

Regional development

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State of national coverage

A. Broadband

MDFs equipped for DSL

As of 31 December 2006, France Telecom had equipped 12,384 MDFs (NRA) for DSL. Close to 99% of telephone lines are now connected to the incumbent carrier's broadband network – with some 700 MDFs still remaining to be equipped. Nevertheless, because certain copper lines are too long to support DSL broadband services, the actual rate of coverage for France Telecom DSL broadband offers (512 kbps) is likely to be somewhere between 97% and 98%.

At the end of 2006, the broadband Internet subscription base in France totalled 12.7 million, of which 12 million were ADSL subscriptions. The number of ADSL connections increased by more than 3.2 million during the year, i.e. by over 34%.

Between 2% and 3% of lines are nevertheless still ineligible for ADSL, which means that in a département of 500,000 inhabitants, roughly 5,000 households would remain in dead zones if no action were taken.

The notion of broadband dead zone covers a relatively broad spectrum: an entire village can be in a dead zone, as can a business park, which means that no household or business in that zone is eligible for ADSL. There can also be “black spots”, particularly in sparsely populated rural areas located too far from the nearest town with ADSL service. And, finally, it is not unheard of to find black spots between coverage zones in densely populated urban areas.

The notion of dead zone therefore needs to be analysed on a finer scale, at the very least at the neighbourhood level in densely populated areas, and at the locality or isolated enterprise level in rural areas.

1. Technical solutions

Once the relevant scale has been defined, following a regional assessment, several technical solutions can be examined:

- ◆ powerline carrier systems (PLC), which can deliver broadband Internet over low voltage electrical lines. Several local authorities conducted experiments with PLC in 2006, including rural areas in the Dordogne, the Alpes-Maritimes and the Seine-et-Marne *départements*. Projects have also been launched in densely populated areas: the Malakoff district in the city of Nantes has run coverage trials in a less-favoured area. The public service delegation dedicated to the western suburbs of Paris – which was launched on 30 March 2006 by the joint local planning committee for electricity and communication networks in the Paris suburbs, SIPPAREC (*Syndicat intercommunal de la périphérie de Paris pour l'électricité et les réseaux de communication*)¹ – set itself explicit commercial objectives in terms of the deployment and coverage to be achieved by the delegated provider: to serve 1.5 million households across 86 towns, at term;
- ◆ WiMAX radio technology, for which frequency licences were awarded in summer 2006, is expected to be the main technology used to cover dead zones. The first WiMAX site was deployed in late 2006;
- ◆ Wi-Fi is still the most widely deployed technology, helping to cover the residential and small business market. As with all wireless technologies, it has a structural advantage in rural areas, given the low rollout costs involved.

1 - Cf.
<http://www.sipparec.fr>.

2. Routing dead zone traffic to the Internet

Eradicating dead zones also requires that the collection problem be resolved: two types of solution are available to developers for routing dead zone traffic to the Internet. Although wireline solutions cannot be entirely discounted, the licences awarded for WiMAX do open the way to the implementation of combined solutions that associate transmission links for the collection of traffic, and the provision of service in dead zones.

Six regional authorities have been awarded a licence (Aquitaine, Alsace, Burgundy, Brittany, Corsica and Poitou-Charentes). For some, the plan is to put these resources at the disposal of local authorities, either through spectrum trading or a system for making frequencies available to them². In such cases, ARCEP is particularly mindful of having the frequencies (which are scarce resources) used effectively for the purpose of covering the region, by ensuring that operators meet their coverage obligations and by implementing secondary frequency market mechanisms.

2 - Cf. Part 8,
Chapter 1, A.

3. Identifying dead zones

To tackle the task of covering dead zones efficiently, these zones first need to be identified as precisely as possible.

The majority of available data is supplied by France Telecom, in the form of maps of regional DSL coverage down to the municipality level³. France Telecom also publishes the location of its exchanges on its website, along with the code of the town to which it is attached. Local authorities can refine the data by combining them with cadastral information.

3 - Cf. http://www.france-telecom.com/fr/espaces/colocales/internet/hautdebit/Eligibilite_ADSL.

Having the location of the exchanges makes it possible to pinpoint zones where signal attenuation will be an issue, by drawing concentric circles around the exchanges. Beyond a distance of four or five kilometres, there is a high presumption that an inhabitant is located in a dead zone – at least theoretically.

Another solution that makes it possible to determine whether a residence is in a dead zone involves querying an eligibility server. France Telecom provides client operators that use its wholesale offers with attenuation data for each of its lines, and a forecast timetable for DSL service installation on each MDF. These data are not publicly available, however, which means that local officials do not have access to them.

The leading access providers have their own eligibility servers but they only cover zones where service is already available, thus making it impossible to perform forward studies.

Aware of the difficulties that local officials face when seeking to draft a coverage plan, the Minister-delegate for regional planning has introduced several measures, which he announced at the meeting of the public-initiative networks committee, CRIP (*Comité des Réseaux d'Initiative Publique*) on 15 March 2006.

The minister requested that the inter-ministerial delegation for regional development and competitiveness, DIACT (*Délégation interministérielle à l'aménagement et à la compétitivité des territoires*)⁴ create a multi-technology broadband observatory, in tandem with ARCEP. To this end, the Authority took up the task of mapping the wireless local loop. The minister also asked DIACT to prepare a procedural handbook for dead zone coverage projects⁵. ARCEP contributed to the draft of this legal guide, stressing the need to programme these projects on a regional scale covering, at minimum, inter-communal links.

