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WI-FI IN FRANCE: NO MASS COMMERCIAL ROLLOUT OF HOTSPOTS YET, MORE HOPE FOR MUNICIPAL WIRELESS DEPLOYMENTS

Wi-Fi hot spots and wireless metropolitan area networks (Wi-MAN) are becoming the rage in several countries: Germany, India, the United Kingdom and the US. However, France seems to be left behind. The number of public hot spots in France is around 150,¹ which means one hot spot for every 400,000 inhabitants. A very low rate. Why?

A. USERS' POINT OF VIEW

1. HIGH-SPEED INTERNET IS NOT YET AN ABSOLUTE MUST-HAVE

France has an Internet penetration rate per household of 35.6%,² mainly through low-speed connections via modem³ (84%), even though 99% of PCs in households have the potential to connect to the Internet. High-speed Internet is considered in France at the level of 128 kbps,⁴ which is not so speedy. Affordable pricing is the barrier to adoption. Whatever the technologies are, connection tariffs⁵ are expensive in copper, cable or radio networks and very often made complex by throughput or data volume limitations. An ADSL-512 monthly subscription costs one full day of wages for a person paid at the official minimum wage.⁶ Add to that the monthly fee⁷ for a mandatory telephone land line and high speed Internet becomes too expensive for many French families.

High-speed Internet at work is another story, although SOHOs and SMEs face the same budget issues that deter households from moving en masse to high-speed access.

The digital divide in France is quite serious and will take time to resolve: on the average there is one Internet subscription for 15 inhabitants and this is without even addressing the issue of throughput. High-speed Internet whatever its access mode will be popular when it becomes truly fast and relatively inexpensive.

2. THERE IS LITTLE DEMAND FOR INTERNET ON-THE-GO

Mobile telephony⁸ (GSM⁹) is a tremendous success in France with 64.2% of the total population using a mobile phone¹⁰ actively.¹¹ It is very close to the maximum rate if you consider that operators do not target babies and young children.¹² Mobile text messages (SMS) are also very popular in France.¹³ Mobile phones, not portable laptops or Wi-Fi equipped PDAs, are the primary way that people send and receive messages whether voice or SMS.

The lack of demand for Internet on-the-go can be traced to two other factors. First, few people own personal portable equipment that have Wi-Fi capability. This will change as laptop and PDA vendors begin to include Wi-Fi connectivity in their devices. Second, most French people have not yet gotten into the habit of surfing wirelessly on a portable computer in a public area. WIXOS, a for-free network with 12 hot spots installed on public transportation stations in downtown Paris got only 1,700 users among the millions of inhabitants of the city during the last three months and 40% of them connected only once!¹⁴

B. TELECOMMUNICATIONS OPERATORS HAVE THEIR OWN REASONS FOR NOT PROMOTING WI-FI FOR THE MASSES

There are two kinds of commercial Wi-Fi operators: (i) the two local, giant universal carriers, France Telecom¹⁵ and Vivendi¹⁶ and (ii) about fifteen Internet service providers and smaller telecommunications carriers rushing into Wi-Fi¹⁷ whose numbers are set to grow. There are several reasons why the giant carriers are not keen on pushing Wi-Fi for the masses.

1. WI-FI IS CONSIDERED A STRONG COMPETITOR TO CELL NETWORKS

First, French universal operators consider Wi-Fi to be a potential, fierce competitor to their mobile data networks. WAP¹⁸ was a disaster, GPRS¹⁹ has been in launching mode for several months, and the expected 3G/UMTS²⁰ has been postponed. Wi-Fi throughput²¹ is so high compared to these mobile standards that they appear to have no power to compete. On the other hand, certain economic surveys show that investment in a Wi-Fi metropolitan network would cost only 5% of a UMTS network for the same town, thanks to "licence

exempt” technology.²² Whatever the true figures, it is clear that there are enormous cost differences between Wi-Fi and UMTS.

