



KPN's Next Generation Network: **All-IP**

Issue paper

OPTA/BO/2006/201599

22 May 2006

Public version

This paper is a translation of the original Dutch version. Although the translation has been carried out with the utmost care, there may be small deviations from the Dutch version. In case of any dispute or opacity, the Dutch version prevails over the English.

Table of Contents

| | | |
|-----------|---|-----------|
| 1. | Introduction | 1 |
| 1.1 | Introduction | 1 |
| 1.2 | Consultation process | 1 |
| 1.2.1 | Written responses..... | 1 |
| 1.2.2 | Confidentiality | 2 |
| 1.2.3 | Meeting | 2 |
| 1.2.4 | Follow-up steps..... | 2 |
| 1.2.5 | Further information | 2 |
| 1.3 | Structure of this issue paper | 2 |
| 2. | Main features of All-IP | 4 |
| 3. | Generic regulatory issues | 6 |
| 3.1 | OPTA's point of departure | 6 |
| 3.2 | All-IP and the market analysis decisions of 21 December 2005 | 7 |
| 3.2.1 | The market decisions as a valid regulatory framework | 7 |
| 3.2.2 | New market analyses | 9 |
| 3.2.3 | All-IP and wholesale tariff regulation | 10 |
| 3.3 | Information provision by KPN | 10 |
| 3.4 | Organisation of the dialogue..... | 10 |
| 3.5 | Relation with the review of the European regulatory framework..... | 11 |
| 3.6 | Alternative regulatory models | 12 |
| 4. | The MDF access obligation | 14 |
| 4.1 | Unbundled access and the market decisions..... | 14 |
| 4.1.1 | Unbundled access | 14 |
| 4.1.2 | Inextricably linked facilities | 15 |
| 4.2 | Relevant changes as a result of All-IP | 15 |
| 4.3 | Fully-fledged equivalent alternative as the point of departure..... | 16 |
| 4.4 | Conditions for a fully-fledged equivalent alternative..... | 17 |
| 4.5 | Features of a fully-fledged equivalent alternative..... | 19 |
| 4.5.1 | WBA..... | 19 |
| 4.5.2 | SLU..... | 21 |
| 4.5.3 | Related measures | 24 |
| 4.6 | The role of OPTA with respect to the fully-fledged equivalent alternative | 27 |
| 5. | Fixed telephony and leased lines | 28 |
| 5.1 | Fixed telephony | 28 |
| 5.1.1 | Fixed telephony and the market decisions | 28 |
| 5.1.2 | Relevant changes as a result of All-IP | 29 |
| 5.2 | Leased lines..... | 29 |
| 5.2.1 | Wholesale leased lines..... | 29 |
| 5.2.2 | Retail leased lines | 29 |
| 6. | Consultation questions | 31 |

1. Introduction

1.1 Introduction

In late 2005, KPN announced that it wants to migrate its network to a 'Next Generation Network' (hereinafter called: NGN) during the next few years. With this migration, KPN aims to acquire a cost-effective broadband IP network through which it can provide the electronic communications services of the future. KPN calls this operation 'the migration to All-IP'.¹

All-IP will affect the market dynamics in the communications sector in general and a number of OPTA-regulated retail and wholesale markets in particular. This is the reason why OPTA needs to obtain a clear view of the issues related to All-IP and the role that OPTA will adopt and the position it will take with respect to those issues.

Firstly, the aim of this document is to draw up an initial inventory of the regulatory issues related to All-IP. The document focuses on the relation between All-IP and KPN's obligation to provide unbundled access to its local loop network, because in practice it is this relation that is leading to the most urgent issues. Market parties are being invited to respond to this inventory and to raise other relevant issues.² As such, this issue paper will create both an agenda and a framework for All-IP.

Secondly, this document expresses OPTA's provisional position on a number of the issues. These are mainly issues for which OPTA's authority is sufficiently clear at this moment as far as OPTA is concerned. Market parties are also being invited to respond to OPTA's provisional position and OPTA can, of course, revise its current position on the basis of these responses. As such, this issue paper is also a policy-forming document.

This issue paper does not claim to give an exhaustive account of all issues related to All-IP. While all subjects are equally urgent, there is too little information about the consequences of All-IP to render such an exhaustive account. This is why OPTA is emphatically requesting interested parties to inform OPTA about issues they may have identified in their own practical situations but which are not dealt with (in detail) in this document.

The responses to this issue paper will be part of the information that OPTA will use in deciding which position it will take in the future as well as any action or follow-up steps that may be necessary to resolve those issues. OPTA plans to inform parties about this in a 'statement of findings'. Furthermore, OPTA does not rule out the possibility that interested parties will be consulted in more detail.

1.2 Consultation process

1.2.1 Written responses

The consultation process began on 22 May 2006. Parties have four weeks to submit their written

¹ In this issue paper, the term 'All-IP' is used to describe the network that KPN wants to have in a number of years, as well as the transition to that network.

² See also the (consultation) documents on NGN published by Ofcom, available at www.ofcom.org.UK.

responses to this document to OPTA. The response period will therefore close on Friday 16 June 2006.

You can email your response to All-IP@opta.nl, specifying 'Response to All-IP consultation' as the subject. You will receive a confirmation of receipt by email.

Please send your response in Microsoft Word format, if possible, so that the responses can be processed quickly and efficiently.

Though the paper is available in English, OPTA would like to request to submit your responses in Dutch only.

1.2.2 Confidentiality

The responses to the consultation process will appear on OPTA's website in their entirety.

If your response contains confidential passages, we would kindly ask you to inform us about this and to provide OPTA with a public version of your response in addition to the confidential version. You can also choose to include all confidential information in a confidential annex to your otherwise public response.

1.2.3 Meeting

On Wednesday 7 June, OPTA will organise a meeting during which parties can give their verbal response to the document.

The meeting will start at 1 p.m. and will end at 3 p.m. and it will be held at OPTA's offices. You are kindly requested to register for the meeting by Wednesday 31 May at the latest by sending an email to All-IP@opta.nl. In your email, please specify 'Registration for meeting on All-IP consultation' as the subject of the email and include the names of the people who will attend on behalf of your organisation. If you wish to reserve speaking time, please indicate this in your email.

1.2.4 Follow-up steps

In its statement of findings to be issued in July, OPTA plans to inform the market about the results of the consultation and about the follow-up steps it has decided upon by that time.

1.2.5 Further information

If you require further information or more details about the consultation process, please send an email to All-IP@opta.nl, or call Bert Klaassens on telephone number +31 (0)70 315 9253.

1.3 Structure of this issue paper

The structure of this issue paper is as follows. Chapter 2 briefly presents the main points of KPN's All-IP programme as understood by OPTA at this point in time. Chapter 3 includes an inventory of the more generic regulatory issues – for example, the issues concerning the relation between All-IP and

the market decisions that came into effect on 1 January 2006.

Chapter 4 discusses the access issues pertaining to All-IP, which are related to KPN's obligation to comply with reasonable requests for unbundled access to the local loop network. Chapter 5 takes a brief look at the relation between All-IP and telephony and leased lines, and Chapter 6 concludes this document with an overview of the consultation questions posed in the issue paper.

| |
|---|
| <p>Question 1. Broadly speaking, are there certain subjects that you believe are missing from this issue paper and that should receive attention during a subsequent phase?</p> |
|---|

2. Main features of All-IP

With All-IP, KPN will replace its current network – which consists of (partially) separate networks for telephony, leased lines, datacom services and broadband internet (the ‘stovepipes’) – with a single broadband All-IP network. Using this new network, all types of services can be provided (including IP TV, for example).³

According to KPN, it needs to implement All-IP in order to keep up with competing infrastructures in order to provide broadband services, to realise cost savings that allow KPN to stay abreast of price developments in the market, and to replace its existing network, which is reaching the end of its life cycle.

According to KPN, All-IP roughly consists of the following elements:

- The transmission network will be based on IP/Ethernet, through which large amounts of data can be rapidly transported over the network.
- The existing circuit-switched telephony exchanges will be dismantled, as will the existing 1,361 MDF locations (where providers of broadband internet access (DSL providers) can currently purchase unbundled access to KPN’s local loop).⁴
- Around 130 to 200 of the existing 1,361 MDF locations will remain as ‘Metro Core Locations’ (from which the MDF will be removed).⁵
- Part of the local loop between the Metro Core Locations and the cable distribution boxes, of which there are around 28,000, will be switched to fibre (‘fibre to the curb’).
- All-IP will result in broadband access based on VDSL2 (with a maximum speed of 20 to 50 Mb), and based on fibre optic when there is ‘fibre to the home’ or ‘fibre to the office’ (with a maximum speed of 100 Mb).
- For the roll-out, KPN is proposing a categorisation of the cable distribution boxes: Category I involves the cable distribution boxes in those areas where unbundled access to the local loop network and co-location are not being purchased at this moment. Category II involves the cable distribution boxes in those areas where unbundled access to the local loop network and co-location are indeed being purchased at this moment, but where the customer is located at distance of more than two kilometres from the MDF location. Category III is the same as Category II, except that the customer location is less than two kilometres from the MDF location.⁶ Broadly speaking, KPN is proposing to start with Categories I and II, followed by Category III.