4 - Cf. <http://www.diact.gouv.fr>.

5 - Available at: http://www.diact.gouv.fr/Datar_Site/Datar_TIC.nsf/Frameset_Actus?readform&ID=CLAP-6CGD75&.

Discussions held in 2006 within the public-initiative networks committee, CRIP, focused on the possibility of imposing an obligation on operators to publish data on their networks' regional coverage. At the end of 2006, the most suitable legal paths were being examined.

B. Mobile telephony

1. The “dead zone programme”

The dead zone programme (*programme zones blanches*), launched by the government in 2003, aims to provide mobile telephony coverage in the 3,000 towns of France where none of the three operators were present when the national agreement

was signed on 13 July 2003. Mobile calling services are to be available to 99% of the national population by the programme's completion date, which is scheduled for the end of 2007.

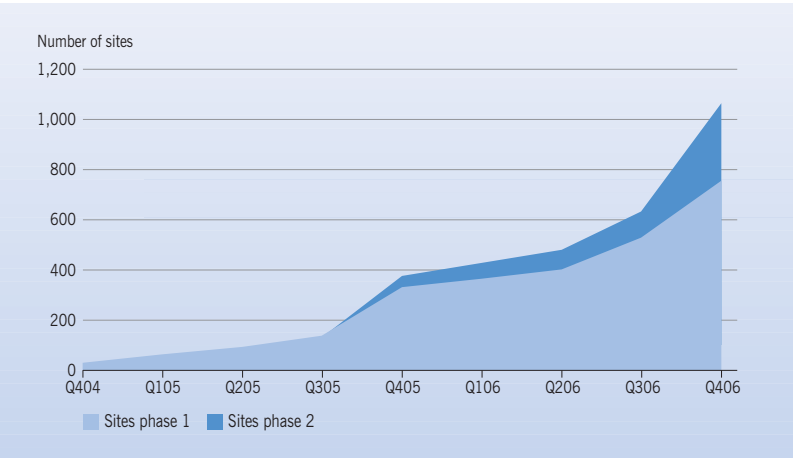
The dead zone programme is broken down into two phases:

- ◆ phase I, to which public funding of €44 million has been allocated for passive infrastructure, and for which the target is to cover some 1,800 towns with 1,250 sites;
- ◆ phase II, which is funded entirely by the operators, has the target of covering 1,200 towns with around 930 sites.

As a signatory of the national agreement in 2003, the Authority is an active member of the programme's technical steering committee, which met on three occasions in 2006 to define concrete actions to be undertaken to help the programme run smoothly. It also continues to work closely with mobile operators on specific technical issues.

In early 2006, the country's three mobile operators had made a commitment to the Minister-delegate of regional development to have opened 1,000 sites by the end of 2006. This threshold was well exceeded as 1,071 dead zones had been eradicated by the end of 2006, covering more than 1,600 towns. The steering committee will continue its efforts throughout 2007 to see the programme through to completion at the end of the year, in accordance with the end date set by the agreement of 2003.

Eradicated dead zones
Of the 2,200 sites planned for the end of 2007



	Q404	Q105	Q205	Q305	Q405	Q106	Q206	Q306	Q406
Phase 1 sites	26	41	65	121	314	355	393	508	765
Phase 2 sites	0	0	0	5	64	83	97	129	306
Total	26	41	65	126	378	438	490	637	1071

2. National 3G coverage

Orange France, SFR and Bouygues Telecom were authorised, by the Orders dated 18 July 2001⁶ and 3 December 2002⁷, to establish and operate a third generation radio network open to the public, and to provide the public with a telephone service.

In 2004-2005, the Authority had noted a sizeable disparity between the current technical-economic reality and the forecasts made when UMTS licences were originally awarded⁸. These disparities led ARCEP to review the commercial rollout and coverage obligations that had been imposed on operators as terms of their licence awards. At the time, Orange France and SFR had committed to launching UMTS by 31 December 2004 and to having covered 58% of the population of Metropolitan France with 3G as of 31 December 2005. Meanwhile, Bouygues Telecom had committed to opening its service and covering 20% of the population by 30 April 2007.

a. 3G making strides in France since its launch in late 2004

SFR and Orange France launched their third generation mobile networks commercially in late 2004. When the time came to verify that they were meeting their obligations, the Authority remarked that with more than two million 3G customers, France was making a substantial contribution to the development of third generation mobile in Europe which, according to the UMTS Forum, is now home to over 30 million UMTS customers. The early days of UMTS were also marked by the growing use of multimedia services, and of mobile video and TV services in particular.

b. SFR and Orange France have met their rollout deadlines, and have made new commitments

At the start of 2006, SFR covered 60% of the population and Orange France, 58%. This footprint makes it possible to deliver all services enabled by UMTS, with downlink speeds of up to 384 kbps and 64 kbps uplink: telephony, videophony, SMS, MMS, TV and file transfer.

Following through on this first rollout phase, 3G coverage will continue to expand in the coming years: operators have committed to covering 70% of the population, by the end of 2007 for SFR and by the end of 2008 for Orange France.

c. 3G deployment: part of the regional development equation

3G will continue to be deployed. Providing everyone in France with access to third-generation mobile services is an important part of regional development, as the increased speeds that the new generation of mobile telephony provide constitute the building blocks for innovative and multimedia services.