Consequently, to avoid cannibalizing their GPRS/UMTS products, mobile operators charge very high Wi-Fi tariffs: one hour pre-paid Wi-Fi costs approximately 10.00 € (□ US\$ 11.18), which is 41% of one pre-paid hour voice over GSM.²³ And Wi-Fi offered by mobile operators is in fact over ADSL land lines inside hot spots.

2. NO INCENTIVE TO INVEST IN NEW SERVICES

Both France Telecom and Vivendi suffer from massive debt burdens.²⁴ As a result, they are not eager to invest in new technologies and networks. Much of the debt can be attributed to huge investments in GSM operators around the world, WAP or GPRS networks and UMTS licence fees. As result, the operators seem to have a short-term strategy. They will offer a new service only if: (a) it generates quick profits through existing networks and (b) it does not transfer traffic from a cash cow (i.e. Internet via fixed line) to a new service (such as Internet via Wi-Fi). Pricing is again a way to slow down the transition: 24 hours of Wi-Fi costs as much as ADSL-128 for one month.

Wi-Fi seems to be considered as a new tool for developing revenue for other services, not a way to deliver popular high-speed access to the Internet. For instance, France Telecom is promoting an package²⁵ that includes a Wi-Fi home base station and an ADSL line targeted to households and small hot spots. The operator goal is clear: to increase both their ADSL and Internet services’ regular revenues.

Another reason for the reluctance to invest in new services is that the operators are devoting more time and attention to recent mergers and the accompanying cost-cutting and reorganization.

3. A STRATEGY BASED ON DIFFERENTIATED MARKET NICHES

The marketing strategy of operators (traditional giants and new Wi-Fi providers) is based on niches differentiated by the high level of users’ purchasing power, for instance, nomadic businessmen in hotels and congress centers. This is understandable. An operator has to try and do its best to get the most revenue from as little investment as possible. As a result, the current commercial strategy of French Wi-Fi providers consists of acquiring as many small, closed “environments”: one hotel here, another congress center there.

However, if you consider the complexity and expense of applying various network access authorizations, billing systems and roaming procedures to this patchwork of hot spots, it is clear that the operators will not be able to decrease tariffs anytime soon. In addition, how long will users tolerate the inconvenience of having to use a variety of log-in and billing procedures when moving from one hot spot to another in the same city?

More importantly, is it a good strategy for hot spot location owners to become resellers of Wi-Fi providers? Why shouldn’t owners provide low-cost wireless Internet access to customers as a loss leader, even for free, in order to make more revenue on their core business (i.e. beverages, food and hotel rooms) and give better service in the same way they do with television and newspapers in hotel rooms and café bars?

4. AN EXPENSIVE METRIC TARIFF MODEL

Traditionally, telecommunications tariffs are based on the length of a call, time of call, distance, throughput or volume limitations in data services. This metric model is also applied by Wi-Fi providers. Most offers concern pre-paid cards with all ranges of minutes of connection between 15 minutes to 40 minutes, or 1 hour to 24 hours. Many pre-paid schemes are valid only in a single hot spot. A minute costs an average of 0.23 €²⁶ (□ US\$ 0.26) through these pre-paid cards. There are also long-term subscriptions for several hours per month on a cheaper tariff around 0.08 €²⁷ (□ US\$ 0.09) per minute. As a result, French Wi-Fi appears to be one of the most expensive in the world according a recent survey.²⁸

An expensive, metric tariff is a sure way to limit the popularity of a service. By contrast, an information service such as television in France is low-fee,²⁹ regardless of the number of hours you watch or the quality of the programs. A low flat-rate service would truly popularize Wi-Fi or Wi-MAN.

