

Crossed Viewpoints

changing usages,
technologies
and
markets

n°3
March 2009



Broadband and Multiplay:
a new Era for fixed line

edito

In post-industrial economies the possession of physical assets has increasingly been viewed by companies as a potential handicap to them. The sheer financial weight of the investments, their maintenance costs and their rapid obsolescence have resulted in companies preferring to rent services rather than owning their own assets¹.

The telecommunications world is no exception to this trend with a number of virtual operators, or service providers, subsequently prospering by simply renting network capacity from the established operators and owners of the infrastructure.

However, that is not to say that all companies are totally abandoning the ownership of physical assets. After all the telecommunications industry has a self-serving interest in constantly developing and modernizing their infrastructure. Landline networking technology plays a particularly important part here as, with coverage in developed countries almost total, they have to find new ways to develop their business in regions where alternative networks have little or no business potential. The situation is different again in developing countries where mobile networking is the preferred model; simply due to the historical absence of fixed line infrastructure and the inherent physical difficulties of beginning to install landlines - with no guaranteed market at the end of the process.

Yet, at least in this sector, dematerialization cannot be total, the community still has a major stake in the development and modernization of infrastructure. Landline networks play a particularly important role as coverage in developed countries is already maximized, and thus remain the only available instrument for regional development in areas where the alternative networks have no market role; the issue is different again in emerging markets where despite the remarkable rise of the mobile, the absence of fixed line coverage remains a structural handicap.

Fixed or landline networks constitute a "strategic resource" for the incumbent owners and operators; allowing them to occupy a meaningful position in the broadband market, which is in fact currently enjoying a phase of worldwide growth and expansion. A key factor here has been the way that multiplay has made landline networking attractive again, reversing the declining trend that was observed a few years ago. The strategies used to achieve this situation by multiplay can subsequently be used even in the development of hybrid solutions. Allowing multi-service offers to areas that otherwise could not have TV over ADSL, thus reinforcing the market power of the operator by extending its zone of influence.

In this third edition of "Crossed Viewpoints", the authors have endeavored to assess the value of current fixed telecommunications infrastructures for the development of the information society; taking into account the hybrid answers that follow on from the pursuit of the aim of achieving a universal service.

Jean-François Fallacher

CEO

Sofrecom

Bernard Ramanantsoa

CEO

HEC Paris

^{1/} "The possession of physical assets, previously solidly established at the heart of industrial societies, has become increasingly economically marginalized. Companies and enterprises only see an operating cost, rather than a productive asset, preferring to rent some services than to be owners of them». And few lines below: «The world of enterprises is already extensively committed in this transition from the era of property to the age of access» - Jeremy Rifkin in "The age of access". Penguin Books, 2000, page 11.





from monopoly to competition, from competition to destabilization: A short history of a strategic resource

Historically the telecommunications industry in the western world has been structured around the deployment of fixed networks, based on wired technologies. Before analyzing the difficulties and problems this type of network faces, a historical detour will serve to explain the key features of the telecommunications economy and to understand how this model is now being revised.

The characteristics of the telecommunications economy

Created in national contexts, telephone services and systems were established and developed in institutional settings in practically every country in the world - creating a monopoly for the service within each country. These were typically public monopolies in Europe and Japan; whereas in the USA a private, yet regulated monopoly, developed - that of ATT.

Beyond the political will of the various governments to control the ensuing telecommunications infrastructures, these systems of national communication were considered to be both essential and strategic. The industry became subject to what economists call the "natural monopoly". This situation arises from two specific points: network externalities² as well as a submission to economies of scale³. In simple terms, the more widespread the network, the more useful it is to the consumer and thus the more efficient it is. Hence, the economic optimum is obtained through monopoly and not competition.

This situation relates historically to the development of the telephone according to the famous formula: "One Telephone, One System, Universal Service"⁴.

From the 1980s onwards several factors lead to this institutional schema being questioned. First of all, the rise in power of free market ideologies stigmatized the monopolies that had been established in many sectors; these were after all the Thatcher-Reagan years. But, this ideological U-turn would have had little hold without three concomitant and deep transformations in the telecommunications sector, which undermined the theory of the natural monopoly:

- 1 - The process of digitalization that allowed networks to transport all types of information, not only voice
- 2 - A significant decrease in the number of barriers to entry
- 3 - The existence of alternative solutions to networks for the supply of the telecommunications services (terrestrial network, cabled network, etc).

All of which resulted in the dismantling of ATT in the USA in 1984; and the enactment, in 1996, of a very free market "Telecommunications Act". In Europe a process began at the initiative of the European Commission which aimed at the setting up of "total competition" for the former public monopolies from January 1st, 1998.

The fixed network, a strategic resource?

The liberalization of the telecommunications sector posed an important problem for the regulator. The former monopolies had at their disposal, at the time the competition arrived, a decisive competitive advantage due to their physical possession of the network resources.

2/ Network externality is the effect that one user of a good or service has on the value of that product to other people.

3/ On the contrary, in a «pure and perfect competition», companies are submitted to diseconomies of scale.

4/ AT&T President Theodore Vail in a 1907 speech.

These resources were indeed valuable, as it is the network which makes it possible to deliver the service. Fixed telephone networks are both unique and universal, making them hard to replicate in any economically viable sense of the idea. i.e. the cost of investment in creating even partially a similar network is judged to be beyond the budget of any new entrants. This issue was compounded at the time of liberalization as there were then no alternative technologies/networks capable of providing the required universal coverage. Hence, the conclusion: the fixed network really is a strategic resource.

Such was the diagnosis made by the regulatory bodies (FCC in the United States, ART in France) which imposed on the former monopolies the obligation to open up their infrastructure to new entrants. This was highly controlled tariff conditions to permit the setting up of meaningful and lasting competition, with obligatory interconnection and, more recently, «local loop unbundling».

Some former monopolies have, nevertheless, often maintained an extremely strong position within their home markets; to the point that the European Commission, judging that any competition was too often reduced to a meager level, is today brandishing the threat of a functional separation between «networks» and «services» - similar to that which took place in the energy sector and railways.

The internet years and the decline of the fixed network

More recent evolutions, even going back to the late 1990s, have nevertheless contributed to a strong diminution of the strategic character of fixed networks as a resource.

Two factors have played a role in this:

- the development of alternative networks and in particular mobile telephony; that reached such a high rate of coverage of the population that it damaged the attribute of “non-substitutability” of fixed networks. In many countries, mobile telephone subscriptions exploded at the expense of landline subscriptions,
- the development of multiplay offers telephony, internet and television; all on the cabled networks that threatened fixed network operators - when they themselves were unable to make those services available to their own customers.