The technology has evolved since UMTS licences were first awarded in France. One of the most remarkable developments has been the increase in bitrates on offer, thanks to HSDPA technology, which makes it possible to deliver downlink speeds of up to 1.8 and even 3.6 Mbps per user. Combining this with HSUPA makes it possible to boost uplink speeds as well.

6 - Order of 18 July 2001 authorising Orange France to establish and operate a third generation radio network open to the public, and to provide the public with a telephone service, and Order of 18 July 2001 authorising the Société française de radiotéléphone to establish and operate a third generation radio network open to the public, and to provide the public with a telephone service.

7 - Order of 3 December 2002 authorising Bouygues Télécom to establish and operate a third generation radio network open to the public, and to provide the public with a telephone service.

8 - UMTS is a third-generation (3G) mobile telephony technology.

d. The need to access low frequency bands

To expand 3G coverage, operators need to have access to low frequency bands – as they offer better propagation and indoor penetration capabilities. Providing this access could be possible:

- ◆ by reusing the GSM 900 MHz bands for 3G. As concerns the 900 MHz bands, operators' GSM licences provide, in principle, for the possible reuse of these bands for UMTS. Orange France and SFR have informed the Authority of their desire to implement this provision which is why, in late 2006, ARCEP began working on the swift definition of the modalities for the reuse of 2G frequencies for 3G, to encourage rapid 3G expansion across the country by all mobile operators. Two systems are being defined: one based on sharing by four operators, should the fourth 3G licence be awarded, and one on three-way sharing should it not be awarded;
- ◆ by identifying the low frequency bands that are liberated by the end of analogue broadcasting ("digital dividend")⁹.

9 - Cf. part 11,
chapter 4.

Achieving clear and harmonised liberation of a digital dividend at the European level is central to the progress of ultra-broadband wireless access systems, particularly as concerns regional digital development.

3. Transparency with respect to coverage

The provisions of the mobile operators' renewed GSM licences include an obligation for greater transparency on their network coverage, notably through the publication of detailed information on national coverage and the performance of annual coverage surveys.

The ARCEP decisions, which were adopted in early 2006, authorising operators to use frequencies in the 900 MHz and 1800 MHz bands to establish and operate a radio network open to the public¹⁰, include the provision that operators are obligated to publish sufficiently detailed information on their national coverage. The modalities for the publication of this information are defined by ARCEP, after consultation with the operators concerned. This information will be obtained according to a common method defined by the Authority after consultation with the operators, combined with field surveys which make it possible to assess the operators' national coverage down to the district level. Each operator is responsible for performing these measurements on its network. The Authority defines the methodology and the annual geographical scope of these field surveys, after consultation with the operator.

On 2 April 2007, the Authority made public the modalities for the publication of network coverage information, and the performance of field surveys¹¹.

10 - ARCEP Decision
No 2006-0140
of 31 January 2006 and
ARCEP Decision
No 2006-0239
of 14 February 2006.

11 - ARCEP Decision
No 07-0178
of 20 February 2007.

Local authority actions

A. Local authority powers

Regional digital development

Regional digital development is a key economic and societal issue.

With the adoption of the Law of 21 June 2004¹², concerning confidence in the digital economy, local authorities are endowed with wider powers in the area of telecommunications. Since the law was enacted, these powers have allowed them to establish active networks, engage in the business of operator and provide services to end users under certain conditions, when private initiatives prove inadequate over the long term¹³.

In light of this new context, and particularly given the importance of regional digital development and market player expectations, the Authority created a forum in late 2004 for local authorities and operators to meet and discuss the issues: the public-initiative networks committee, CRIP (*Comité des Réseaux d'Initiative Publique*).

12 - Law No 2004-575 of 21 June 2004 concerning confidence in the digital economy (LEN), JO of 22 June 2004.

13 - Cf. Article L.1425-1 of the local and regional collectivity code, CGCT (*Code Général des Collectivités Territoriales*), introduced by the Law on the digital economy of 21 June 2004.

Local authority involvement in the field of telecommunications was substantiated in 2006: at the end of the year, more than 85 local authorities had launched broadband network projects, representing investments of some €1.3 billion from both the public and private sector. At that time, 41 public-initiative networks (each covering more than 60,000 inhabitants) had been awarded to a delegated provider: 11 new projects were awarded over the course of 2006 (five departmental projects and 6 urban-scale projects).

That local authorities are being proactive is undeniable: they are managing to equip their regions with open and neutral telecommunications infrastructure, which will encourage the emergence of competitive and innovative offers.

Moreover, the projects appear to be taking account of the new challenge of ultra-broadband, which will require the construction of fibre optic networks.

To accompany these local authorities in what now appears to be an overriding trend, ARCEP has proposed to address the main issues encountered by members of the public-initiative networks committee, CRIP.

B. Work performed by the public-initiative networks committee, CRIP

CRIP met on four occasions in 2006.

The plenary meeting on 15 March 2006 provided an opportunity to take stock of the work performed the previous year and to launch new areas of study: close to 400 people contributed to the discussions attended by the Minister-delegate of regional development and by Members of Parliament. Two documents were published on this occasion:



- ◆ Local authority involvement in telecommunications. Summary of the work performed by the public-initiative networks committee, CRIP¹⁴;
- ◆ Local authority involvement in telecommunications. Guidelines for ultra-broadband equipment of business parks¹⁵.

