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Why call it the “Internet of the Future”?

It is clear from the press and any number of websites that the Internet we know has changed a great deal recently in terms of ergonomics, layout and refresh speed introduced by such products as Ajax and CSS¹. Moreover, the facility of sharing and collaboration gives a new social dimension to many online services. All of this is encapsulated in the popular term Web 2.0.

Over and above these aspects visible to the end user, ICT professionals are concerned with developments they feel need urgently testing and implementing. Whether the issue is reliability, security, power, response times or service quality, all of these aspects have often been minimised in terms of their importance, if not deliberately omitted when the current Internet was designed and gradually brought online. It is these developments that need to find their place in the emergence of an “Internet of the Future”.

Report from the CSTI B Group – Internet of the Future

Following informal think tanks held in June, July and September 2006, an Advisory Board working group drew up the following text. Since recommendations on broadband infrastructures and upstream research to define the future networks had already been made by previous CSTI sessions, this project makes the core focus for its proposals the dissemination of content such as it is expected to evolve in coming years. These proposals are grouped under four headings, themselves broken down into more detailed measures:

1. Improve the transparency and efficiency of French governance of the Internet.
2. Rapidly launch Internet 2 in France, i.e. the convergence Internet.
3. Dismantle the “Fixed-Mobile” boundaries in the short term and reorganise the “Broadcast - Point-to-point” complementarity.
4. Take on board the “free” Internet business model.

When reading these recommendations based on the French situation, bear in mind that talks should also continue in Brussels on each of the points and that the measures finally decided on must absolutely take account of the European context.

¹ Ajax: Asynchronous Javascript and XML – CCS: Cascading Style Sheet

1. Improve the transparency and efficiency of French governance of the Internet

In France, as in the rest of the world, Internet players are many and varied, ranging from the different administrations (without one taking a leading role) through to the end users who, on the same network and using the same machines, range from the novice school pupil to the professional whose value-added is created only on the Internet. In between are telecommunications operators, Internet service providers, hosters, information creators and service providers: e-commerce, payment, etc. Then there is the meteoric rise of a new category, aggregators, whose web crawlers constantly browse the information created by initial authors (such as press agencies) with the aim of offering this information, on their own gateway, ranked and sorted by consumer needs. These new middlemen create presentational value-added at the expense of the original owners' creative value-added and therefore take full advantage, through their position as filter, of detailed data on the needs, uses and consumption of the Internet users.²

Although the Tunis Summit confirmed the real need for closer associative action by the different stakeholders³ and some countries promptly took up one of the recommendations of this world summit, France has not yet started to get the different players together for an in-depth dialogue. The impetus for a French Internet Summit should obviously come from the administration, which has not yet appointed its own lead manager for this area with its constantly changing geometry. The last Interministerial Committee for the Information Society (CISI) meeting in July 2006 raised this issue with regard to charters and labels, but the problem is more general.

As the debate in the United States heats up over the neutrality of the Internet, with telecommunications operators pitted against content service providers⁴, this subject cannot remain absent from priority considerations in France and Europe as an extension of the action already taken.

Another recurring cause for concern is the insidious drift in the use of data collected without the knowledge of service subscribers, and sometimes even occasional visitors. Without wanting to contest the reality of the need for service providers to improve their personalisation of the services they offer, it is clear that a code of conduct should quickly be established before a lack of confidence prevails.⁵

Lastly, an increasing number of players are warning against the new dominant positions of international, and sometimes national, providers who are quickly establishing themselves on the basis of innovations or new business models and who are creating barriers to entry on the French and European Internet that could quickly prove impenetrable for their competitors.

Improve the transparency and efficiency of French governance of the Internet:

- Establish greater mutual understanding of the issues among all stakeholders by holding round tables.
- Clearly designate a “team leader” for co-regulation.
- Launch a debate on the transparency and neutrality of the Internet.
- Oversee the information gathered by service providers on their customers and prospects.
- Identify appropriate measures for combating abuse of dominant position.

² Even though the owners are attempting to stamp out the phenomenon via legal action for copyright infringement.

³ A multi-stakeholder dialogue

⁴ There is a possibility that peering rules could become increasingly opaque ...

⁵ See the analysis, *A qui appartient mes logs?* (Who do my logs belong to?) in No. 125 of InternetActu.net.

2. Rapidly launch Internet 2 in France, i.e. the convergence Internet

Recommendations and calls to set up broadband access throughout the territory fall short of the mark when the conditions for investment, for opening up these new infrastructures to competitors and for a level playing field are not clearly explained. A clear, sustainable situation needs to be spelled out as soon as possible.