The three following examples below illustrate these themes;

A - In the United States, mobile/cell phones did not develop as quickly as in Europe due to the lack of a single standard. The decline of the fixed network is more attributable to the growth of High Speed Internet accesses over cable. In fact in this market the cable-operators captured the household broadband market very efficiently, initially by offering dual packages of TV and Broadband and then a triple package including VoIP. The “old” telecommunication company’s fixed networks were too old and of too poor quality to be able to carry High Speed Internet access satisfactorily via ADSL. Moreover, audiovisual offers were sufficiently developed on other networks, such as satellite, to constitute a barrier to meaningful entry into the multimedia market for the “old” monopoly. Substantial investment in high capacity fiber optic networks, to deliver multi-services, constitutes the only feasible solution to the old fixed line telecom operators for them to get back to having the status of being the owner of «strategic resource».

B - In Great Britain, the competitive threat came mainly from the satellite operator BSkyB, which had a near monopoly position on its original market of pay television. To keep its dominant position, in 2006 BSkyB purchased Internet Service Provider (ISP) EasyNet; in order to offer its customer base a «dual package» and then a «triple package». The initiative was a great success since the number of ADSL subscribers to the ISP increased tenfold during the first year following the acquisition. This strategy, that one could call «pre-emption», reduced the room for manoeuvre for the fixed line network operators; putting the “non substitutability” of the resource here in question.

C - In Germany, Deutsche Telekom faces competition from cable operators (substitutable), whilst at the same time it is handicapped by its difficulties to offer a good quality multi-service on its own network. Here the capability of the company to provide a new offer is put in to question. Deutsche Telekom admittedly has kept about 30% of the broadband market, but its offer for users to access multiplay services is not sufficiently operational to stop the decline in subscriptions to its fixed network.



CONCEPTUAL FRAMEWORK: THE RESOURCE-BASED VIEW

Introduction

All strategic analysis instruments stress the need for companies to build a competitive advantage that can be measured by their capacity to generate profit *. The question which needs investigating is therefore: «does the fixed line network allow its owner to have a sustained competitive advantage?» - and if yes, why and how?

It is not our intention here to present the entire set of theoretical approaches developed over the last few decades in the field of company strategy but simply to look at those likely to provide the most suitable answer to our question.

In a rather schematic manner, we may consider that there are two major types of approach to this:

- an external approach, essentially based on an analysis of the markets and the context; the best known model being Porter's who identifies five forces likely to affect the competitive position of an enterprise: rivalry between businesses in the sector, the threat of entry by new competitors, the threat of arrival of products of substitution, suppliers' market power and finally clients' market power **
- an internal approach centered more on the specific resources of the enterprise and on their capacity to produce a sustained competitive advantage.

It is this second approach, the «Resource-Based View», that we will pursue in the following reflections ***.

Definitions and hypotheses

Resources are made up of all the assets, capacities, organizational processes, know how, etc. mastered by an enterprise to put its strategy into place. They can be grouped into three major categories: material resources (assets, technology used, firm's plant and equipment, geographic location etc.), human resources (expertise and know how etc) and organizational resources (decision-making structure and reporting, internal relations etc.).

The elementary resources are the basic units of analysis. To become productive, they must be combined in

general with other resources and constitute what is called dynamic capacities, that is to say the combination of resources which enable an activity to be performed.

An enterprise is said to possess a competitive advantage when it puts into place a value creating strategy that cannot be put into place at the same time by a competitor (synchronic view). This competitive advantage is said to be sustained when it cannot be duplicated by competitors (diachronic view).

The theory is based on the hypothesis that the enterprise's competitors in a market do not have the same resources (hypothesis of heterogeneity), that these resources are not easily transferable from one enterprise to another (hypothesis of no mobility) and that, under some conditions, these specific resources are likely to procure for the enterprise that owns them a sustained competitive advantage: these resources can be considered to be strategic.

Basic model

Clearly, not all the resources of a company can be said to be strategic. A resource must have five attributes.

- it must be Valuable for the organization's customers, that is to say be capable of increasing the efficiency and profitability of the enterprise ;
- it must be Rare that is to say shared by few competitors on the market ;
- it must be difficult to Imitate, in other words difficult or unreasonably expensive to access by competitors ;
- it must be difficult to Substitute that is to say having no real equivalent with the same attributes - being rare and difficult to imitate;
- finally it must be easy to exploit by the Organization that has it

The diagnostic test VRISO (Value, Rarity, Imitability, Substitutability and Organization) can be applied to a resource or an identified capacity of an enterprise as summed up in the following table:

V	R	I	S	O	COMPETITIVE IMPLICATIONS	ECONOMIC PERFORMANCE
NO	NO	NO	NO	NO	Competitive Disadvantage	< Normal
YES	NO	NO	NO		Competitive Parity	= Normal
YES	YES	NO	NO		Temporary Competitive Advantage	> Normal
YES	YES	YES	NO		Temporary Competitive Advantage	> Normal
YES	YES	YES	YES	YES	Sustained Competitive Advantage	> Normal

Source: Allegre Hadida, in Le management des EAC page 33, Yves Evrard et al, Economica , 2° édition, 2004

* For more details: Strategor, politique générale d'entreprise, collectif HEC sous la direction de Jean Pierre Dètrie, 4° édition, Dunod, 2005

**PORTER Michael: The Five Competitive Forces that Shape Strategy. Harvard Business Review, January 2008

*** Cf. in particular BARNEY Jay: Firm Resources and Sustained Competitive Advantage, Journal of Management, vol. 17, 1991

a closer look at the potential problems for fixed-line telecoms

A downward curve on every continent

We will now consider in more detail the latest observations of there being quite a significant fall in fixed telephony subscriptions⁵. It is important to distinguish here between two factors: first the rate of fixed line coverage, that is to say the proportion of the population having access to a fixed line - which to some extent will depend on the state of the network; and, secondly the level of penetration of fixed line subscriptions, which is to say the number of households actually possessing an *activated* fixed line.

At present, globally, there are only 20 fixed lines per 100 of the population. Forecasts for the future are hardly encouraging, estimating that by 2017 this figure will have fallen to just 18.5 fixed line subscribers per 100 of the global population. Or, put more simply, the global market in fixed line subscriptions is likely to fall by about 1.5% within the next 10 years.

In developed countries, where network coverage is almost complete, after an initial period of progression followed by one of stagnation, in recent years there has been a gradual decrease in fixed line subscriptions which looks likely to continue. Forecasts are predicting for the developed countries that by 2017 fixed line subscriptions could have declined by up to 50%!