1. Assessment of government action

In 2006, the Authority took part in a joint effort between the Pays de la Loire regional authority and the Loire prefecture to establish a method for assessing local network and telecommunications service development projects.

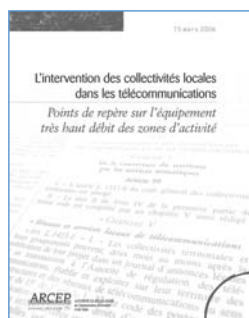
ARCEP lent its expertise in telecom market regulation to propose a method that would allow for a separation, during the analytical phase, of those elements that fall under the scope of local public action, and the effects of the overall competition dynamic.

With this in mind, ARCEP focused particularly on defining indicators in the areas of:

- ◆ relevance (assessing the validity of the project);
- ◆ efficiency (measuring the gap between the objectives set out initially and the subsequent results);
- ◆ impact (assessing the socio-economic effects of the project);
- ◆ lasting effect (assessing the durability of the project's impact);
- ◆ efficiency (studying the relationship between the means deployed and the results obtained);
- ◆ coherence (examining the compatibility of the goals and the correlation between these goals and the means employed to achieve them).

The initial conclusions on the evaluation process applied by the Loire regional council and the regional prefecture to the projects launched in the Pays de la Loire region, with the support of local elected officials, are expected to be issued in 2007.

During the meetings in 2006 of the public-initiative network committee, CRIP, those in attendance – which were often the project instigators – committed to the process.



14 - Available at:

http://www.arcep.fr/uploads/tx_gspublication/compte-rendu-crip2007.pdf.

15 - Available at:

<http://www.arcep.fr/fileadmin/reprise/dossiers/collectivites/pdf/crip-ptrep-150306.pdf>.

As a result, even if all of the stakeholders agreed that it was still too early to judge its performance, it was considered that the method devised could be made available to all the regions.

2. Local operators

As stated by local elected officials, one of the goals for local authorities that become involved in telecommunications is to stimulate new economic activities.

Local operators play a central role in the process: they are the ones that are in a position to offer dead-zone coverage solutions, and capable of extending competitive service offerings to SMEs. They already enjoy local presence and have a good knowledge of local players, added to which they operate with a flexibility that is much appreciated by local authorities.

In 2006, the Authority conducted a survey of some 20 local operators to better its understanding of their activities and to obtain their input on expectations with respect to local public projects and regulation. The summary of the interviews was discussed by CRIP. One of the wishes expressed by the operators led to the publication of a legal guide for operators, specifying their rights and obligations¹⁶.

The operators interviewed make up a heterogeneous group: some have been operating since the 1980s whereas others were formed in response to the first public-initiative network committee projects, following the application of Article L.1425-1¹⁷. Their staff numbers vary from four to some 50 employees, and their profile can be broken down into three types:

- ◆ operators focused on the SME market, many of them former software houses or publishers, which have developed a telecommunications business;
- ◆ operators dedicated to covering dead zones, which began operating in 2004
- ◆ residential operators in densely populated zones.

The major assets that these local players boast are their proximity, their customer knowledge and their flexibility, allowing them to design bespoke offers which are widely appreciated since more closely targeted than the packaged offers marketed by national operators.

Local operators also take a different approach to the commercial side of things: they are willing to invest in a local brand that will heighten their exposure in the region. Moreover, those that have centred their operations on technical expertise have gradually recruited a sales force or have created a network of resellers. Local operators are also willing to form partnerships with one another, to complement their respective strengths and to enhance their commercial offer.

These local players are very aware of the geographical limitations of their market:

- ◆ in dead zones (2% to 3% of lines), they need to make a sizeable effort to concentrate demand before deploying their networks. Local authorities can play a significant role here by setting up a single administrative contact point for these operators, and by sharing prior contact procedures with the various towns involved;

16 - Available at:
http://www.arcep.fr/uploads/tx_gspublication/guide-juridique-crip2007.pdf.

17 - Article L.1425-1 of the local and regional collectivity code, CGCT (Code Général des Collectivités Territoriales), introduced by the Law on the digital economy of 21 June 2004.

- ◆ in the SME segment as well, local operators have to contend with a small target market: some 100 enterprises per town, or an average 400 to 500 SMEs for an entire *département*. The SoHo market is very difficult to target, as it is generally covered by residential offers.

As a result, local operators tend to broaden their target customer base and adopt inventive strategies to achieve this. In dead zone markets, some operators market co-branded offers, sharing customer support and marketing operations. In the business segment, the main strategy is to expand geographically, notably via franchises.

In all cases, local operators seek to collaborate with local authorities. In dead zones, some operators rely on support policies, with or without subsidies. In the business market, obtaining support from the local authority, or its delegate, can prove decisive. Gaining access to wholesale offers with no entry barriers is a particularly crucial prerequisite to success cited by operators. The influence of public-initiative networks is also commonly cited: competition in the collection segment is helping to lower prices which, in turn, is beneficial to new entrants.

3. Ultra-broadband

a. In business parks

The ongoing increase in file exchange needs, the growing use of high definition images, combined with asynchronous consumption modes (downloads, VoD) make the development of access networks that deliver very high-speed connections – of up to or over 100 Mbps – an inevitability.