³ The information about All-IP provided in this issue paper is based on the information that was available to OPTA at the time this issue paper was being written. In its communication with market parties and with OPTA, KPN has emphasised that it has not yet decided on all aspects of All-IP; KPN first wants to discuss particular aspects – such as the roll-out schedule and the wholesale portfolio – with its wholesale customers, while other – mostly technical – aspects still have to crystallize. It is therefore quite possible that certain aspects of All-IP may have changed in the meantime.

⁴ MDF stands for Main Distribution Frame.

⁵ On its website www.kpn-wholesale.nl (link: “All-IP”), KPN provides an overview of the situation regarding the locations that will continue to play a part after 2010.

⁶ On its website www.kpn-wholesale.nl (link: “All-IP”), KPN provides an overview of the situation regarding the intended planning schedule.

- KPN will provide wholesale access to its network on the basis of two models: Wholesale Broadband Access (WBA) and SubLoop Unbundling (SLU).⁷

In 2006, All-IP will be tested in trials and pilots by KPN and possibly by other market parties, and KPN will start with an initial small-scale rollout. The aim is to have the implementation ready by 2010, depending on technological developments and market circumstances.

KPN's wholesale website www.kpn-wholesale.nl includes (a link to) the presentation given by KPN to its wholesale customers on 29 March 2006, in which KPN's All-IP plans are explained in detail.

⁷ Where relevant, in combination with SLU Backhaul.

3. Generic regulatory issues

In this chapter, OPTA discusses the more general issues related to All-IP that are not directly linked to particular types of access or specific access obligations imposed on KPN.

3.1 OPTA's point of departure

OPTA sees KPN's transition to an All-IP network as a healthy development. All-IP means that KPN is investing in innovative and efficient technology. In the long term, this investment could result in a broader service portfolio at lower prices for both companies and private end-users. As such, All-IP can help strengthen the Dutch (knowledge) economy and the competitive position of the Netherlands.

At the same time, All-IP will affect the market dynamics in the Dutch communication sector, and particularly a number of markets analysed by OPTA for which OPTA, in its market decisions published on 21 December 2005, specified that if KPN were not regulated, there would be no (or insufficient) sustainable competition.

OPTA realises that in the context of a shifting and converging market, All-IP means that KPN has decided to invest in the next phase of its network. That is why it is important to keep examining closely what this means for the regulation of KPN, where the regulation of access to an All-IP network may not have to be as severe as that of access to the old telephony network still stemming partly from the era of the legal monopoly. Certainly with respect to the end situation KPN is aiming for with All-IP – therefore after the transition phase – it should be asked to what extent regulation is still comparable with the type of regulation applied during the liberalisation of the telecommunication sector.

OPTA realises that for the providers competing with KPN, and particularly for those providers that largely depend on access to KPN's network, All-IP leads to the need for fundamental choices in terms of their strategy and business plans; those parties can also be expected to consider their position in the market and the development of that position. As such, All-IP will affect the investments of other parties in the market and therefore, it can have a major impact on the competitive landscape as we now know it.

Question 2. How do you evaluate All-IP in light of the development of the communications sector and in terms of its significance for the Dutch economy, and in light of the position and responsibilities of the providers that are competing with KPN?

Against the background of the above, OPTA expects that with respect to All-IP, KPN will meet its responsibility with regard to the market dynamics in the sector, and particularly the obligations imposed upon it in the market decisions. OPTA's point of departure for this is that the onus primarily is on KPN itself: if KPN fulfils its responsibility, OPTA will exercise restraint.

However, if it turns out in practice that KPN is not meeting its responsibility or is not doing so adequately, OPTA will intervene. In such a case, OPTA will always intervene in a proportional manner, where that intervention is as appropriate and necessary as possible to find a solution to that particular

case. This means that OPTA can decide to be involved informally, but also formally.

A relevant example in this context is OPTA's decision to play a role in organising the process to arrive at the reference offer for unbundled access to KPN's sub-loop network (the RO-SLU). OPTA has organised an Industry Group in which KPN's proposal for the offer is being discussed at a number of meetings. OPTA has opted for this role because in the context of SLU – a wholesale service regulated on the basis of the market decisions – OPTA deems it very important that there is a transparent and structured discussion between KPN and other market parties, and OPTA could see that this discussion was not taking shape in practice.

Question 3. What is your point of view regarding the basic assumption that with respect to All-IP it is up to KPN in the first place to fulfil its responsibility with regard to market dynamics and the obligations imposed upon it in the market decisions?

Question 4. What is your point of view regarding the formulated basic assumption that OPTA will not intervene unless it turns out that KPN is not fulfilling its responsibility or is not interpreting it correctly?

When assessing whether KPN is actually complying with the imposed obligations, OPTA will in essence base that assessment on the considerations regarding the appropriateness of obligations as explained in the market decisions.⁸ Among other things, this means that OPTA will avail itself of the European proportionality standard regarding the appropriateness and necessity of the interpretation of the imposed obligations opted for by KPN in consultation with other providers, that OPTA will use the primacy of infrastructure competition above competition in services as its basis, and that it will comply with the priority objective of the relevant market as determined in the market decisions.

3.2 All-IP and the market analysis decisions of 21 December 2005

3.2.1 The market decisions as a valid regulatory framework

The transition to All-IP is an important step in the development of the communications sector. Broadband internet access and telephony are currently being provided by cable operators, KPN and other DSL providers that use KPN's local loop. At the moment, however, the current DSL connections do not have sufficient capacity to provide radio and television services that fully compete with the services being provided by cable operators. By creating a single broadband IP network, KPN will be able to define broadband multiplay services, including IP TV, based on an efficient cost level. At the same time, the cable sector is investing in radio and television services over IP, and the mobile network providers are making their networks suitable for broadband applications – for example, based on UMTS. To an ever-increasing extent, these developments are giving rise to increasingly different networks with converging application options.

Against this background, the question arises whether the transition to All-IP means that the intended

⁸ In this context, see particularly Section 3.4 of the Unbundled Access market decision, OPTA/BO/2005/203431, 21 December 2005.

sustainable competition between different infrastructures enabled by liberalisation of the sector is a fact, and whether further access regulation – which is promoting competition in services in the absence of infrastructure competition – has to be abandoned.⁹ The answer to such questions is important as a context for resolving the access issues related to All-IP, which are discussed in the following chapter.

With respect to this regulatory issue, OPTA believes that KPN's mere intention to migrate to an All-IP network does not mean there will be sufficient sustainable infrastructure competition, at least not during the period governed by the current market decisions. In the long term, together with the further development of other broadband networks, All-IP can turn out to be very significant when determining which markets are relevant and which provider(s) on those markets have significant market power. In itself, however, the intended transition to All-IP does not affect the conclusions drawn by OPTA in its market decisions based on its prospective analysis.

Specifically for the market for unbundled access to KPN's local loop, OPTA wishes to point out the following. The essence of the analysis of KPN's significant market power (hereinafter called: SMP) on this market is the fact that a product portfolio is being offered through KPN's local loop that is not fully duplicated by other infrastructures during the current regulatory period. All-IP just means that the product portfolio that can be provided through KPN's local loop is expanded even further. As a result, the competition from other infrastructures will not increase. OPTA therefore assumes that KPN's current position of SMP will not disappear within the regulatory period just because of the transition to All-IP. However, as a consequence of All-IP, KPN's market position can *change* on a number of markets – for example, because cable operators may start to experience (potential) competition on the market for the transfer and provision of broadcasting transmission services. Based on the identified IP developments, OPTA has also taken into account the potential (infrastructure) competition exerted by IP TV initiatives in its analyses of these markets.

On the market for high quality wholesale broadband access, OPTA has concluded that KPN currently enjoys a position of SMP and that KPN must provide high quality wholesale broadband access to other providers under non-discriminatory conditions. In addition, KPN must publish a reference offer. The essence of the analysis of KPN's position of SMP on that market is the fact that KPN is the only provider of high quality wholesale broadband access that has realised a network with nationwide coverage. Because of their limited extent of coverage, third parties are dependent on the supply of high quality wholesale broadband access by KPN so that they can provide independent data communication services or enable others to do so. Given the transition to All-IP and KPN's plans to discontinue MDF locations, a higher degree of coverage for those parties does not seem to be easily feasible in the short term. This means that KPN's position of SMP is not expected to disappear as a result of the transition during the coming regulatory period.