This declining trend is also being seen in the developing countries; even allowing for the different levels of equipment between developed and developing countries - the trend in fixed line subscriptions is downward. This has surprised some analysts as up to the 2000s there had been large scale programs of fixed line infrastructure investment. However, through the 2000s so far, this investment in fixed lines has slowed down considerably. The net result of this is that the already low numbers of subscriptions to fixed lines in the developing world will inevitably decrease further.

⁵/ Ovum and Idate forecasts

GLOSSARY

Broadband or High Bandwidth: refers to access capacities to the internet higher than analogue access via a modem. For the OCDE, this corresponds to a bandwidth over 256 kilobits per second.

CAPEX, capital expenditure: Physical or intangible investments, excluding financial investments, such as: the construction or extension of a network, the construction of an exchange or the acquisition of a patent.

DSLAM: Digital Subscriber Line Access Multiplexer, or in French - Multiplexeur d'Accès à la Ligne d'Abonné Numérique. The DSLAM is a device enabling a multiplexing function which enables a DSL type service (ADSL, ADSL 2+, SDSL, ...) to transmit over telephone lines. Technically, the DSLAM takes data traffic, from DSL technologies (Broadband, television via ADSL, VoIP ...), transmitting it over dedicated telephone lines to which it is connected - after the traffic has been split from standard telephony voice traffic. Geographically, DSLAM is located at the terminal of the local loop, the part between the telephone socket and the main distribution frame.

Dual and Triple Play (MULTIPLAY): refers in the telecommunications industry to a commercial offer whereby an operator proposes to subscribers (ADSL, via cable, or more recently optical fiber) a set of services within the framework of a single contract. The services include notably: High speed or Very high speed Internet access, landline telephony, (often in the form of VoIP) and television - sometimes with video on demand services (VoD).

ISP: Internet Service Provider. An organization, usually a company, offering a connection to the internet.

IPTV: (Internet Protocol Television) is the most common term used for subscription distribution systems of television signals and/or video using broadband connections over IP. The term IPTV, includes live television, video on demand and catch-up TV.

VoIP: (Voice over Internet Protocol), is a technique that enables voice communications by the internet or any other network which accepts the TCP/IP protocol. This technology is used notably to carry IP telephony services.

Fixed-lines: in the developed countries fixed-lines traditionally connected telephone users via one of the types of wire connection. There has recently been significant diversification in the type of connections used, most notably fiber (FTTH) and wireless technologies such as WiMax or satellite. The latter are particularly well adapted to zones and regions where fixed wire lines require excessive CAPEX.



Thoughts beyond the interests of telecommunications operators

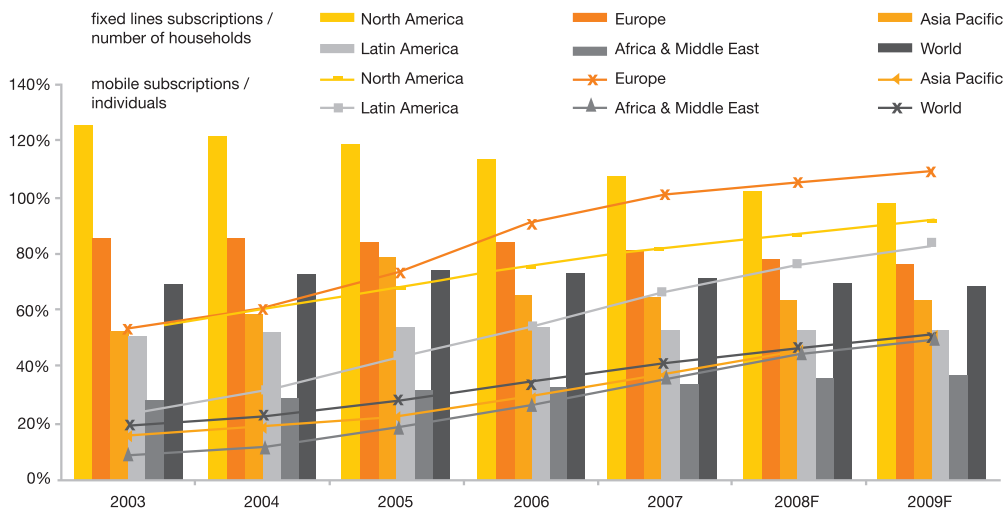
A real decline in fixed line subscriptions would pose significant problems not just for the telecommunications operators. From the point of view of a community's overall interests, and within a framework of regional development, fixed line telecommunications definitely occupies a fundamental place. Communication networks are today even more than ever a vital asset for economic development.

It is beyond doubt that they are equal in importance to any physical transport networks, both in developed and deve-

loping countries. Indeed, just as a country without a large system of freeways would risk consigning itself to "two-speed" regional developments - so too does a country without, or with weak, national telecommunications connectivity. In such a country - covered zones would be in the fast lane and the rest would all be in the slow lane.

Of course, the development of mobile technologies partially compensates for this lack of fixed coverage - but it cannot be a full substitute for it. The steady connection of users with good quality bandwidth and a service which can be shared by all occupants of an organization or household remains almost priceless.

fixed / mobile penetration by region



Source: IDATE

Concomitant with the decline in the number of land lines, revenue from those remaining lines has also fallen. In other words this means that there can be no compensation via ARPU (Average Revenue Per User) for the decline in fixed line subscriptions. With traditional fixed telephony revenues bound to fall further between 2007 and 2017⁶ (by more than half in developed countries and by a quarter in developing countries) - this overall trend can only benefit mobile telecommunications.

So the question is - Is fixed line usage thus inevitably bound to disappear, slowly dragging down with it the fixed line network? The good news is that this does not appear likely. Indeed, new services linked to the IP world (VoIP, Internet, Web, TVIP, VoD, home automation) more than justify keeping a fixed line subscription, with the new services bringing a new lease of life to fixed line networks and even increasing their value.

6/ Forecasts Ovum

broadband, voice over IP, Multiplay: the rise in new services offers a new lease of life to the fixed line

The irresistible rise of broadband

The internet is now a part of our daily lives. Whereas in 2003 worldwide only 21% of homes had an internet subscription, by 2007 that had risen to 29%. This rate of increase is expected to rise even more after 2012. In Europe alone, in 2007 39% of households subscribed to the internet, of which more than three quarters were broadband users. Worldwide, 29.5% of internet subscribers had broadband access in 2003 (representing 6% of all the global households). By 2007 this proportion had more than doubled; and the forecast is for it to reach 84.8% by 2012⁷. The massive increase in household IT equipment is acknowledged here as driving the demand for broadband access.