A technological disruption at the access network level is therefore likely. The copper pair appears incapable of supporting ultra-broadband, as a result of which the migration to fibre optic – not just in the backbone¹⁸ but also as a key component for connecting users – is becoming more and more a likelihood.

This evolution concerns all users, whether residential, administrative or corporate. To lend its support to this major change in the telecommunications network landscape, the Authority suggested to CRIP members that the issue of equipping business parks be made a priority. A great deal is at stake, given that business parks account for between a third and half of businesses with more than 10 employees.

Guidelines for broadband development in business parks were published in March 2006¹⁹. The publication details the different forms of intervention that can enable the technological disruption that comes from equipping business parks with a fibre optic infrastructure.

The lynchpin is the fact that local authorities have owned the ducts in developed zones since the status of the incumbent carrier was changed in 1997. As a result, local authorities boast a critical asset, namely control over civil engineering infrastructure,

18 - Backbones are very high-speed networks that constitute the core of the Internet (essentially fibre optic cables installed undersea and on the continents).

19 - Available at: <http://www.arcep.fr/fileadmin/reprise/dossiers/collectivites/pdf/crip-ptrep-150306.pdf>.

which means that they have the leverage to enable the deployment of operators' offers. Moreover, France Telecom announced in 2006 that it would offer alternative operators access to its infrastructure in zones developed before 1997.

The central role that local authorities can play is underscored in the "Guidelines", which also highlight several case studies of towns which have worked to steer the development of ultra-broadband aimed at businesses.

The public-initiative networks committee, CRIP, has drafted a specimen agreement for local authorities to use when making ultra-broadband available in business parks.

In December 2006, a guide for ultra-broadband outfitting and pre-outfitting in business parks was published²⁰. Having identified the central role played by the local authority-developer duo, an operational mode for developers was defined, to supply them with solutions to the problems they encounter when requested by local authorities to service a zone with telecommunications networks, as part of urban development projects.

This guide will continue to evolve: CRIP will update it on an ongoing basis, as the "ultra-broadband business park" label is defined, as requested by the Ministry of Industry.

b. The role of local authorities

It seems clear that local authorities will have a major hand in the development of ultra-broadband. They can enable the use of existing civil engineering; when visitable sewers exist, optical cables can be easily installed. This situation applies only to Paris, a portion of its immediate outskirts and the centre of Lyon and Marseille, however. In other towns and cities, operators will need to gain access to existing ducts to be able to maintain reasonable rollout costs. The principal owners of the ducts (France Telecom, local authorities providing public service cable delegations, other public electrical, lighting, signalling managers, etc.) could be called upon to make their infrastructure available.

The Authority has begun work in two areas:

- ◆ assessing France Telecom's duct rental offer;
- ◆ providing a forum for experience sharing for local authorities that have begun the work of identifying and renting their ducts – the goal being to transpose these initiatives to other regions.

Ultra-broadband will only become a reality if fibre-to-the-premises solutions are deployed, in other words access networks right up to the building. The Minister of Industry has created a working group devoted to this issue, of which ARCEP is a member. The process, which is incentive-based for the moment, seeks to encourage pre-outfitting in greenfield housing.

20 - Available at :

<http://www.arcep.fr/fileadmin/reprise/dossiers/collectivites/pdf/crip-ptrep-011206.pdf>.

4. Fibre optic network topology

ARCEP will endeavour to encourage operator coexistence in all cases and at all levels in the network chain, to be able to maintain a healthy level of competition between the offers. It is in this spirit that CRIP organised a study seminar on 20 December 2006 dedicated to a comparison of the two main types of fibre optic network topology: PON (passive optical network) and point-to-point. The seminar provided the players a chance to express their views on the advantages and drawbacks of the two types of architecture.

Consulting firms, local authorities, both French and foreign, and operators were thus able to exchange their viewpoints. What emerged from initial analyses is that point-to-point architectures, which suppose dedicated fibre for each user, are more propitious to network sharing amongst several operators, and thus more apt to enable the emergence of competition at the service level. On the other hand, in more densely populated areas passive optical networks could prove less costly to deploy.

This seminar organised by CRIP was only the beginning of discussions, with more in-depth examination planned for 2007, including consultation with operators on the issue of sharing fibre networks.

PON and point-to-point

There are essentially two main types of network architecture:

- ◆ point-to-point, which allows several operators to install their own equipment, possibly different, in the customer premises (user-dedicated fibre);
- ◆ PON (Passive Optical Network): a tree architecture, wherein all of the active gear is managed by the same operator.

Sharing passive infrastructure would be much more difficult with PON architectures.

On the other hand, a PON would appear to be a less costly solution in certain areas.

Telecoms in the overseas territories

A. Status of mobile, fixed and broadband markets in the overseas *départements* and territories

1. Broadband

a. A retail market characterised by little competition

In 2006, the overseas *départements* began closing the gap in broadband penetration. As of 1 July 2006, the broadband penetration rate for principal lines was 24% in the overseas *départements*, compared to 34% in Metropolitan France.

There are fewer Internet service providers (ISPs) than in Metropolitan France and, aside from Orange, none of the continental players are present overseas. Only two ISPs operate in all the overseas *départements*: France Telecom (Orange) and Outremer Télécom (Only), which report an average 79% and 18% market share, respectively. The other local players are: Dauphin Télécom in Saint-Barthélemy and Saint-Martin (Guadeloupe), and Mobius and Runnet in Reunion. The situation could evolve in 2007 with the arrival of new players such as Médiaserv.