⁹ It should be noted here that OPTA's Economic Analysis Team is currently working on an Economic Policy Note (EPN) that examines under which conditions sustainable competition can arise between just two competing fixed networks. The transition to All-IP contributes to a situation in which two different fixed infrastructures, that of KPN and that of the regional cable provider, can compete for the end-user's fixed connection. The central question here is whether two competing fixed local loops can also guarantee market dynamics and continuous innovation in the long term. This EPN will be published in the third quarter of 2006 and will be discussed with market parties.

The above means that OPTA sees the market analyses and decisions as the basis for the applicable regulatory framework for All-IP. The main question in that framework is under which conditions KPN can implement the transition to All-IP and may dismantle the MDF locations to fulfil its responsibility with regard to market dynamics in general and the obligations imposed upon it in particular.¹⁰

Question 5: Do you believe that OPTA's point of view of the intention to migrate to All-IP in itself does not affect the conclusions drawn by OPTA in its market decisions or the obligations imposed on KPN?

Question 6: Is the question: 'Under which conditions can KPN implement the transition to All-IP if KPN wants to fulfil its responsibilities?' the fundamental question, according to you?

3.2.2 New market analyses

The current market decisions apply for a period of a maximum of three years. By virtue of Article 6a.4 of the Telecommunications Act, OPTA has to decide – at the latest three years after 1 January 2006 – whether the obligations imposed on KPN on the basis of the current market decisions must be maintained or withdrawn. By virtue of the first, second and fourth paragraphs in Article 6a.1 of the Telecommunications Act, however, OPTA can also opt for new market analyses earlier – for example, if OPTA receives indications that a company no longer has a position of SMP, that an obligation imposed earlier is no longer appropriate or that a new position of SMP has come about and therefore also the need to impose obligations.

This means that in the coming three years OPTA will regularly and structurally monitor the communications sector for relevant developments that could lead to a new market analysis. As indicated in Section 3.2.1, the intended transition to All-IP in itself does not constitute such a cause. However, implementation of the All-IP plans may be a reason to carry out a new analysis and for examining whether the obligations imposed earlier are still appropriate. If that is not the case, OPTA will withdraw the existing obligations and/or impose other appropriate obligations on the markets affected by the transition.

In the market analysis of the market for wholesale broadband access it was established, for example, that KPN – as the only provider of low quality wholesale broadband access – has realised an infrastructure that covers almost the entire country. Until now, the other DSL parties have rolled out a maximum of 33% of the required infrastructure. In the market analyses, market parties have indicated to OPTA that they want to continue realising their rollout (on the basis of unbundled access to the local loop network) so that their extent of coverage will increase further and their competitive position can be further strengthened. It was also established that KPN, given the regulation of the market for unbundled access, does not have SMP on the retail market for broadband internet access. The transition to All-IP might change this – for example, due to the way KPN decides to fulfil its obligation to provide unbundled access to the wholesale market above it. This could be a reason for OPTA to again conduct an analysis of the market for wholesale broadband access.

¹⁰ OPTA is still examining the legal relation between actual dismantling of MDF locations and the obligations from the Unbundled Access market decision.

Question 7: In the long term, implementation of the All-IP plans could be a reason for new market analyses. According to you, for which markets might this appear to be the case? Could it be that there is a good reason to analyse markets other than the current relevant markets?

3.2.3 All-IP and wholesale tariff regulation

With regard to the relation between All-IP and the wholesale tariff regulation imposed on KPN on the basis of the market decisions of 21 December 2005, the draft decision regarding the Wholesale Price Cap (hereinafter called: WPC) has been under consultation since 25 April 2006; interested parties have until 6 June 2006 to inform OPTA about their views on this draft decision.¹¹

The WPC is a three-year system that results in price caps for KPN's wholesale services to which cost orientation applies, where KPN is free to set its tariffs lower than the price caps.¹² In principle, the tariff ceilings are intended to come into force on 1 April 2006. The tariff ceilings resulting from the WPC have been defined for the coming three years; the market decisions have not provided for an interim adjustment.

In terms of costs and volumes, the developments related to All-IP have been incorporated into the development of the WPC. This means that All-IP has no further influence on the tariff ceilings defined in the WPC. As far as All-IP leads to adjustments in the wholesale services regulated under the WPC or to changes in the regulated wholesale portfolio, the stipulations included in the market decisions apply.¹³

The above means that the subject of wholesale tariff regulation will not be discussed any further in this issue paper.

Question 8: Do you agree with the relation between All-IP and the WPC as described in section 3.2.3?

3.3 Information provision by KPN

OPTA considers it vitally important that in relation to All-IP KPN provides other market parties with information in a timely, adequate and non-discriminatory manner. This is why OPTA will continue to remind KPN of the importance of this. In cases where KPN is obligated to provide information on the basis of the market decisions, OPTA will enforce that obligation, where necessary.

3.4 Organisation of the dialogue

KPN has indicated that it wants to enter into discussions with market parties on a number of subjects.

¹¹ OPTA/TN/2006/200897, 25 April 2006.

¹² With the exception of the interregional call transfer service, for which there is a lower limit.

¹³ See particularly section C.8.3 of Annex C in the market decisions.

Among other things, these discussions will involve the service descriptions of new wholesale services, the rollout phases and the pilots to be undertaken.

OPTA considers it of vital importance that KPN ensures that this dialogue is organised effectively, where subjects can be dealt with at the right moment and in the right consultative bodies.

3.5 Relation with the review of the European regulatory framework

In late 2005, the European Commission published a 'call for input', which signalled the start of an assessment of the European regulatory framework. Together with the other European regulators, OPTA reacted to this request in the framework of IRG/ERG.¹⁴ In the summer of this year, the European Commission will publish a consultation document and possibly at the end of 2006, it will publish formal amendment proposals. It is expected that this process may take two to three years. That means that for the time being there will be no impact on the current market decisions, which much be revised by 1 January 2009 at the latest.

Should the European Commission amend the Recommendation for the relevant markets at any particular moment, OPTA is obligated – by virtue of the Telecommunications Act – to analyse the relevant markets in the amendment as soon as possible after that Recommendation comes into effect.¹⁵ Since not all Member States have yet completed their analyses, and in some cases have not yet announced them, and there may be appeal procedures, IRG/ERG has requested the European Commission to regulate the transition between two Recommendations.¹⁶

The emergence of NGN's in various European Member States is a development that is of vital importance for the European regulatory framework. In that framework, IRG/ERG has commented that it is to be expected that these developments will take place in the different Member States at different pace. In addition, IRG/ERG has indicated that the regulatory framework has to be flexible enough to deal with converging markets and markets of an oligopolistic nature. This is why OPTA will use the experience it will be gaining in the future in a European context.

Question 9: What is your point of view regarding the relation between the review of the European regulatory framework and All-IP?

¹⁴ The European Regulators Group is a collaborative body set up by the European Commission as a mechanism for harmonisation. Its members are the 25 regulators from the European Union Member States. The Independent Regulators Group is a collaborative body of 33 regulators from the Member States, candidate Member States and members of the European Free Trade Area (EFTA).

¹⁵ Recommendation of the European Commission of 11 February 2003 with respect to relevant product and service markets in the electronic communications sector that can be subjected to legislation ex ante in accordance with Directive 2002/21/EG of the European Parliament and the Council concerning a joint regulatory framework for electronic communications networks and services, 2003/311/EG.

¹⁶ See, for example, the European Regulators Group and Independent Regulators Group Response to the call for input on the forthcoming review of the EU regulatory Framework for electronic communications and services Including review of the Recommendation on the relevant markets, p. 34.

3.6 Alternative regulatory models

The countries surrounding the Netherlands have also begun with the transition to NGN's. For the transition, some of those countries have opted for a particular regulatory model that is (partly) expected to facilitate the transition in the best way possible. The most striking examples of this are the United Kingdom (hereinafter called: the UK), where Ofcom and British Telecom (BT) have arrived at a 'regulatory contract', and Germany, where it was intended to have a 'regulatory holiday'.

In Germany, the National Regulatory Body (hereinafter called: NRI) initially left wholesale broadband access to VDSL outside the proposed definition of the market for wholesale broadband access. This introduced a 'regulatory holiday' of two years for Deutsche Telekom. Then the European Commission expressed serious doubts about the intention not to regulate wholesale broadband access to VDSL. As a result, the German NRI announced a revised market analysis which explicitly stated that wholesale broadband access to the VDSL connection is, in principle, considered as part of the relevant market, unless it is found not to be a substitute for that type of access in light of the retail products that it can be used to offer.