C. NETWORKS BY NON-PROFIT ORGANIZATIONS ARE DIFFICULT TO SCALE UP AND ACCESSIBLE ONLY TO VERY FEW

There are also Wi-Fi projects developed by amateurs or technical people through non-profit organizations.³⁰ However, these are mostly available and known only to their members. They do not seem to be the proper way to develop city-wide wireless, high-speed networks. Delivering such a service to a large population requires a certain level of professionalism (24/7 availability, neutral and universal services, confidentiality, security, public health considerations, etc.). It also means investing on a regular basis (maintenance, network re-designing, urban architectural constraints, hardware replacement, and new standards). It is difficult to see how volunteer-based organizations without revenue can carry out these tasks. However, amateurs are at the forefront of the Wi-Fi debate in France and are forcing the national government and local regions to address the issue.

D. REAL POPULAR DEVELOPMENTS COULD COME FROM COMMUNITIES

Today, Lille is the only large city in France which is formally gearing up to create a metropolitan area network (Wi-MAN) in 2004.³¹ The city of Pau³² has Wi-Fi plans, but Wi-Fi is just a small part of a larger project based on fiber optics.

Looking at its closest neighbor, Germany, where Wi-MAN³³ and Wi-Fi hot spots³⁴ are developing rapidly, France is absolutely behind. There are four times³⁵ as many hot spots per inhabitant in Germany than in France!

French communities could reverse the current situation. They have a long history of dealing with sophisticated services for their citizens (e.g. streets, water, local transportation). Many have sound finances and there is also the possibility of obtaining funds from the European Union.³⁶ Wi-Fi and Wi-MAN are not so difficult to deploy, even by cities, which do not have a telecommunications background, and these technologies are relatively low-cost. The successes of communities in Germany, the United-Kingdom and the US are a strong encouragement to French municipalities. More importantly, high-speed Internet access at very low prices will meet citizen expectations and strengthen the local economy by maintaining competitive businesses and generating new employment. A good way for French cities to cope with global competition!

French regulations have been amended in July 2003:³⁷ Wi-Fi is now fully licence-exempt, although network providers have to inform the telecommunications authority (ART) through a simple declaration. There is no licence fee. However, communities are not yet allowed by law³⁸ to deploy public telecommunications networks. Still there is proposed legislation³⁹ being debated in the French Parliament, which could change the situation. Operators are strongly lobbying against any act that could permit municipal, public networks.

Nevertheless, communities can sponsor organizations to deploy Wi-Fi networks, and why not, like in other European countries, by partly establishing partnerships with telecommunications carriers.

French city councils rallying motto may be soon “Wi-MAN: A very high speed and low cost Internet, for everybody and anywhere.”

By Philippe Montubert – Lyon, France - August 21, 2003

Notes :

All French prices in this article include a tax (VAT) rate of 19.6%.
Currency exchange rate used in this article : 1 € = US\$ 1,11846

¹ Origin : Wifinder

² “Internet, a review of the French market” by ART (French telecommunications authority) - March 2003