The performance of broadband retail offers are less evolved than in Metropolitan France, and tariffs are higher. Offers running at 8 Mbps were not introduced in the overseas *départements* until November 2005, in other words three years after ISP Free launched this type of offer in Metropolitan France. Most ISPs market services that are billed based on volume of downloaded data – a billing mode that discourages high bandwidth consumption.

In 2006, the wholesale market was comprised of access offers delivering 512 kbps with limited downloads: 2 gigabytes for €30 a month for Orange, and 1 gigabyte for €25 for Only.

b. Wholesale broadband market

(a) Coverage

In 2006, the rate of DSL and unbundling coverage in the overseas départements was the same as in Metropolitan France.

(b) Unbundling

In January 2006, a single operator was using unbundling in all the overseas départements: Outremer Télécom (45 unbundled MDFs), while Dauphin Télécom was present in Saint-Martin and Saint-Barthélemy (4 unbundled MDFs). These figures do not, however, take account of the Médiaserv unbundling plan, which was launched in summer 2006.

(c) Wireless local loop (WLL)

At the end of 2006, the WLL licence-holders operating in the overseas départements were as follows:

Antilles (Martinique and Guadeloupe)	XTS Telecom Licence awarded via call for candidates in 2000
	Mediaserv Licence awarded in 2003
Guyana	Mediaserv Licence awarded in 2004
	France Telecom Licence awarded via call for candidates in 2006
	Guyatel Licence awarded via call for candidates in 2006
Reunion	XTS Telecom licence awarded via call for candidates in 2000
	Guétali Broadband (SFR subsidiary)
	Licence awarded via call for candidates in 2006

c. Links between Metropolitan France and the overseas départements:
undersea cables

The retail tariffs applied to DSL broadband offers for residential customers in the overseas départements are determined to a great extent by the cost of transporting IP streams between these départements and Metropolitan France.

There are, however, wholesale broadband and telephony operators that allow operators that have deployed their own infrastructure in the overseas départements to create their own retail offers, but they appear to be little used.

Operators that own infrastructure in the overseas départements can connect to the France Telecom network for interconnection: the regulated offers for broadband, telephony and leased lines are identical in Metropolitan France and the overseas départements.

However, to construct a retail offer an operator will generally need to route traffic outside the département, either to the national voice network or to the global Internet. In Metropolitan France, the process of interconnection to the national phone network or the Internet is a relatively simple affair for alternative operators.

The situation in the overseas *départements* differs from the one in Metropolitan France. Given the distances, alternative operators need to use satellite links (e.g. in Mayotte) or route traffic via undersea cable (e.g. in the Antilles). The two solutions are not interchangeable: the structural costs of satellite links are higher and performance is lower compared to cable links.

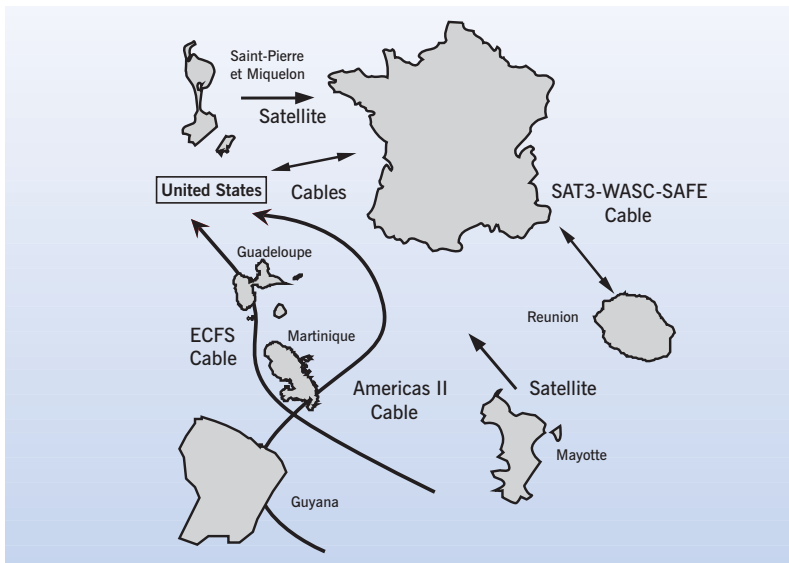
To be able to deliver an end-to-end service, an operator (except in Reunion) must join all of the network elements – in other words, it must offer:

- ◆ undersea cable transport: an operator must either have property rights to the undersea cable – which gives it capacity rights proportionate to its share of the equity – or purchase excess capacity between two landing stations from the consortium that owns the cable;
- ◆ backhaul services (ground component): these are terrestrial links between the landing station and operator points of presence (PoP). To offer this service, an operator needs to install its own equipment in the landing station.

There is little competition over marketing traffic on undersea cables:

- ◆ in Reunion, France Telecom enjoys a de facto monopoly and, as a result, over traffic routing on the sole cable (SAFE) that connects the Reunion and Metropolitan France;
- ◆ in the Caribbean, it appears that alternative operators can take advantage of competition between the operators that are shareholders in the Americas II consortium. Nonetheless, in Martinique, Guyana and Guadeloupe, France Telecom has a prior monopoly over the landing stations for the two “old” cables (ECFS built in 1995 and Americas II, built in 2000).