One very important term in the regulatory contract between Ofcom and BT is the term 'equivalence'. Equivalence is a vital element in the 'Undertakings' pledged by BT to Ofcom. In the context of the regulatory contract, in return for compliance with these Undertakings by BT, Ofcom can allow BT greater freedom in particular areas – for example, in the area of retail price regulation. Here, equivalence essentially means that through structural measures on a wholesale level BT guarantees that competing providers and BT itself can purchase certain wholesale modules from BT under exactly the same conditions. The most important structural measure here is that BT has isolated its local loop and the backhaul into a separate business unit (called 'OpenReach')¹⁷ that has been positioned at a distance from the rest of BT.

OPTA sees 'equivalence' as an interesting concept. At the same time, OPTA realises that the regulatory contract concluded between Ofcom and BT is, to a large extent, specific for the British situation – for example, in terms of the extent of competition on the retail broadband market and the nature and extent of existing or potential infrastructure competition. OPTA also believes it is relevant that retail regulation in the UK – in any case, the maximum end-user tariffs to be applied by BT – was much more radical than it was in the Netherlands, and that the regulation of the minimal tariffs to be charged by KPN in this country provides sufficient space for KPN to follow its competitors in their pricing without that pricing being anti-competitive.¹⁸ OPTA believes that this in itself limits the possibilities for an approach similar to the British interpretation of equivalence.

Therefore, as yet, OPTA sees equivalence as a solution still to be studied to solve a problem, which still has to be defined. OPTA believes that the mechanism on which equivalence is based (in the UK: retail freedom 'in exchange for' wholesale structural adjustments) is broader than the UK interpretation. For example, OPTA would not want to rule out the fact that this mechanism could also work between 'wholesale regulated' versus 'wholesale unregulated' beforehand. OPTA is therefore open to ideas and suggestions.

¹⁷ www.openreach.co.uk/orpg/home/home.do

¹⁸ This alludes, for example, to the 'orange area' defined in the 'traffic-light' model.

Question 10: What is your point of view with respect to 'equivalence' in general and with respect to the applicability of the concept of equivalence in relation to All-IP in particular?

4. The MDF access obligation

This chapter focuses on KPN's obligation to comply with reasonable requests for unbundled access to the local loop network, and in particular unbundled access at the level of the main distribution frame.

This chapter has the following structure. Section 4.1 globally describes KPN's obligations for unbundled access on the basis of the market decisions. Section 4.2 analyses the changes caused by All-IP in relation to unbundled access. Section 4.3 then describes the issues associated with the question of which measures should be taken by KPN so that KPN fulfils its responsibility with regard to market dynamics in general and the applicable obligations in particular.

4.1 Unbundled access and the market decisions

4.1.1 Unbundled access

In the market analysis decision on unbundled access at a wholesale level (including shared access) up to metal networks and sub-loop networks¹⁹ (hereinafter called the Unbundled Access market decision), KPN is deemed to have SMP in the market for unbundled access to KPN's local loop.

Unbundled access to the local loop network (ULL²⁰) includes both complete unbundled access (xTL) and shared access (ASL), both at the level of the main distribution frame (MDF access²¹) and at the level of the sub-loop network (SLU²²). In short, the following obligations were imposed on KPN:

- an obligation to comply with reasonable requests for unbundled access;
- an obligation to grant unbundled access under the same circumstances and under the same conditions (non-discrimination);
- an obligation to publicise a reference offer and regularly update that offer;
- an obligation to charge cost-oriented tariffs for the delivered facilities and associated facilities;
- an obligation to keep separate accounts.

KPN's current reference offer for unbundled access (RO-ULL) has been published on www.kpn-wholesale.com. The offer specifically for access to the sub-loop network has been published on the same website but is a 'provisional' reference offer that still needs to be worked out in detail before purchases can be made.

On the basis of KPN's RO-ULL, DSL providers are currently only purchasing MDF access. Despite the fact that KPN has been obligated for some time to offer SLU, no single market party has yet purchased this type of access.

The following figure shows the difference between the local loop network at the level of the main distribution frame and the sub-loop network (at the level of the cable distribution box).

¹⁹ OPTA/BO/2005/203431, 21 December 2005.

²⁰ Unbundled Local Loop

²¹ Main Distribution Frame.

²² SubLoop Unbundling.

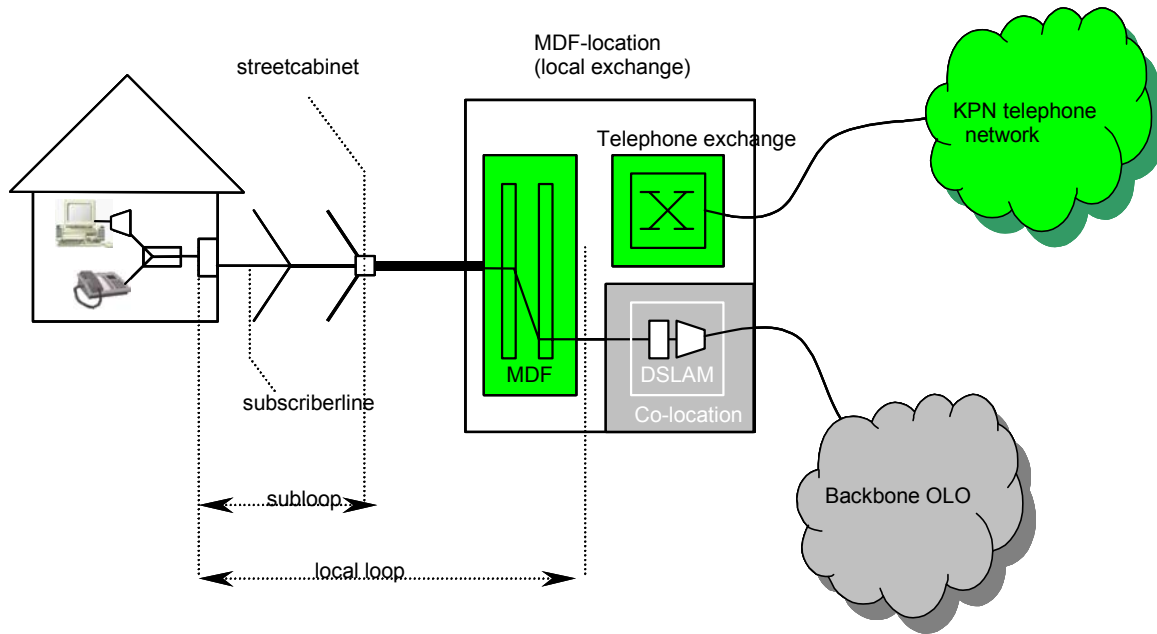


Figure: Types of unbundled access

4.1.2 Inextricably linked facilities

By virtue of the Unbundled Access market decision, KPN is also obligated to provide the services and facilities associated with unbundled access that are reasonably necessary for the provision of electronic communications services based on unbundled access to the local loop network.

This means that, in any case, KPN is obligated to provide the following services: co-location and connection cables or other types of shared use of facilities, open access to technical interfaces, protocols or other core technologies, and access to operational support systems or comparable software systems.

4.2 Relevant changes as a result of All-IP

KPN expects that All-IP will cause the functionality of the main distribution frame to be phased out, which means that the majority of the current MDF locations will be discontinued.²³ This means that KPN intends to change its network in such a way that MDF access will no longer be possible in the long term.

A number of the locations that currently house main distribution frames will continue to be used by KPN as 'Metro Core Locations'. The network between this maximum of 193 locations and the 28,000 cable distribution boxes will be switched to fibre optic by KPN. For its own retail services, KPN no longer has a use for the existing copper local loop network between the current 1,361 MDF locations

²³ The MDF location is the physical location of KPN's Main Distribution Frames, also often called the number exchange (building).

and the cable distribution boxes.

For SLU, All-IP means that this type of access will start to function as a regulated wholesale module for KPN's WBA offer: In order to make the WBA offer, KPN will have to purchase SLU from itself. This means that the provisional reference offer has to be worked out in detail so that SLU can be purchased by both KPN itself and by other providers. KPN must offer SLU in a non-discriminatory manner and, of course, at cost-oriented tariffs to other providers and must comply with reasonable requests for SLU.

4.3 Fully-fledged equivalent alternative as the point of departure

As mentioned above, KPN is obligated to comply with reasonable requests for MDF access. KPN is also obligated not to withdraw access that has already been granted, unless the continued granting of access may not be reasonably demanded of KPN. At the same time, KPN intends to change its network in such a way that this type of access will no longer be physically possible in the long term. The first question is therefore whether KPN's obligation to comply with reasonable requests for unbundled access implies that KPN is not free to change its network in such a way that this type of access is no longer possible.