³ Maximum theoretical throughput 56 kbps

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- ⁴ ADSL-128 kbps = upstream 64 kbps + downstream 128 kbps
- ⁵
- ADSL-128 : 30,00 € (□ US\$ 33.55) for one month under subscription
 - ADSL-512 : 45,42 € (□ US\$ 50.80) per month under subscription
 - ADSL-1024 : 80,00 € (□ US\$ 89.48) per month under subscription
 - Still with both ADSL you have to add a monthly subscription to the ground telephone
 - Wi-Fi : an average of 10 € (□ US\$ 11.18) for one hour and 3 times that price for 24 hours, both not timely banking generally, and without the impact of mobile service subscription fee (ex: GSM operators)
- ⁶ Index-linked minimum guaranteed wage is 7.19 € (□ US\$ 8.04) per hour from July 1, 2003; it concerns around 30% of jobs.
- ⁷ A telephone land line monthly subscription costs a minimum of 13.00 € (□US\$ 14.54).
- ⁸ GSM standard : Global System for Mobile communications
- ⁹ There are three mobile operators in France : France Telecom/Orange (GSM 900 MHz), Vivendi/SFR (GSM 900 MHz) and Bouygues Telecom (GSM 1800 MHz).
- ¹⁰ Mobile market report by ART - June 30, 2003
- ¹¹ In 2002 each GSM handset generated an average 114 minutes of calls; forecast is that in 2003 the number of minutes will increase (origin: ART)
- ¹² Around 26% of the French population (60 million inhabitants) consists of children under the age of 14 and persons older than 75 years of age.
- ¹³ An average per user of 16.8 SMS per month during first semester 2003 (origin : ART - June 30, 2003)
- ¹⁴ Article published by Muniwireless.com: "[Paris Wi-Fi experiment - not so hot after all](#)" on July 23, 2003.
- ¹⁵ France Telecom mobile subsidiary, Orange and France Telecom's ISP subsidiary, Wanadoo
- ¹⁶ Vivendi telecom subsidiary, Cegetel + its mobile arm, SFR
- ¹⁷ Current count is 11.
- ¹⁸ WAP : Wireless Application Protocol
- ¹⁹ GPRS : General Packet Radio Service (2.5 G)
- ²⁰ UMTS : Universal Mobile Telecommunications System (3 G)
- ²¹ Wi-Fi : theoretical throughput 11 Mbps, user's real average 6 Mbps
- ²² There is just one UMTS network live in Europe: in the very small Principality of Monaco (32,000 inhabitants). Thousands Wi-Fi networks are live around the world, hardware is manufactured on a worldwide scale hence cheaper than UMTS ones.
- ²³ Pre-paid standard GSM plan costs generally 27.00 € (□ US\$ 30.20) per hour.
- ²⁴ Last official company reports in 2002 mention the following debt levels : France Telecom 67 billion € (□ billion US\$ 75.94) and Vivendi 32.7 billion € (□ billion US\$ 36.57).
- ²⁵ Brand name : "Pack eXtense Wi-Fi ", which is promoted as a gateway to wireless Internet inside a household or a small office. Sale price : 299.00 € (□ US\$ 334.42) once to buy the hardware plus ADSL monthly tariff (see # 5). Pricing reduction possible on a long-term contract.
- ²⁶ 0.18 € (□ US\$ 0.20) for one minute by a pre-paid card of 1 or 2 hours, up to 0.33 € (□ US\$ 0.37) by a pre-paid card of 15 minutes
- ²⁷ 50.00 € (□ US\$ 55.92) for 10 hours a month, 120.00 € (□ US\$ 134.22) for 30 hours a month
- ²⁸ A Broadgroup survey – see article "[European Wi-Fi users are getting ripped off](#)" on July 23, 2003 in Muniwireless.com.
- ²⁹ A basic annual tax on households and for those who want to add cable channels, a monthly lump-sum.
- ³⁰ Our current count is 21.
- ³¹ Located in the North of France close to the Belgian border (see article : "[Lille metropolitan Wi-Fi hotspot network](#)" in Muniwireless.com on June 20, 2003)
- ³² Pau is located in the Pyrenees area - project brand name is : Pau Broadband County.
- ³³ Cities : Hamburg, Bochum, Düsseldorf, and soon Dresden, Essen und Halle; other cities are expected later.
- ³⁴ Currently 600 hot spots and soon 200 more - origin : Mobileaccess.de, Wifinder.com and other databases.
- ³⁵ Based on numbers mentioned in footnote 34 above, this means one hot spot per 100,000 inhabitants in Germany.
- ³⁶ European Commission Information Technology Programs ; ex : eTEN
- ³⁷ "[Wireless LAN, a new and decisive change for wireless local area networks](#)" by ART on July 24, 2003
- ³⁸ The Communities Acts do not allow a community to become a public telecommunications operator.

³⁹ Still there are already several examples in communities with the dark fiber networks and thanks to the Senat (the French Upper House), a proposed legislation “[pour la confiance dans l'économie numérique](#)” whose goal is to allow communities to set up public telecommunications networks, was approved in June 2003; it still must be approved by the Lower Chamber in order to enter into force and passage of this law will not be so easy.