Situation before October 2006



The state of competition in the Caribbean basin is expected to evolve with the operational launch end 2006 of a new cable (GCN), built as part of the *Guadeloupe Numérique* (digital Guadeloupe) project, which was co-financed by the Guadeloupe

region, the State and the European Union. A public service delegation was formed in late 2004, putting a subsidiary of the Loret group in charge of the construction and future operation of the cable connecting Guadeloupe to the Internet, in Puerto Rico. Inaugurated on 3 October 2006, the GCN cable has promised attractive IP transport wholesale prices. In addition, in late December 2006, a new cable (MCN) that extends the GNC cable to Martinique via Dominique was installed on the initiative of the Loret group. It also promises attractive wholesale tariffs.

d. ARCEP actions

As concerns the transport of traffic streams over the cables, the Authority took action in Reunion to lower by ten times the price of wholesale traffic on the SAFE cable, as the result of a dispute settlement in 2004. In early 2006, France Telecom announced a further decrease in its wholesale tariffs for use of the SAFE cable.

21 - ARCEP Decision
No 06-0592
of 26 September 2006.

By adopting its market analysis decision for capacity services, on 26 September 2006²¹, ARCEP has equipped itself with a more complete legal framework, covering all overseas *départements* and territories. The following obligations have been imposed on France Telecom:

- ◆ cost-oriented pricing for terrestrial components for incoming traffic in all overseas départements;
- ◆ cost-oriented pricing for the Metropolitan France-Reunion route;
- ◆ not charge excessive prices for all other routes;
- ◆ satisfy all reasonable requests, including IRU (indefeasible rights of use).

2. Mobile market

a. Market share of mobile operators in the overseas territories

Mobile operator market share in the Antilles-Guyana region,
as of 31 December 2006

Antilles-Guyana	Total market		Prepaid base		Post-paid base	
	Total customers	Market share	Customers	Market share	Customers	Market share
Orange Caraïbe	581,524	59.95	235,711	55.19	345,813	63.68
Digicel AFG	256,683	26.46	123,443	28.90	133,240	24.54
Dauphin	12,632	1.30	11,439	2.68	1,193	0.22
Outremer Telecom	119,250	12.29	56,475	13.22	62,775	11.56
Total	970,089	100.00	427,068	100.00	543,021	100.00

Market share of mobile operators in Reunion,
as of 31 December 2006

Reunion	Total market		Prepaid base		Post-paid base	
	Total customers	Market share	Customers	Market share	Customers	Market share
Orange Réunion	256,053	28.09	140,861	26.02	115,192	31.12
SRR	655,392	71.91	400,454	73.98	254,938	68.88
Total	911,445	100.00	541,315	100.00	370,130	100.00

Mobile operator market share in Saint Pierre and Miquelon, as of 31 December 2006

Saint Pierre-et-Miquelon	Total market		Prepaid base		Post-paid base	
	Total customers	Market share	Customers	Market share	Customers	Market share
SPM Telecom	2,823	100.00	815	100.00	2,008	100.00

b. Outremer Telecom designated SMP operator in the wholesale market for voice call termination in the Antilles-Guyana region

In 2006, the Authority performed a market analysis in view of designating Outremer Telecom as the SMP operator in the wholesale market for voice call termination on its own network in the Antilles-Guyana region.

In accordance with the European Commission Recommendation of 11 February 2003, the Authority had, in 2004, qualified as relevant markets, the wholesale markets for voice call termination (Market 16) on each of the individual networks of mobile operators present in the overseas markets (Antilles-Guyana, Mayotte, Reunion, Saint Pierre and Miquelon). Each mobile operator was designated as having significant influence in the market for call termination on its own network for a period of three years (2005-2007).

As Outremer Telecom had not yet launched its mobile services at the time, it was not affected by the regulation put into force. The operator has nevertheless begun operations since then: in late 2004 in Guyana and in late 2005 in Martinique and Guadeloupe. As a result of these launches, after having received a favourable opinion from the European Commission, ARCEP began a procedure in 2006 for call termination regulation applying to operator Outremer Telecom, which was completed in March 2007²².

22 - ARCEP Decision
No 07-0277 and
No 07-0278
of 28 March 2007.

3. Fixed markets

The fixed telecommunications markets in the overseas regions obey the same rules as those in effect in Metropolitan France, as a result of which 2006 was marked by two events.

First, the Authority elected to replace the procedure of individual prior control of universal service tariffs with a mechanism of multi-annual price caps. The majority of calling tariffs which are part of the France Telecom universal service overseas are thus now governed by a price cap, based on the same principles as those applied in Metropolitan France²³. Nevertheless to take account of the differences between Metropolitan France and the overseas markets, this price cap pertains to a specific overseas market tariff basket. ARCEP has maintained the procedure of prior approval for all universal services which are not governed by this price cap mechanism.

23 - See above (E).

The second concerns wholesale line rental (VGAST), imposed on France Telecom following analysis of fixed telephony markets. VGAST has been available across France, and in the overseas départements, since the second quarter of 2006 for analogue lines and since July 2006 for basic digital lines and grouped lines. By giving alternative operators the opportunity to offer their customers a complete telephony service that includes access and calls, and by removing France Telecom's control over

access, this offer is expected to limit the incumbent carrier's competitive advantage and the leverage it still enjoyed over calls. Since spring 2006, Outremer Télécom has thus been marketing telephone offers that include access and calls, thanks to VGAST.