So far OPTA is convinced that a request for MDF access is reasonable as long as KPN is not providing a fully-fledged equivalent alternative to MDF access.²⁴ If KPN is not providing such a fully-fledged equivalent alternative, the most extreme consequence is that KPN will be obligated by OPTA to preserve the possibility to purchase MDF access in accordance with the conditions as they now apply on the basis of the current reference offer between KPN and other parties.

The basis for the requirement of a fully-fledged equivalent alternative is that the ULL obligation was decided upon because the market analyses uncovered (potential) anti-competitive behaviour that is linked to KPN's position of SMP on that market. In order to address that anti-competitive behaviour – in light of the objectives assigned to OPTA (for example with regard to stimulating infrastructure competition) – the ULL obligation was imposed on KPN. When KPN provides a fully-fledged equivalent alternative, it will also have to adequately comply with what OPTA intended with its imposition of the ULL obligation.

The central question resulting from the above is what a fully-fledged equivalent alternative should consist of so that a request for MDF access at MDF locations where a provider is not yet purchasing MDF access becomes unreasonable, or so that continued granting of access cannot be reasonably demanded of KPN.

Question 11: Please state your response to the question whether KPN's obligation to comply with reasonable requests for MDF access and not to withdraw access to facilities already granted means that KPN is not free to change its network in such a way that this type of access is no longer possible. Please also respond to OPTA's provisional ruling on this.

²⁴ Or that KPN is obligated within reason to maintain ULL already granted as long as KPN does not provide a fully-fledged alternative.

Question 12: Please state your response to OPTA's point of view that – in light of All-IP – a request for MDF access can no longer be considered reasonable if KPN provides a fully-fledged equivalent alternative to MDF access.

4.4 Conditions for a fully-fledged equivalent alternative

Based on the principle that KPN must provide a fully-fledged equivalent alternative to MDF access, in case a request for MDF access or the continued granting of MDF access gets unreasonable, the next question is which conditions have to be defined for an alternative to MDF access in order for that alternative to be fully-fledged.

The obligation to provide unbundled access to the local loop network is aimed at removing the consequences of KPN's position of SMP. This position of SMP is due to KPN's monopoly on the market for unbundled access to KPN's local loop network. Furthermore, in its Unbundled Access market decision OPTA also ascertained that this market is characterised by high entry barriers and economies of scale that contribute to KPN's position of SMP. In its decision, OPTA states as follows:

“ 270. Providers that wish to become active on the underlying retail markets are being confronted with high entry barriers due to high investments (for example, excavation and equipment costs) required to roll out such a local loop network (with nationwide coverage). Added to this is the fact that there are sunk costs or costs that cannot be recovered if a network provider were to decide to quit the market.

271. Finally, KPN has certain economies of scale. Economies of scale occur when the average costs (per production unit) decrease as a result of higher production. Economies of scale usually occur in the case of a production process with high fixed costs and low variable and/or marginal costs. Incumbent parties can benefit from high economies of scale, while new entrants have to start on a small scale. Economies of scale can form an entry barrier to new entrants and can also be an advantage for larger providers over smaller providers.

272. The very high entry barriers resulting from economies of scale make KPN's local loop network difficult to duplicate. Because of the enormous costs involved, the OPTA does not expect KPN's copper local loop network to be duplicated by alternative network providers within the foreseeable future and certainly not within three years. This is an important aspect in the assessment of SMP.”

Therefore, the first condition for a fully-fledged equivalent alternative to MDF access is that the fully-fledged equivalent alternative addresses these more or less structural causes of KPN's position of SMP as much as possible.

Question 13: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that the fully-fledged equivalent alternative addresses the specified, more or less structural causes of KPN's position of SMP as much as possible?

KPN's position of SMP on the market for unbundled access to the local loop network is leading to a situation in which KPN can exhibit anti-competitive behaviour. By imposing the obligations, OPTA aims to address identified (potential) anti-competitive behaviour. This (potential) anti-competitive behaviour can lead to the exclusion of KPN's competitors from the underlying wholesale markets for high and low quality wholesale broadband access and the retail markets for access to the fixed public telephone network, broadband internet access, data communication services and leased lines, and in the long term to exploitation issues and therefore to a negative welfare effect.²⁵ A second condition for a fully-fledged equivalent alternative to MDF access therefore is that this alternative removes the (potential) anti-competitive behaviour that has been addressed with MDF access equally well in order to ensure there can be no exclusion of competitors from the underlying retail markets.

Question 14: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that this alternative can remove the (potential) anti-competitive behaviour that has been addressed with MDF access equally well?

There is a third condition, which is associated with the relation between ULL and the primacy of infrastructure competition. With regard to this relation, in the Unbundled Access market decision the following point was taken into consideration:

369. By imposing an access obligation on the market for unbundled access, OPTA is upholding the existing competition on KPN's local loop network and consequently on the underlying retail markets. The underlying market for broadband internet access is effectively competitive in the presence of regulation on the market for unbundled access to KPN's local loop network. On the other underlying retail markets (leased lines, data communication services and fixed telephone connections), the possibility of unbundled access is contributing to the options of alternative providers. A relevant factor in this respect is the fact that the regulation of unbundled access is introducing competition on the lowest level in the network, namely on the level of the local loop. As a result, regulation of this market is most closely related to infrastructure competition."

Therefore, the third condition for the fully-fledged equivalent alternative is that this alternative sufficiently upholds the nature of competition as intended with ULL.

Question 15: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that this alternative sufficiently upholds the nature of competition as intended with ULL?

As a fourth condition, OPTA believes that the fully-fledged equivalent alternative to MDF access on the service level should consist of (the combination of) one or more types of access with a number of specific service features. At the moment, OPTA sees a service such as SLU or a combination of SLU and WBA as possible alternative service types. In addition, transition measures related to the phasing

²⁵ Unbundled Access market decision, section 6.8.

out of the MDF locations and the transition to the other types of access will also have to be a part of the fully-fledged equivalent alternative. Section 4.5 contains a more detailed discussion of the features of the access variant(s) and of a transition regime.

Question 16: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that this alternative should consist of (the combination of) one or more types of access, in combination with transition measures related to the phasing out of the MDF locations and the transition to the other types of access?

KPN will have to look for an implementation of a fully-fledged equivalent alternative to MDF access together with the current purchasers of unbundled access to the local loop network. However, a fifth condition for the fully-fledged equivalent alternative could be that this alternative must also be available for new entrants and must be flexible enough to introduce new types of access.

Question 17: What is your point of view regarding the possible condition for the fully-fledged equivalent alternative to MDF access that this alternative should also be available for new entrants and should be flexible enough to introduce new types of access?

4.5 Features of a fully-fledged equivalent alternative

In order to determine the features of a fully-fledged equivalent alternative to MDF access, the first part of this section describes OPTA's comments on the WBA offer proposed by KPN in the framework of All-IP. In the context of All-IP, KPN sees WBA as the most important type of access on the basis of which agreement must be reached with other providers about phasing out MDF access. OPTA then discusses KPN's SLU obligation, given that this type of access remains possible in the market for unbundled access to KPN's local loop network. Finally, OPTA discusses the possible measures that could be part of a transition regime.

4.5.1 WBA

4.5.1.1 WBA in the framework of All-IP

As mentioned above, the introduction of WBA – characterised by KPN as an expansion of Wholesale DSL (the currently unregulated type of wholesale broadband access) – is a central element of KPN's plans for All-IP. KPN wants to configure its IP network in such a way that on the basis of the wholesale purchase of WBA, service providers – that is, KPN itself and other providers – can provide end-users with their broadband services (such as broadband internet access, telephony, data communication services, leased lines, and radio and television signals). KPN calls this approach the 'open wholesale model'.

With the WBA offer proposed by KPN, a service provider hires one or more VLAN connections²⁶ (or PVCs²⁷) for each of its customers, where every VLAN is also available as a physical port on the

²⁶ Virtual Local Area Network.

²⁷ Private Virtual Connection.

customer modem. Because WBA allows several VLANs to be realised for each end-user, an end-user can opt to purchase different services from different service providers.

KPN will enable service providers to purchase WBA on different levels:

- at 2 x 2 'central AURA locations'²⁸
- at 2 x 14 backbone locations (that coincide with current RAP locations)
- at a maximum of 193 locations (that are now also MDF locations).

The wholesale link at the uncoupling point will be realised on the basis of Ethernet (through fibre optic).

In OPTA's view, WBA – as far as is known now – would seem to include services that are part of three different markets, namely the markets for high quality WBA, for low quality WBA, and for >2Mbit/s terminating (fibre optic access).

KPN has stated that it wants to explain its proposal for WBA in more detail to market parties in early June. It has also revealed that it has already held (commercial) talks with parties on a bilateral basis and will hold more of these talks.