Moreover, a metanetwork cannot be fully effective if attention is paid only to setting up broadband links. The recent launches of consumer services in France have amply shown that equipping subscribers with broadband is not in itself enough to make a fast and high-performance Internet.⁶ It is high time we, like the English-speaking countries, promoted the emergence of an infrastructure of server farms evenly spread across the territory, with powerful, secure, shared facilities.

Here again, the CSTI draws the government's attention to the pressing need to favour national trusted third parties and help them grow.

In addition, the discovery of an innovation is hardly enough to convince investors faced with quite a versatile market that often tends to wax lyrical about innovative services' latest newborns. It is becoming increasingly necessary to organise large-scale, life-sized prototypes, helping the competitive clusters in this.

Financing precompetitive projects in these areas is totally in keeping with French Agency for Industrial Innovation (AII) and National Research Agency (ANR) briefs in addition to French enterprise competitiveness funds, but procurement contracts should also provide for mechanisms that facilitate taking the risk of a choice not yet "on the shelves", especially when this is made by a start-up.

Lastly, France is lagging behind in teaching multimedia and online learning as much in terms of the courses already in place as the equipment provided to students and pupils and the digitisation of the classes. Now that the DADVSI (Copyright and Residual Rights in the Information Society) Act has introduced an exception for education and research, steps should be taken to clarify the circumstances in which it could apply to this type of learning and dissemination of knowledge.

Rapidly launch Internet 2 in France, i.e. the convergence Internet

- Clarify the conditions for opening up investments made in VDSL service to competitors.
- Promote an infrastructure of powerful, secure and shared French servers that can guarantee suitable access times for the emergence of innovative services.
- Favour the use of French and European trusted third parties. Promote them if necessary.
- Launch projects for life-sized applicative prototype platforms. Encourage the major groups to become involved and experiment.
- Finance precompetitive projects by means of French procurement contracts.
- Innovate in teaching multimedia and online learning. Consider how to enforce the exception for education and research and the relevant compensation laid down by the DADVSI Act on 1 August 2006.

⁶ See the shaky launches of the National Audiovisual Institute (INA) and National Geographic Institute (IGN) websites.

3. Dismantle the “Fixed-Mobile” boundaries in the short term and reorganise the “Broadcast - Point-to-point” complementarity.

The IP protocol, an essential component of the Internet, has proved to be the fast-spreading method of dissemination, in addition to broadcast, for all multimedia chain players, including mobile television players. The boundary between personal computers and the latest generation of televisions is already disappearing fast. And terminal manufacturers are already anticipating the next step since the first multimedia mobiles without a telephony function are burgeoning, proof that these manufacturers are putting their money on a new compact and ultra-mobile means of communication.¹⁰

As a result, the elaborate dividing lines between television, telecommunications and the Internet that we know in France are becoming more and more technically complex, and legally obscure, every day as stressed by the *Conseil d'Etat* (French Supreme Administrative Court) report on the codification of legislation on electronic communications.

An in-depth technical and legal review is therefore vital if France aims to maintain its edge in these areas of image and video dissemination taking, here too, great account of the European Commission's actions.

Dismantle the “Fixed-Mobile” boundaries in the short term and reorganise the “Broadcast - Point-to-point” complementarity.

- Promote terminal interoperability.
- Remove the obstacles to better frequency management.
- Clarify the applicable legal arrangements.
- Refine regulation and regulations.

¹⁰ See the tablets from Nokia, Sony, etc.

4. Take on board the “free” Internet business model

The business model underlying the services offered by the leading search engines, blog platforms and video sites,⁸ whose content can range from the highly personal to rerecordings of television series, has so many examples as to hardly wonder at its existence anymore: the end user does not pay for the use of a site, which is remunerated by third parties in the form of targeted advertising.⁹ Nevertheless, nobody quite knows whether this model will last since several forces at work could ultimately bring about a return to remuneration by end users for a service.

In the meantime, it is urgent for both the advertising agencies and the balance of the consumer services open in France and Europe to not leave the door wide open for the Anglo-American majors in the different components of the current supply.

Attention should be paid in particular to the deployment of micropaid services by the daily and regional press in France and by the “extras” services of certain engines which, alongside the remuneration through advertising in which they excel, are testing direct remuneration for personalised questions.

As with the collection of connection data without the knowledge of the user, codes of conduct for these “free” services have often yet to be drawn up and implemented.

Take on board the “free” Internet business model

- Invent new forms of advertising in which French players can position themselves.
- Test the alternatives with simplified micropayment.
- Define the legal framework for France (Code of Conduct, etc.).

⁸ DailyMotion, YouTube and Flickr, for which Internet users geotagged nearly one and a half million videos within 24 hours of the opening of this optional service.

⁹ This model even extends to legal music downloads where the remuneration is no longer paid by the end consumer, but comes from site advertising revenues (see SpiralFrog and the Universal Music and EMI online catalogues).