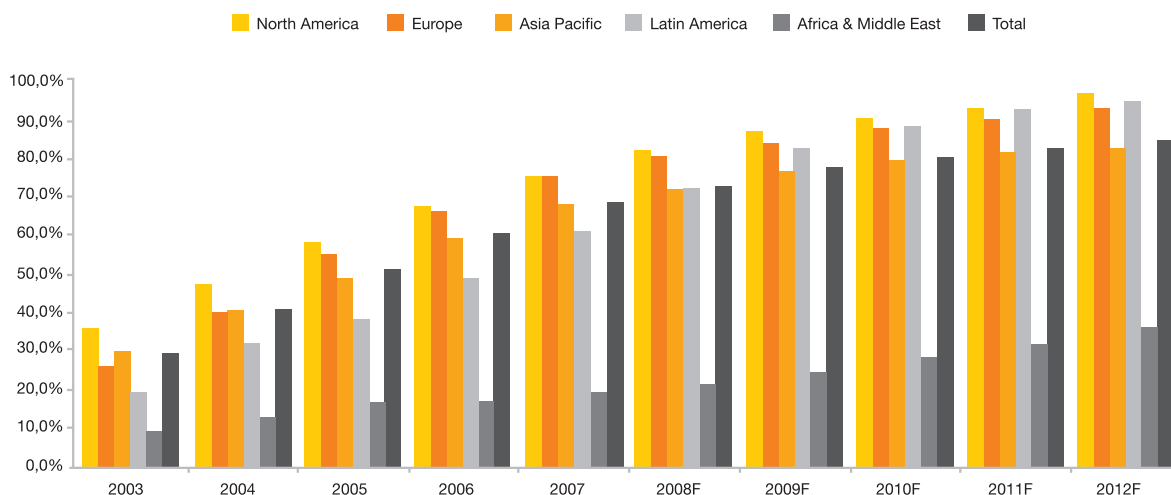
It is beyond doubt that much of the increase in regular internet access is to use the constantly increasing number of services available (downloading, streaming of contents video or music, Instant Messaging etc); which in turn has generated a strong demand for ever increasing bandwidth.

Whereas «data based» uses of 3G (mobile data services) are just beginning to take off; this demand for broadband access, and the race to increase the speed it offers, are for the moment very good news for fixed lines operators. Subsequently with the traditional fixed wire operators being the main providers of ADSL services in Europe they have gained in value.

However, it also has to be said that at the same time there has also been some migration toward WiMax technologies -such as Wibro in South Korea. Also, there has been some migration toward very high speed fixed connections via fiber at the same time in Japan and the USA. (In Japan, fiber has already overtaken ADSL.) More globally in the Asia Pacific region, it progressed by 19% between the beginning of 2007 and mid-2008.

The importance of fiber is also being felt in countries like France, where Arcep has managed to obtain the signatures of the leading operators, with a view to testing the two technologies: mono-fiber and multi-fiber.

share of Broadband in Internet (% of subs)



7/ Source : IDATE



However, whilst broadband internet access may have reinvigorated the fixed line, it is not in itself sufficient to arrest the decline in revenue for fixed line operators. To fully revalue the fixed line will require a period of commitment on the part of the operators to work collectively.

VoIP and multiplay - the real levers of loyalty to fixed lines

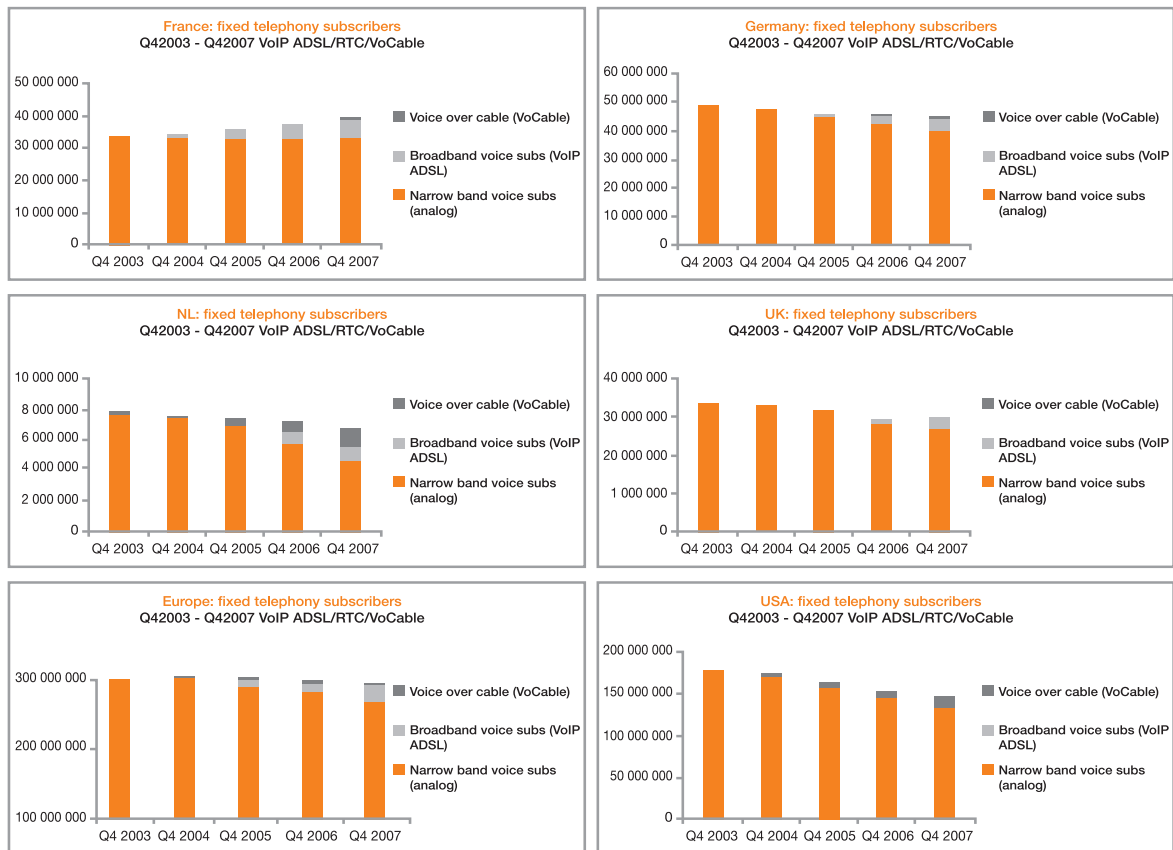
Over and above broadband subscription it is VoIP that has played a determining role in halting the decline of fixed lines in western countries such as France. Indeed, in some countries, the number of activated fixed lines began to rise again with the arrival on the market of VoIP offers, especially when coupled with a Broadband subscription. Subscribers

were given the feeling of getting “something for nothing” by using fixed line communications, as opposed to the traditional voice subscription (eg. The comparative picture of subscriptions to fixed telephony services in France).