Question 18: What is your impression of the WBA offer proposed by KPN? What does WBA mean for the competitive structure in the Dutch communications sector? Do you think that WBA leads to new business models? What does WBA mean for the competition between different infrastructures? Do you think the open wholesale model is a sustainable concept?

Question 19: Do you expect to make use of the WBA offer, and under which conditions? In which way and with which objective do you think you will use WBA? How does WBA fit in your own company's strategy? Do you see WBA as an access model that will also remain important for your company in the future, or do you see WBA mainly as a stepping-stone that enables the further rollout of your own infrastructure?

4.5.1.2 WBA within a fully-fledged equivalent alternative to MDF access

Although OPTA realises that WBA can turn out to be an important type of access in the way other providers will purchase their network use from KPN in the near future, OPTA –independent from the question whether the WBA intended by KPN involves a (partly) regulated offer – does not see WBA in itself as a fully-fledged equivalent alternative to MDF.

First of all, in its Unbundled Access market decision OPTA noted that wholesale broadband access – certainly during this regulatory period – is not a substitute for MDF access. The reasoning is specified in section 5.4.9 of the Unbundled Access market decision. Among other things OPTA refers to the sunk costs that DSL providers have incurred to provide retail and wholesale services based on ULL. But the product features of ULL and WBA are also different: with ULL, the purchaser has full control over the technology and service features, whereas this is not the case with wholesale broadband

²⁸ AURA stands for Amsterdam, Utrecht, Rotterdam and Arnhem.

access.

WBA is not a sufficient alternative over a longer period either. After all, compared to ULL WBA is a real step backward on the level of infrastructure competition. Moreover, the dynamics on the market for wholesale broadband access, which originated from the supply of MDF access, contribute to competition on the retail market. Unbundled access to the local loop network therefore satisfies the priority objective of infrastructure competition more effectively than WBA.

As indicated in section 3.2.1, KPN is obligated to provide high quality wholesale broadband access. The non-discrimination obligation and the obligation to make a reference offer also apply in this case. In light of the basic principle set out in that same section that the market decisions function as the basis for the regulatory framework for All-IP, those services in the WBA offer that are part of the market for high quality wholesale broadband access will also be subject to this obligation.

Question 20: What is your point of view regarding the significance of WBA as a possible alternative to MDF access?

Question 21: What is your point of view regarding the relation between WBA and high quality wholesale broadband access?

4.5.2 SLU

As mentioned above, the Unbundled Access market decision obligates KPN to comply with reasonable requests for SLU. KPN is also obligated to publish a reference offer. This RO-SLU is currently the subject of discussion in the SLU Industry Group organised by OPTA. Based on annex 3 of the Unbundled Access market analysis, the RO-SLU should in any case include the conditions for unbundled access to the sub-loop network (the SubLoop Access Service) and co-location services (the SubLoop Co-location Service). Access to operational support systems (for example, the Sub-Loop Information Products) will also be discussed in the IG SLU. However, because the elaboration of the RO-SLU is the subject of the talks in the IG, it will not be dealt with in detail here.

The SLU obligation has been imposed on KPN in the same market as the MDF access obligation, namely the market for unbundled access to KPN's local loop network. Therefore, OPTA sees SLU as a logical element of the fully-fledged equivalent alternative to MDF access to be offered. However, OPTA does not yet see SLU as the only element of that fully-fledged equivalent alternative. For that SLU differs too much from MDF access. After all, in principle MDF access can allow a provider to purchase unbundled access to KPN's local loop at all 1,361 MDF locations. On the basis of SLU, this would be possible at 28,000 cable distribution boxes. Connecting a customer database of a size comparable to what parties have now realised through MDF access will therefore be much more expensive on the basis of SLU than on the basis of MDF access. Providers will not only have to purchase co-location at every cable distribution box and install their own equipment, somehow they will also have to ensure that traffic can be forwarded from the cable distribution box (the backhaul).

With respect to the above, OPTA wonders whether SLU – in combination with a particular WBA offer – can automatically be a fully-fledged equivalent alternative to MDF access. The issue here is actually

whether the WBA offer on the one hand and SLU offer on the other hand ‘adds up’ to a fully-fledged equivalent alternative to MDF access. For the moment, OPTA believes that this does not seem obvious: unbundled access to the sub-loop network in combination with a WBA offer cannot be automatically exchanged for unbundled access to the local loop network on the level of the main distribution frame.

Question 22: What is your point of view regarding the significance of SLU as a possible alternative to MDF access? And in combination with a particular WBA offer?

This means it should be examined how to assure that SLU contributes to the development of a fully-fledged equivalent alternative. OPTA believes that this essentially involves two subjects: dealing with the SLU backhaul and dealing with SLU co-location. In this context, OPTA points to the consideration expressed in section 3.1 that All-IP also requires the providers competing with KPN to make fundamental choices with respect to their strategy and business plans; it may also be expected from those parties that they reflect on their position and development in the market. The following two sub-sections must be considered against this background.

Question 23: In addition to SLU backhaul and SLU co-location, do you see other subjects that can guarantee that SLU contributes to the development of a fully-fledged equivalent alternative to MDF access? For example, in terms of new types of access or variants of existing types of access?

4.5.2.1 SLU backhaul

KPN is planning to arrive at a (commercial) offer for SLU backhaul on the basis of which other providers can order the backhaul from the cable distribution box. KPN has also invited other parties to indicate whether and at which locations they want to roll out their infrastructure to the level of the cable distribution box simultaneously with KPN (‘duct sharing’).

OPTA assumes that SLU backhaul is not regulated; the Leased Lines market decision²⁹ (market for terminating connections > 2Mbit/s) restricts the access obligation to MDF backhaul (in which KPN, in the case of terminating connections that have already been supplied, is obliged to observe a period of nine months when it wants to discontinue those connections or adapt the conditions).

In the first place, on the subject of backhaul, OPTA realises that dealing with backhaul is crucial for the question whether and to what extent providers other than KPN decide to make use of KPN’s SLU offer. In the second place, OPTA realises that dealing with backhaul is directly related to the question as to what extent far-reaching infrastructure competition will be possible.

In the third place, OPTA believes that the situation in which providers have the opportunity to roll out simultaneously with KPN and in that way ‘to co-roll out’ is in itself a good thing, but not necessarily sufficient. After all, this situation ends up as a type of one-off option for parties competing with KPN to roll out to the sub-loop; if they decide – for whatever reason – to roll out at a later date, or if there is a new entrant, the related costs (of excavating their own duct) are considerably higher and possibly

²⁹ Market analysis decision leased lines, ref. OPTA/BO/2005/203430, 21 December 2005.

prohibitive.³⁰ Among other things, this results in high entry barriers.

OPTA is interested in possible models with which the SLU backhaul could be dealt with in the context of the fully-fledged equivalent alternative to MDF access. An example of such a model might include the possibility that, in the framework of All-IP, KPN lays extra fibre optics that can be taken over by another provider at a later point in time. At the moment of takeover, that other provider pays KPN the excavation costs for these fibre optic cables, and in that way proportionally shares in the investment. One consideration in this respect would be that the incremental costs that KPN paid for the joint laying of extra fibre optic cables are compensated for by other providers in advance – for example, based on a mechanism by which those other providers can take out an option on the takeover of the fibre optic cables.

Another example could be that OPTA – based on necessity and appropriateness issuing from a market analysis – regulates the SLU backhaul, where the regulation is interpreted in a way that makes the roll-out of parties to the cable distribution box a realistic option. For example, it could be considered putting a time limit on this regulation (e.g. with a sunset clause). In this way, parties would only purchase SLU and backhaul if they were really planning to roll out their infrastructure to the relevant locations within a certain period.

Question 24: What is your view on KPN's intended offer for SLU backhaul? What does SLU backhaul mean for the structure of the competition in the Dutch communications sector, also in terms of the theme of infra versus services competition?

Question 25: According to you, which models could be used to deal with the SLU backhaul? Which model would be relevant in the framework of the fully-fledged equivalent alternative to MDF access?

Question 26: If KPN wouldn't offer SLU backhaul, what do you think could be possible alternatives? And what would this mean for the significance of SLU in the fully-fledged equivalent alternative to MDF access?

Question 27: Do you expect to make use of the SLU backhaul offer, and under which conditions? In which way and with which aim do you think you will start using SLU backhaul? How does SLU backhaul fit in your own company's strategy? Do you see SLU backhaul as a type of access that could be important for your company in the future, or do you see SLU backhaul mainly as a stepping-stone that will enable further rollout of your own infrastructure?

³⁰ Leaving aside the question whether the permit regime of a municipality permits excavation to take place twice within a particular time frame.

4.5.2.2 *SLU co-location*

The Unbundled Access market decision obligates KPN to ensure an offer for co-location on (the level of) the cable distribution box. This SubLoop Co-location Service is part of the RO-SLU and as such is the subject of the discussions in the IG. The conditions that apply to this service are therefore not dealt with in detail here.