B. Number portability in the Antilles, Guyana, Reunion and Mayotte

24 - Cf. Part 6, Chapter 5. The mobile number portability process is being overhauled in all of the overseas *départements* and territories, as it is in Metropolitan France²⁴.

This overhaul involves the implementation of new one-step customer processes, i.e. customers address themselves directly and solely to their new operator of choice which, in turn, processes the new subscription, the porting request and notifies their existing operator of the cancellation of their contract – within a period that has been shortened to a maximum 10 days.

25 - This feature was implemented in Metropolitan France on 21 May 2007. This process was implemented for the first time on 1 April 2006 by all mobile operators in Martinique, Guadeloupe, Guyana and the territorial collectivities of Saint-Martin and Saint-Barthélemy (Antilles-Guyana region)²⁵ and made it possible to confirm the relevance of the changes with consumers in the Antilles-Guyana region.

Ten months after the launch of portability in this zone, roughly 1% of customers had ported their mobile number (10,000 mobile numbers ported), compared to only 2% in Metropolitan France more than three years after the introduction of the dual point of contact system – thereby revealing the success of the new, faster and more streamlined procedure.

As concerns the *département* of Reunion and the territorial collectivity of Mayotte, mobile operators worked to implement a number portability process by 1 July 2007 comparable to the process established in Metropolitan France on 21 May 2007.

C. Specific universal service price cap for the overseas *départements*

26 - ARCEP Decision No 06-0725 of 25 July 2006. In 2006, the Authority imposed on France Telecom – in its capacity as the universal service operator – a multi-annual price cap on a pre-defined tariff basket for calls²⁶. This price cap applies up to 2008 to calls made by a representative subscriber who uses the operator's universal service offer.

27 - The overseas *départements* (Reunion, Guadeloupe, Martinique, Guyana), the territorial collectivities of Saint Pierre and Miquelon and Mayotte. There are considerable disparities in the consumption of a subscriber using the universal service, depending on whether he or she resides in Metropolitan France or overseas²⁷. These differences pertain to specific consumption profiles in particular, including the length of calls, the peak/off-peak-hours breakdown and the destination of the calls. To take these differences into account, two tariff baskets were included in the price cap mechanism: one for Metropolitan France and one for the overseas *départements* and territories. The basket for the latter is composed of local fixed calls, fixed calls between overseas *départements*, calls to mobiles in overseas *départements*, calls to fixed lines in Metropolitan France and calls to mobiles in Metropolitan France.

The average annual price of the overseas tariff basket will evolve every year at most at the rate of the consumer price index, minus 3% and minus the decrease in external interconnection and access costs (notably mobile voice call termination).

A multi-annual system of controls guarantees that the end users in the overseas *départements* of the universal service – in this case the service offered by France Telecom – will benefit from a regular decrease in their calling tariffs, and notably that decreases in mobile call termination tariffs ordered by the Authority will be passed onto them. As a result, they, and not just heavy users, will benefit from a share of the incumbent carrier's productivity gains.

D. Upgrade of the numbering plan and modernisation of the universal service offer in Mayotte

1. Upgrade of the numbering plan

In March 2006, the Authority began modernising the national numbering plan in the territorial collectivity of Mayotte. Carried out in concert with the operators concerned, this upgrade involves migrating to a 10-digit numbering plan (from the current six-digit one) and switching from the current 269 country code to the 262 country code (French Indian Ocean).

Under the old plan, Mayotte had a base of only 200,000 potential numbers. Of these, there remained only 30,000 numbers that could be assigned to the current operators in the market, and to any mobile operators that may enter the market in future. Furthermore, because of the small amount of numbers left to assign, it was difficult to distinguish fixed and mobile numbers.

The Authority also wanted to incorporate the territorial collectivity of Mayotte into the 262 country code, which is the code for the French Indian Ocean. For historic reasons, Mayotte shared the 269 country code with the Union of the Comoros. As a result, the 262 country will eventually cover Reunion, the French Austral and Antarctic Territories (TAAF) and Mayotte.

It should be noted that numbering resources in Mayotte will remain separate from those assigned to the other territories. When calling from Metropolitan France and the other overseas *départements*, the first digits when dialling a fixed line in Mayotte will remain 0 2 6 9. The first digits when dialling a mobile line will change to 0 6 3 9. When dialling the Reunion and the French Austral and Antarctic Territories, the first digits will still be 0 2 6 2 (fixed) and 0 6 9 2 or 0 6 9 3 (for mobiles).

2. Modernising the universal service offer

Since the second half of 2006, Mayotte has been attached to the tariff schedule applied in Reunion, as a result of which the per-second billing system now applies to outbound calls in Mayotte. Previously, these calls had been priced based on frequency pulsing.

This change has meant revamped and streamlined pricing for all France Telecom tariffs in Mayotte. The goal of the measure is to bring the basic tariff (excl. VAT) of outgoing telephone calls in Mayotte in line with the price of outgoing calls in Reunion, with the exception of calls from Mayotte to the Comoros, which are billed

at a lower tariff. The set-up fees for a phone line and the price of a basic telephone subscription (principal line) have also been altered.

More specifically, this has meant:

- ◆ A 40% decrease in set-up fees, and a 12% increase in the price of a principal line subscription;
- ◆ a considerable decrease in the average price of local and international calls, and calls to Metropolitan France.

ARCEP also ensured with the incumbent carrier that the average phone bill for residential subscribers in Mayotte was decreasing.