Those offers have been rolled out very quickly, even simultaneously, with triple play offers - adding television on IP and soon VoD, to voice and Broadband connections. The promise of such a bundled services approach has succeeded in winning over consumers.

On average in Western Europe, the heartland of multiplay offers, 62% of broadband customers have opted for such an offer.

share of Broadband in Internet (% of subs)



However, dual or triple play subscriptions remain unequal from one country to another. It is, for example, much less

developed in Italy than in Germany or France⁸. So it is not yet a universal option.

8/ 41% of Italian broadband subscribers have taken a multiplay subscription, compared with 72% in Germany and 74% in France. In France and Germany operators had the advantage of a large high speed internet client base, whereas in Italy, because of a limited offer and the dominance of TNT as far as television is concerned, Multiplay has been slow to take off. Source: Sofrecom

However, large numbers of telecommunication companies are developing an interest in this opportunity, notably Telefonica which repeatedly cites its dual and triple play offers as the engine for its fixed line offer. In fact, in the countries where multiplay is well established, helping

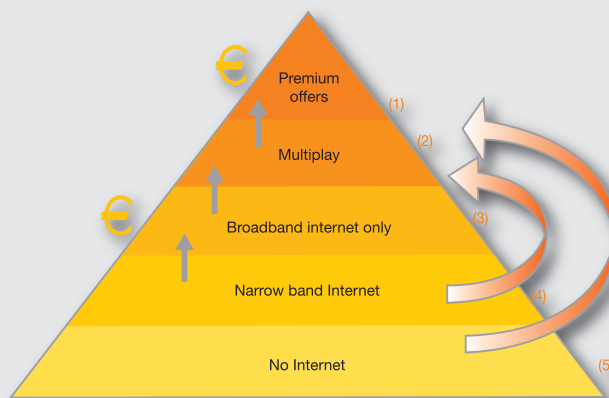
to keep operators and suppliers of access in business, it seems quite clear that the future of the fixed line will depend on bundled offers and advanced services. Thus a fixed network retains its inherent fundamental value and remains a strategic resource.

WHICH OFFER FOR WHICH POTENTIAL CUSTOMER ?

In the domain of telecom services, as in many others, a fundamental distinction can be made between value creating services for users and commercial services.

A value creating service may or may not be a paying one; its value does not depend so much on the income it generates as on what it can bring to the user's experience.

The value of such a service is an incentive to the individual to become a user and, therefore, to become committed to the supplier. They then may later be induced to subscribe to more advanced or premium services, and these would then be accordingly invoiced. (A simple analogy here being the idea of loss-leaders and market extensions.)



For ISPs that propose multiplay services, the main levers of monetization are broadband access (3) and premium multiplay offers (1). Any operator proposing a multiplay offer must consider the groups of potential customers to which it can aim its different services.

The first category is made up of early adopters, that is the first consumers ready to subscribe to a new service. They subscribe without any external prompting, through introductory offers or the like, as soon as they become aware of the service. They are usually unconcerned by the cost and sit naturally at the top of the customer pyramid (1). The second segment to consider is multiplay subscribers (2). The objective here is to induce them to go up in range to category (1). Next there are broadband only subscribers (3) who, just like multiplay subscribers, represent an additional potential for monetization from internet access. It is therefore in the operator's interest to lead them toward multiplay with a view to encouraging subscription to a premium service in the future: (3). (2). (1).

With regard to low bandwidth subscribers, some will be spontaneously interested by an offer to upgrade to broadband, as it enables them to take advantage of more advanced uses of the internet; and they will opt for broadband without further inducement (4). (3). On the other hand, another section of this population will make do

with low bandwidth: thus for this group multiplay constitutes that 'loss leader' to hook them onto broadband - the primary financial lever. (4). (2).

Finally, some non-subscribers might seem disinterested in using the internet. However, there is still a commercial hook that can be deployed - seducing these customers by means of an attractive alternative multiplay offer (VoIP, ToIP, TV.), which could even exclude internet access. They would still come to multiplay; and thus become broadband customers, with the possibility that they will go on to subscribe to premium offers (5). (2).

Consider this example from Croatia: a dual play IPTV + VoIP offer

The incumbent Croatian operator T-Hrvatski, owned by Deutsche Telekom, offered from September 2008: a dual play IPTV + VoIP offer. The MaxTV offer up until then was automatically combined with a broadband internet access offer. However, from June to October 2008 subscribers to MaxTV offers increased to over 100,000. The MaxTV dual play offer now enables the operator to reach a more traditional clientele - unfamiliar with internet usages but nevertheless attached to their familiar communication modes like TV and fixed line telephony. The net result being - the ADSL TV + VoIP offer has given the fixed line a second lease of life.

Source: SOFRECOM

A source of inspiration for developing countries?

The question may appear strange, given the economic and technological differences, let alone the difference in usage, between developing and developed countries.

In areas such as Africa and the Middle East in particular, with an average fixed line subscriber rate of 34% in 2007 and where on the contrary mobile telephony equipment has seen impressive growth (8% in 2003, 37% in 2007), the idea of using broadband and multiplay as levers for maintaining or extending fixed lines seems a priori to go against common sense. All the more so, as in this same region there is a penetration rate of internet access (for both low and high bandwidths) of less than 14%.

But that does not have to mean an end to the possibility of expanding fixed line usage.

Three factors justify examining further the inter-relationship between fixed lines, broadband and multiplay in less developed countries. The first element to consider is attractiveness. The mobile phone has already demonstrated that there is a huge expectation amongst populations for internet access. People are prepared to devote a significant portion of household income to expenditure on mobile telephony, once their basic needs have been satisfied⁹. Relatively speaking this willingness to spend on telecommunications is without equivalent in developed countries. In fact, in emerging countries, those at an intermediate stage of development (Brazil, India, China, Mexico) it is noticeable that the share of broadband subscribers is increasing faster than those for all other internet connections. This suggests a significant low to high bandwidth conversion rate. In addition, the proportion of broadband subscribers amongst all internet subscribers is growing faster in the emerging markets than in developed countries; a trend that is expected to continue over the next three years¹⁰. We may, therefore, assume that developing countries will have similar adoption rates when their economic situation allows, of course this last hypothesis remains to be validated.

The second element to consider concerns the evolution of the technologies involved and their associated costs.



ETISALAT LAUNCHES "ALL IN ONE" TRIPLE PLAY OFFER

At the End of 2008, Etisalat provided to customers based in the United Arab Emirates - global combined services via a unique account that permits greater convergence of its three fixed services (broadband Internet, TV / video and fixed-line telephony). Competition from the new Emirates operator DU, that won close to 30% market share in just one year, had really alarmed Etisalat.