As mentioned above, KPN has invited other parties to announce whether and at which locations they want to roll out their infrastructure to the level of the cable distribution box at the same time as KPN. KPN has also invited parties to indicate whether they want to start purchasing co-location on the relevant cable distribution boxes. If this is the case, KPN can then immediately provide boxes with dimensions that are suitable for co-location.

With respect to SLU co-location OPTA's considerations are roughly the same as those regarding SLU backhaul. Therefore OPTA is interested in possible models with which the SubLoop Co-location Service could be arranged within the framework of the fully-fledged equivalent alternative to MDF access. One example of a suitable model would be a version where KPN only installs cable distribution boxes that are large enough to meet the co-location requirements of another party at a later stage, or a version with boxes that could be expanded at a later stage.

Yet another example – somewhere in between co-location and the shared use of KPN's DSLAM – could be that a separate rack or sub-rack is installed in KPN's NG-DSLAM and reserved for parties other than KPN. Those parties could then place their own equipment in that rack or sub-rack, after which they could configure and manage their 'part' of the NG-DSLAM through management agreements (and interfaces).

Question 28: According to you, what are the models for dealing with SLU co-location? Which model would be relevant for the fully-fledged equivalent alternative to MDF access?

4.5.3 **Related measures**

The previous sections discussed WBA and SLU – including backhaul and co-location – as possible elements in the fully-fledged equivalent alternative to MDF access. However, OPTA still believes that there can be no fully-fledged equivalent alternative without a set of related measures that facilitate the transition from MDF access to an alternative service(s) offering.

4.5.3.1 *Transition period*

KPN is proposing a transition period for the possibility to continue to purchase MDF access at a certain location. This means that during a certain period, MDF access can continue to be purchased by other parties, even if KPN itself is no longer using the main distribution frame. As far as KPN is concerned, these overlay constructions should come to an end after completion of the transition to All-IP, which means that the transition period can be very short for locations migrated in 2010.

Question 29: What is your point of view regarding the 'overlay' proposed by KPN and the period proposed by KPN for that overlay?

Broadly speaking, OPTA considers a transition period to be a necessary element of the fully-fledged equivalent alternative to MDF access. OPTA has a period in mind that, in principle, is the same for all current MDF locations, which means that KPN will continue to provide the option of MDF access at every phased-out location for the same period. A transition period involves the following aspects:

- *The duration of the period.* As far as the duration of a transition period is concerned, OPTA deems it relevant that a balance is found between the burden of the transition period for KPN on the one hand, and on the other, the reasonableness of the period that a competing provider must be given to further benefit from its investments and to adapt its business case.
- *Expansion investments.* For DSL providers, it is not clear at this moment how long they can still benefit from taking advantage of their previous investments in MDF access. A transition period will have to make this clear in a reasonable manner. A related issue is the fact that DSL providers may currently be facing a situation in which they have to expand existing MDF co-locations or even have to start purchasing co-location at new locations in order to continue to meet market demands. At the same time, it is not clear for these parties how long they can still benefit from these investments. This may mean that in the coming years DSL providers cannot make such expansion investments on the basis of a balanced business case. The introduction of a transition period could be the solution to this issue (for example, in terms of the duration of the transition period).
- *The conditions that apply to MDF access during the transition period.* For the moment, OPTA sees no reason why, during a transition period for MDF access, there should be conditions for MDF co-location and MDF backhaul that differ from the conditions agreed at this moment between KPN and parties or that have been imposed by OPTA, and incorporated into KPN's reference offer.

Question 30: What is your point of view regarding the desired implementation of a transition period and the relevant aspects in the framework of that period? Do you think there are other relevant aspects?

4.5.3.2 Sale of MDF locations

KPN is planning to dispose of the majority of the existing 1,361 MDF locations. In this context, the following aspects are important:

- The question is whether such a transition period stands in the way of the simultaneous sale of the relevant locations. Constructions are possible in which DSL providers can continue to purchase MDF access and co-location, while the relevant location has already been disposed of by KPN (for example, based on a chain clause in the sale agreement).
- Also in a more general sense – therefore outside the context of a transition period – it can be examined whether and under which conditions it is possible to preserve the co-location of DSL providers while the location itself has been disposed of by KPN. In this context, one would also have to consider the question of whether and, if so, how those providers could make use of the

existing transmission between those locations and KPN's cable distribution boxes.³¹

- The sale of the MDF locations can also be viewed from a perspective in which KPN provides no fully-fledged equivalent alternative for MDF access and in which OPTA feels obliged to hold KPN to its MDF access obligation. This situation also does not necessarily rule out the possibility of KPN phasing out the functionality of the main distribution frame for itself and disposing of the relevant locations, although this would have to be done in such a way that KPN could still continue to meet its MDF access obligation. Apart from that, OPTA still sees no reason why other conditions for MDF access and co-location should apply in this context than those currently agreed between KPN and parties which have been incorporated into KPN's reference offer.

Question 31: What is your point of view regarding the aspects that are relevant in the context of the sale of MDF locations intended by KPN? Do you think there are other relevant aspects?

4.5.3.3 Measures regarding the transition

To a certain extent, the practical implementation of the transition itself can also be seen as a feature of a fully-fledged equivalent alternative to MDF access. The following aspects may be relevant in this context:

- DSL providers will have to be informed well in advance about when which MDF location is being phased out by KPN. Providers can use this information to arrive at a judgment about issues such as which (access) model they will use to reach the end-users subscribing with them through that location, or to what extent expansion investments are still economically cost-effective. This might include a form of information provision that becomes more and more concrete in the course of time – for example, in the sense that the intention to phase out is announced eighteen months in advance and the definitive date for phasing out is announced six months in advance.
- If MDF locations are phased out, it is important that services to end-users over that main distribution frame are migrated under the best possible conditions to alternative solutions (such as SLU or WBA, for example). Apart from the question of who has to bear the costs of this, OPTA assumes that migration services will be defined for this to ensure that the migrations can be conducted in the best way possible. Not only the duration of the service interruption is important in this respect, but also the information provision to the DSL providers so that they can fully inform their customers in a timely manner.
- Also in a more general sense OPTA assumes that the process of transition – in which 28,000 cable distribution boxes have to be converted within a few years – will be set up as much as possible by means of protocols and standardised working methods, for example. Such an approach creates a transparent process, gives all parties the same insight into the approach, and creates clear definitions of responsibilities.
- KPN proposes that pilots be carried out together with interested parties. OPTA sees such pilots as an important part of the transition, but it is important to make sure that the intended pilots are in the right proportion to the procedures by which KPN will arrive at service descriptions with other parties for services such as SLU and WBA. What shouldn't happen, for example, is that the

³¹ This might include the joint takeover of the MDF locations by a number of DSL parties, which then also jointly invest in the backhaul to the cable distribution boxes.

structure of a pilot conducted in practice restricts any talks about the service features to be held after the pilot.

Question 32: What is your point of view regarding the aspects that are relevant for the transition towards a fully-fledged equivalent alternative to MDF access? Do you believe there are other relevant aspects?

4.6 The role of OPTA with respect to the fully-fledged equivalent alternative

In section 3.1, it was mentioned that OPTA's basic principle is that in the first place KPN is responsible for implementing All-IP in such a way that it fulfils its obligations and that, broadly speaking, KPN should behave in a way that it benefits the competition and the end-user. If KPN does this, OPTA will exercise restraint. The question now is how this basic principle of OPTA is to be implemented in the context of KPN's intended phasing out of the main distribution frame and the fully-fledged equivalent alternative to MDF access to be positioned by KPN. In this respect, OPTA has considered the following.

In practice, KPN, together with market parties, should create a fully-fledged equivalent alternative to MDF access. A process will have to be set up that makes it clear – as quickly as possible – what parties consider to be a fully-fledged equivalent alternative. Lack of clarity with respect to this question creates risks for the continuity of All-IP itself, but also for the business cases of providers competing with KPN.

With respect to such a process, OPTA believes that a particular point in time (some time later in 2006) should be determined when OPTA issues a decision on an alternative proposed by KPN in consultation with other parties. This decision can then function as the framework within which KPN comes to an agreement with other parties.

In OPTA's opinion, such an approach would, on the one hand, take into account KPN's primary responsibility to arrive at a fully-fledged equivalent alternative to MDF access and, on the other hand, do justice to the interests of other parties and to OPTA's task to assess whether the proposed alternative can indeed be considered to be fully-fledged equivalent.

Question 33: What is your point of view regarding the possible role that OPTA could or has to play in the framework of the assessment or approval of a sufficient alternative to MDF access?

