

Sure. It seems easy to have the same broadcasting station to broadcast N channels. The only limitation would be the bandwidth.

Each b-station would have a "playlist", which would be the channels it offers. For instance, we could have a playlist like this one:

1. Classical music
2. Politics
3. Pop music
4. New age

And each item from that playlist would "jump" to a new playlist, which would be the actual programming of that channel. You can even group channels, creating sort of a channel tree in the same b-station:

1. Classical music
 1. Classical music – Germanic
 2. Classical music – Italian
 1. 1.2.1 – Classical music – Italian – XVIth Century
 2. 1.2.1 – Classical music – Italian – XVIIth Century

etcetera

In the mobile receiver, choosing the "song" number you would be jumping "groups" or channels.

Scope

Here is the charm of this: as wi-fi has a limited reach, broadcasting stations would be "zonal". For instance, you could have a district station, or only inside the university campus, or only inside a shopping center, etc. Indeed, we could have practically infinite broadcasting stations, because ~~you only have to try the standard IPs for servers~~ RendezVous would auto-discover new broadcasting stations.

Usefulness, interest, business, etc

Off the top of my head:

- Client fidelization: for instance, Wal-Mart could set up a broadcasting station inside the shopping center, then broadcast their own programming (with their advertisements, of course)
- Advertisement: for instance you have a hairdresser's and you are broadcasting from there your music and advertisements
- Tourism: give (or loan, or rent) the tourist a receiver and as he visits the city, he is tuning (even automatically, we can furnish the receiver with some intelligence) the stations which explain him what's each monument, etc and of course, you seize the opportunity to make him listen some advertisements.
- Simultaneous translation: using the same headphones that 1000 people before you have used is dirt, so you could use your own wificast receiver, or even a loaned receiver but with your own headphones (just plug the jack into).
- Videsurveillance: give a video wificast receiver to a guard so he could see wherever and

- whenever what the cameras are recording. A channel in the b-station for each camcorder.
- Be cool: get everybody to know what do you listen to, what do you think, what do you watch, etc

And a lot more, the sky (and your imagination) is the limit.

Further development

Although I have only spoken about radio wificast, we could mimic this infrastructure with video (TV), photos (for instance, for tourism: you show tourists a few photos of the exhibition in the museum they are next to, so you seduce them to pay to go inside, etc.

For instance, imagine you are visiting a Disneyland and while you are in the line one hour to enter the Space Mountain, you are watching wificast videos about the space, the NASA/ESA, the spatial technology, etc and you can choose which one you watch!). OK, it is not a good example, but you can get the idea.

Laws

You do not need any permission or administrative license, so there 's no problem. Should wificast gain popularity, commercial AM and FM radios would get scared..

Comments, reviews, criticism, etc

Here it is, and now we all could improve the idea. I am sure this is still in its infancy.

Update Added two new applications: be cool and videosurveillance.

Update 2 Here you have some logo proposals for audio wificast:



And video wificast:



3 Comments »

1. This is a reminder for myself: we can try OpenSLP instead of RendezVous

Comment by [Pau Garcia i Quiles](#) – Saturday 15th of January 2005 @ 13:59:08 | [Edit This](#)

2. [OpenSLP](#)

Comment by [Pau Garcia i Quiles](#) – Saturday 15th of January 2005 @ 13:59:58 | [Edit This](#)

3. Looking at [KDE 3.4 requirements](#) is also interesting, lots of info about libraries.

Comment by [Pau Garcia i Quiles](#) – Saturday 15th of January 2005 @ 14:01:30 | [Edit This](#)

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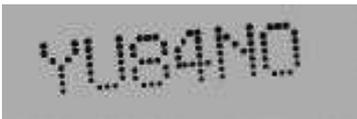
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