The company is henceforth counting on the diversification of its services and plans to introduce services as packages: high definition television (HDTV), video on demand (VoD), services combining TV with voice and TV with Internet. The operator hopes by this means to spread and to strengthen its client basis in order to resist the competition better.

Source: SOFRECOM

Equipment makers and operators are currently working on new generations of technologies, likely to provide broadband at lower costs than those available today. Amongst the new generation is Wimax, a medium range wireless technology that could also be used to provide fixed access.

The third and last factor is the existence of high income targeted users, who base their consumption on that of westerners. Although these are niche markets in the developing countries, they also constitute formidable opportunities for adapting offers to local contexts and getting them ready for the time when pricing and profitability conditions are right for the market to take off. The IPTV experiment carried out in Dakar is in line with this approach (See inset).

9/ Cf. Crossed Viewpoints N°1: Developing countries : usages opening new markets

10/ Source: IDATE

Interview with Gaidy NDAW, Managing Director of Sonatel Multimedia and Professional Residential Director of Sonatel (Senegal)

MULTIPLAY IN SENEGAL, A PROMISING EXPERIENCE

ADSL was launched in Senegal in 2003 by Orange-Sonatel, the incumbent operator. Senegal was experiencing a decline in fixed lines, accelerated by tele-centrers (which grabbed up to 40% of the fixed line revenue) then with the arrival of the mobile, whose substitution effect has accelerated the decline of the fixed line. *"We had to look for ways to prepare for the future. To this end, broadband was the battle horse, helped by TV over IP"*.

Sonatel now has 47,000 broadband subscribers, the vast majority being concentrated in Dakar. L'ADSL was followed in 2006 by the launch of IPTV and VoD. Within its TV offer Sonatel distributes the CanalSat Horizon package as a 'free' add-on to attract customers. Nearly three years after its launch, Sonatel's multiplay offer (Voice RTC + ADSL + TVIP) has been adopted by about 8% of its ADSL subscribers.

In 2010, the operator hopes to have 100,000 ADSL clients of whom 20,000 clients use IPTV.

In fact, the IPTV offer constitutes a loss leader for the operator since 30 to 40% of the new clients subscribe to the offer.

In addition, Video on Demand has experienced very encouraging growth since 2008, thanks to the introduction of local content. Every month, almost half of all IPTV subscribers now consume at least one video on demand.

However, price still remains a barrier to the adoption of triple play. Today, the cheapest offer is 35€, which remains prohibitive for the majority of Senegalese.

The operator is preparing to launch a voice + IPTV bundle at 22€, but nevertheless the entry price will remain comparatively significant. Whilst a big rise in uptake of the IPTV/VoD offer looks very promising, *"there remains the challenge of improving and developing the offer in terms of attractive content, hence the importance of support from the Contents Department of Orange"*.

upstream from services



the question of white areas

An issue that arises in the whole process, which applies all over the world, is that of what are called “white areas”. So, what can be done when connection options via fixed lines do not meet demand in terms of bandwidth?

There are two categories of “white areas”.

The first corresponds to regions where there is no fixed-line telephony access permitting the distribution of data services; the network being non-existent or of insufficient capacity. Orange chose to respond to this issue by launching an offer of broadband access via satellite (35€/month).

The second includes areas where the network provides adequate bandwidths for broadband access to the internet and VoIP, but inadequate bandwidth for MULTIPLAY integrating with IPTV.

Responding to this second problem Orange, backed by Sofrecom, chose to deploy in France a hybrid solution - combining ADSL and Satellite/TNT. This combination is completely invisible from the user's point of view; and they enjoy similar services to those offered to users in a covered area. A quick look at the French context is necessary in order to explain the latter experience.

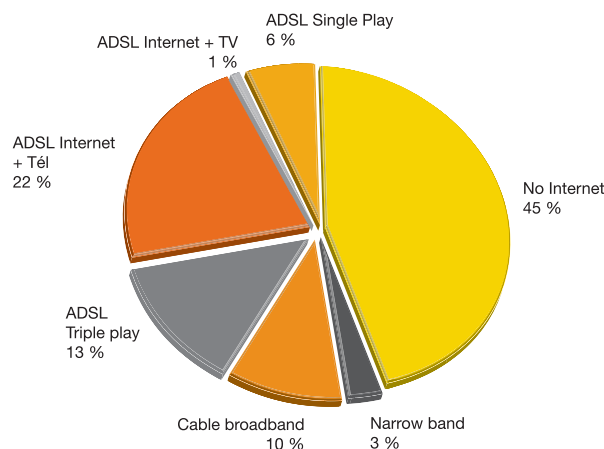
Triple play in France: a success story

The history of multiplay in France goes back to the early 2000s. In November 2002 Free, which had been present on the internet access market since 1999, launched an unbundled ADSL offer¹¹. Several months later, major services such as unlimited phone calls to landlines (voice over IP in August 2003 or television in December 2003) were added for subscribers to the Freebox (domestic gateway + integrated decoder) at no extra cost¹². Thus was the era of multiplay offers born.

The launch by Free of its triple play offer was followed less than a month later by the MaLigneTV (IPTV) offer from the incumbent France Télécom, which was supplemented¹³ by the Wanadoo Internet offer (Orange since 2006) Broadband + VoIP; with the Livebox home gateway. Very rapidly the other ISPs (Alice, Club Internet, Neuf Cégétel) were forced to launch similar offers.

The “box type” (home gateway) has become the standard offer in France. This type of offer has been a great success in the French market, since 69% of French households with broadband internet via ADSL are now also subscribers to dual or triple play offers.

internet access of French households



11/ In France, the regulator imposes on the incumbent, France Telecom, very favorable conditions and rates for local loop unbundling to alternative operators and ISPs.

12/ 29,90 €/month which has become the market standard in France.

13/ At this time the French regulator forbade France Telecom from commercializing bundled offers of the type launched by Free

Alice up to 2003 and then Free in 2004 were the first service providers in France to offer total local loop unbundling, which allows users to no longer require a subscription to France Télécom. In France, and the rest of the European Union, the incumbent operator is obliged by law to make unbundled access to the local loop available to alternative operators. To do this, it must offer alternative operators or ISPs a “co-location room” situated near its installations; in order to be able to connect to equipment installed there. As a result, third party operators are not obliged to invest in this part of the network, which transmits from the telephone exchange to the user’s telephone socket (the last mile).

A significant investment in content

To make the offer attractive to every household able to connect to the telephone network, Orange has developed, through a specialized unit called The Contents Department (Direction des Contenus), an ambitious mass market content strategy, which is accompanied by some significant financial investment.

Of course it is worth underlining here that having a large subscriber base is a decisive element in negotiations with the rights owners.

Very rapidly, the challenge for Orange became extending its triple play clients base, via an offer addressed to those who wouldn’t normally be expected to aspire to a classic multiplay offer.

The limits to IPTV penetration

As we have seen already, multiplay revalues the fixed line to households. The box (home gateway) is indispensable for the function of multiplay and is installed as a home network at the heart of the household.

But it is still necessary to possess access to a line with sufficient bandwidth and connected to a DSLAM able to distribute IPTV. These architecture constraints strongly limit the penetration of IPTV, a strong element of motivation in multiplay. In France, for example, which has one of the best quality networks in the world¹⁴ - only half of broadband internet subscribers are able to access IPTV and hence in a position to enjoy a subscription including TV and VoD. A consequence of this is that triple play for the ADSL client base has now reached its limits.

In addition, in a similar way to what has happened in Great Britain, media operators (satellite ones for example) might seek to preserve and enlarge their client base; by proposing under their own brand name an alliance with an ISP, forming

triple play offers associating VoIP and broadband internet to their own television offer.

In this context, the incumbent operator must consolidate its competitive advantage by looking for the largest possible coverage for its triple play offer, whilst keeping it at a reasonable cost.

Orange’s hybrid solution: offering a TV experience similar to that in areas eligible for IPTV

This limit on extending its client base has lead France Télécom Orange to study, with the help of Sofrecom, a solution enabling it to extend triple play to all its lines, including in those areas not eligible for IPTV.

In developing the offer, the initial hypothesis was to propose a similar offer for subscribers eligible for IPTV and those who were not eligible. That is, similar TV content and VoD programs and associated services of the same type. Anybody wishing to subscribe to a broadband offer with Orange can then also enjoy a TV decoder and other associated offers¹⁵ ; regardless of the situation in terms of eligibility for IPTV in the area where they live. The decoder differs according to the area the household is in, as well as techniques of capture /distribution of the content and data services¹⁶. But, the experience for the different households is almost identical.

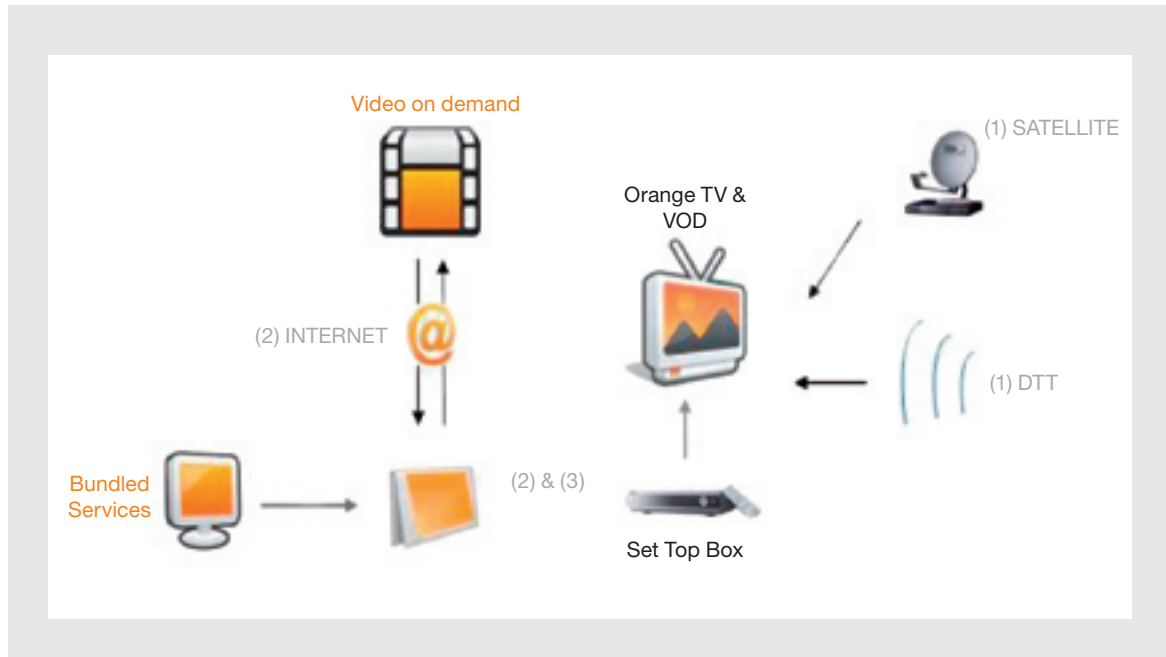
To implement the new offer it was necessary to find a technical solution for convergence to household terminals, particularly televisions; data services and television flows being transported by different networks and technologies. As non-eligible clients had insufficient bandwidth for the transport of video flows of sufficient television quality it became necessary to find solutions adapted for direct broadcast flows (satellite or TNT) and VoD (IP/ADSL).

The figure below illustrates the choices made to bring these signals to the client. The TV signal is transported by the digital transmission either via satellite or terrestrial (1). VoD is downloaded into the decoder via the client’s internet connection (2). Associated services permitting interactivity, electronic program guides, navigation interfaces etc, are based on the ADSL connection and the home network via the Livebox (3).

14/ For purposes of comparison, Spain attained 40% eligibility and Poland 25%. (Source: Sofrecom)

15/ basic TV package – more than 85 channels - and access to VoD

16/ For eligible area, a single connection to the network suffices for access to voice, data, TV/VoD ; for areas not eligible for IPTV, a parabolic antenna is used in addition to connection to the telephone network (cf. illustration)



The choice of offering the “Triple Play for all” was deliberately aimed at the mass market but it needed the costs of the technical architecture and the decoder in particular - to be kept “reasonable”.

The decoder is thus of a standard type but nevertheless is equipped with all the technologies specifically adapted to the specified offer. The decoders are DVB-T and DVB-S; the

doubling of the decoder can be justified by the universality of the tool, whatever the country or region in which it is liable to be deployed.

They include HD with HDMI output and flash memory for downloading VoD, to avoid the costs of hard disks.

SOFRECOM AND THE PROVISION OF HYBRID OFFERS

Conceived as early as December 2006 with Sofrecom, on behalf of the Contents Division, the service was definitively set up in the first half of 2007 to fall truly in line with France Télécom Group's "Content Everywhere" strategy, gaining the commitment of other countries in the group (France, Spain, Great Britain and Poland).

At the end of 2007 to the start of 2008, the acquisition of premium content such as: Cyfra+ television package for TPSA, football rights and signing with 3 major movie providers took place to launch the "Orange Cinema Series" channel - emphasized to what extent the project had become strategic.

Some methodological markers regarding the design and launch of this type of offer

Initially, Sofrecom had a coordinating role to mobilize operational teams in France Telecom, from marketing to R&D and the technical ones; with a view to assisting with the technical design and then marketing the triple play hybrid offer!

Subsequently, Sofrecom contributed towards:

- Setting up user testing over a period of a few months in around one hundred homes belonging to France

Télécom employees to test the service and evaluate the proposed functionalities, refining and specifying all the possible usages.

- The drafting of a call for tender for the Set Top Box offer.
- The organization of various launches in the different countries involved.
- Coordinating the effort between the various agencies involved, both in-house and external to the Group.
- Validating and detailing the technology, ergonomics and functional specifications etc.
- Coordinating the various projects, absolutely ensuring launch dates:
 - France: 3 July 2008
 - Poland: October 2008
 - Spain: Early 2009.

Assessment: Proof of the concept is that it was set up from start to finish in 3 months and the test itself lasted just 4 months. To date all the planning has been effective and the service has successfully begun.



THE NON-ELIGIBLES AREAS OFFER IN PRACTICE

The objective is to offer TV and VoD services on television to all Orange's broadband subscribers who are not eligible for TV by ADSL, either because they are too far from a DSLAM or because they are not connected. Orange TV for all, with the experience and the quality of Orange services.

In practice, the service is rolled out in the following stages:

- connection of the Livebox to the internet via the red port for the PC and via the yellow port for the decoder
- terrestrial connection of the antenna to the DVB-T decoder to enable reception of TNT channels
- connection of the satellite antenna to the DVD-S decoder to receive Orange TV channels via satellite. This entails the previous installation of a satellite antenna.



A solution which is adaptable to all infrastructures

At present only the incumbent operator has taken the plunge with such an offer, which is surely due to its strength in having a very large network associated with the promise of a similar service for all clients - wherever they may be located geographically.

The pure IPTV model may be thought of as the top of the range for triple play with the hybrid solution as a credible alternative. It was, therefore, logical for an operator like Orange to start with IPTV and to propose a hybrid solution afterwards - in order to ensure its legitimate positioning as an operator-cum-contents distributor.

However, many operators in the world do not have the infrastructure or the business model necessary to deploy IPTV. The revaluation of their fixed lines through multiplay offers could, thus, be envisaged by means of hybrid solu-

tions of this type. The object of the exercise lies in maintaining the value of their equipment by adapting their service offers around their core business - communication. As we saw earlier, the universality of IP allows new entrants (cable operators, satellite operators, ISPs etc) to develop offers which can compete with those of the historical telecom operators.

These offers may in some cases reduce the traditional telecom operator to the role of simple network manager. In this situation, the operator loses much of the strategic value of its assets - the network and equipments.

This hybrid architecture developed by Orange with the help of Sofrecom enables the operator to anticipate such a situation and to launch, in a short space of time, triple play offers enabling the operator to reach a large client base immediately. This in turn helps to keep and acquire for the network a wide-ranging broadband clientele (See - illustration "which offer for which clients").

conclusion:

combining basic resources and complete services to maintain dynamic capacities

This case study shows that the possession of a fixed network, or easy access at a reasonable cost, can still provide telecom operators or ISPs with a sustained competitive advantage.

However, it is essential to bear in mind that the basic resources are rarely directly productive. At the time of the great liberalization of telecoms the fixed network was highly profitable in itself but this is no longer true today.

These basic resources must be combined to become “dynamic capacities” and evolve into “key competences”, capable of providing sustained competitive advantage for the organization. In multi-services markets, the basic resource (the network) is no longer sufficient to accomplish this.

It must be combined with a complete services offer (triple play) to position the incumbent operator favorably.



about sofrecom

Sofrecom, a France Telecom Group affiliate, is a leading telecommunications consultancy company. It provides expertise on fast-growing markets around the world. Its unique know-how and value-generating offers specifically designed for telecoms operators enable it to provide support in all the fields vital to their development: marketing and distribution, organisation and processes, information systems, networks and services.

Its intimate knowledge of the telecoms operator business and of information and communication technologies, its numerous references, and its worldwide network of partners make Sofrecom an advisor much appreciated by governments, investors and international financial organisations.

Sofrecom agencies: Algeria, Argentina, U.A.E., Indonesia, Jordan, Morocco, Poland and Vietnam.

For more information: www.sofrecom.com

CONTACT: Sofrecom • Valérie Peugeot • valerie.peugeot@sofrecom.com • Tel.: +33 (0)1 43 98 56 65

about HEC PARIS

Founded in 1881, HEC Paris specializes in education and research in management sciences. As a leading academic institution in Europe, HEC offers a complete and unique range of education programs for students and leaders. HEC has a permanent faculty of 104 professors, 3000 students -30% of whom are international - and over 8500 managers in executive education programs every year. The HEC Alumni network is among the largest in Europe with 42 000 Alumni based in 113 countries. It was founded in 1883 to develop a powerful and dynamic lifelong connection to the HEC community.

For more information: www.hec.fr

CONTACT: HEC Paris • Richard Perrin • perrin@hec.fr • Tel.: + 33 (0)1 39 67 74 84

the authors

Sofrecom



Olivier Landau
Strategy and Anticipation
Senior Manager (ATSM)



Luc Héripret
Advanced services Telcos
& Media VP



Anne-Isabelle Beaudoin
ATSM Consultant

HEC Paris



Alain Busson
Affiliate Professor

In almost all developed countries, the development of mobile telephony resulted in the decrease in landline subscriptions. Yet, the fixed network remains an essential resource for operators, in particular through the development of multiplay offers. In this context, the «ZNE» offer (*Zones non éligibles*, a triple play offer for areas non eligible to TV via ADSL) that Orange developed and launched, with the help of Sofrecom, is a strong strategic asset. It can be regarded as such to the extent that it enables the operator to increase the broadband market share, enlarge the client basis, and gain negotiation leverage towards right owners. This is the reflection conducted in this issue, which was co-written with HEC Paris School of Management.

In **Crossed Viewpoints** Sofrecom offers a summary of what we consider to be problems that are structuring in the development of our business and that of our partners and customers. The Crossed Viewpoints title is explained by each issue being co-edited, with another player specialising in the topic under discussion. This enhances our analysis with another complementary or even different view point.

Already published:

n°1 • November 2008

Developing countries:
usages opening new markets
Written jointly with IDATE

n°2 • February 2009

Unlikely partnerships: cooperation
at the heart of the business model
Written jointly with BEARING POINT



24 avenue du Petit Parc - 94307 Vincennes Cedex - France
tel. +33 (0)1 43 98 55 55 - fax +33 (0)1 43 98 57 96
e-mail: marketing@sofrecom.com - <http://www.sofrecom.com>

Joint Stock Company with €5 million of shareholder capital
Company Registration No.: 672 004 660 00037 (Créteil)