5. Fixed telephony and leased lines

With respect to the issues to be identified in connection with the relation between All-IP and fixed telephony and leased lines, OPTA limits itself at this moment to an appeal to market parties to inform OPTA about what they believe are the relevant issues. Partly on the basis of the responses to this appeal, OPTA will decide which follow-up steps have to be taken to deal with these subjects.

5.1 Fixed telephony

5.1.1 Fixed telephony and the market decisions

On 21 December 2005, OPTA took a number of market decisions with respect to the markets for fixed telephony. These markets are:

- the retail markets for fixed telephony³² (hereinafter called the Retail market decision)
- the wholesale market for call establishment on the fixed public telephone network³³ (hereinafter called the Establishment market decision)
- the wholesale markets for call termination on individual public telephone networks, provided at a fixed location³⁴ (hereinafter called the Termination market decision)
- wholesale markets for call transfer on the fixed public telephone network³⁵ (hereinafter called the Transfer market decision)
- the wholesale markets for access to the fixed public telephone network³⁶ (hereinafter called the WLR market decision).

These market analyses are based on KPN's existing circuit-switched network. The distinguishing features of this network are the existence of local and regional exchanges, the significant roll-out of providers to KPN's regional exchanges, and the distinction between PSTN, ISDN and VoDSL³⁷ on the one hand and VoB on the other hand.³⁸

The Retail market analysis decision states that VoB distinguishes itself from PSTN, ISDN and VoDSL because VoB uses an internet connection and an on-network VoB call does not go through the traditional switched network. For VoB calls there is no C(P)S obligation and the lower limit regulation for bundles containing VoB differs from the other bundles.

To purchase call establishment and call termination from KPN, interconnection must be realised with KPN. For geographical traffic, this is possible at KPN by means of interconnection on a regional and local level. In practice, parties do not purchase local interconnection. KPN has 20 regional access points (RAPs). In addition, traffic intended for KPN's current VoB offers (such as 'internetplusbellen')

³² Ref: OPTA/TN/2005/203468, dated 21 December 2005.

³³ Ref: OPTA/TN/2005/203469, dated 21 December 2005.

³⁴ Ref: OPTA/TN/2005/203466, dated 21 December 2005.

³⁵ Ref: OPTA/TN/2005/203467, dated 21 December 2005.

³⁶ Ref: OPTA/TN/2005/203470, dated 21 December 2005.

³⁷ Voice over DSL.

³⁸ Voice over Broadband.

must be provided at the same interconnection points. What used to be termed national interconnection before the market decisions of 21 December 2005 is now a combination of the regional termination and interregional transfer services.

5.1.2 Relevant changes as a result of All-IP

KPN has indicated that it will continue with the existing voice services. Refer in this context to slide 17 of KPN's All-IP presentation of 29 March 2006.

KPN has also indicated that in the framework of All-IP it will migrate to four locations, each with a voice platform. The telephony traffic between the end-user and the voice platform is transported transparently as IP packages over the All-IP network. KPN has indicated that interconnection will be provided both 'traditionally' through C7 and 'in the new way' through IP.

Question 34: According to you, what are the relevant issues with regard to the relation between All-IP and fixed telephony? Which of those issues will be important in the short term and which in the longer term? In which way could these issues be resolved, and do you see a role for OPTA in this?

5.2 Leased lines

5.2.1 Wholesale leased lines

5.2.1.1 Wholesale leased lines and the market decisions

KPN is currently supplying 'ILL connections'. These are wholesale leased lines with capacities varying from 64 kbit/s up to 2048 kbit/s that are supplied locally ('LEP location') and regionally ('CP location'). Classical transmission technology (SDH and PDH) is used for this.

On the basis of the Leased Lines market decision, KPN has an obligation to provide access on the wholesale markets for < 2Mbit/s terminating and 2Mbit/s terminating. This access should be offered and provided in a non-discriminatory and transparent manner. There is also tariff regulation, for which a long-term tariff ceiling has been determined in the WPC.

5.2.1.2 Relevant changes as a result of All-IP

With the introduction of All-IP, the current transmission technologies (such as SDH, PDH and ATM) are being replaced by a uniform Ethernet/MPLS technology. As a consequence of this, the classical realisation of ILL connections will also disappear in the long term and this will be replaced by an emulation of (a part of) these connections or by an alternative Ethernet offer.

5.2.2 Retail leased lines

5.2.2.1 Retail leased lines and the market decisions

KPN current portfolio includes national analogue leased lines, national digital leased lines (<2Mbit/s) and international analogue leased lines.

On the basis of the Leased Lines market decision, a number of obligations have been imposed with respect to national analogue and digital leased lines for <2Mbit/s and international analogue leased lines. National analogue leased lines and digital <2Mbit/s connections are subject to a delivery obligation, non-discrimination, transparency and tariff regulation (price cap). There is no tariff regulation for analogue international leased lines. National analogue and national digital 64kbit/s and 1984kbit/s connections are subject to a delivery obligation by virtue of Article 6a.19 of the Telecommunications Act.

5.2.2.2 *Relevant changes as a result of All-IP*

With the introduction of All-IP, the current transmission technologies (such as SDH, PDH, ATM) will be replaced (in phases) by a uniform Ethernet/MPLS technology. In the local loop network, the use of analogue technologies such as those used for analogue leased lines will disappear too. As a consequence, the classical leased line will also disappear and this will be replaced by emulation of these connections or by a completely new Ethernet offer or Ethernet VPN offer.

Question 35: According to you, what are the relevant issues regarding the relationship between All-IP and wholesale and retail leased lines? Which of those issues will be important in the short term and which in the longer term? In which way could these issues be resolved, and do you see a role for OPTA in this?

6. Consultation questions

This chapter shows all of the questions formulated in the issue paper together. If you have any relevant insights or point of views that are not specifically dealt with in the questions, please include this information in a general part of the documents you will be sending to OPTA.

- Question 1. Broadly speaking, are there certain subjects that you believe are missing from this issue paper and that should receive attention during a subsequent phase?
- Question 2. How do you evaluate All-IP in light of the development of the communications sector and in terms of its significance for the Dutch economy, and in light of the position and responsibilities of the providers that are competing with KPN?
- Question 3. What is your point of view regarding the basic assumption that with respect to All-IP it is up to KPN in the first place to fulfil its responsibility with regard to market dynamics and the obligations imposed upon it in the market decisions?
- Question 4. What is your point of view regarding the formulated basic assumption that OPTA will not intervene unless it turns out that KPN is not fulfilling its responsibility or is not interpreting it correctly?
- Question 5: Do you believe that OPTA's point of view that the intention to migrate to All-IP in itself does not affect the conclusions drawn by OPTA in its market decisions or the obligations imposed on KPN?
- Question 6: Is the question: 'Under which conditions can KPN implement the transition to All-IP if KPN wants to fulfil its responsibilities?' the fundamental question, according to you?
- Question 7: In the long term, implementation of the All-IP plans could be a reason for new market analyses. According to you, for which markets might this appear to be the case? Could it be that there is a good reason to analyse markets other than the current relevant markets?
- Question 8: Do you agree with the relation between All-IP and the WPC as described in section 3.2.3?
- Question 9: What is your point of view regarding the relation between the review of the European regulatory framework and All-IP?
- Question 10: What is your point of view with respect to 'equivalence' in general and with respect to the applicability of the concept of equivalence in relation to All-IP in particular?
- Question 11: Please state your response to the question whether KPN's obligation to comply with reasonable requests for MDF access and not to withdraw access to facilities already granted means that KPN is not free to change its network in such a way that this type of access is no longer possible. Please also respond to OPTA's provisional ruling on this.
- Question 12: Please state your response to OPTA's point of view that – in light of All-IP – a request for MDF access can no longer be considered reasonable if KPN provides a fully-fledged equivalent alternative to MDF access.
- Question 13: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that the fully-fledged equivalent alternative addresses the specified, more or less structural causes of KPN's position of SMP as much as possible?

- Question 14: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that this alternative can remove the (potential) anti-competitive behaviour that has been addressed with MDF access equally well?
- Question 15: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that this alternative sufficiently upholds the nature of competition as intended with ULL?
- Question 16: What is your point of view regarding the condition for the fully-fledged equivalent alternative to MDF access that this alternative should consist of (the combination of) one or more types of access, in combination with transition measures related to the phasing out of the MDF locations and the transition to the other types of access?
- Question 17: What is your point of view regarding the possible condition for the fully-fledged equivalent alternative to MDF access that this alternative should also be available for new entrants and should be flexible enough to introduce new types of access?
- Question 18: What is your impression of the WBA offer proposed by KPN? What does WBA mean for the competitive structure in the Dutch communications sector? Do you think that WBA leads to new business models? What does WBA mean for the competition between different infrastructures? Do you think the open wholesale model is a sustainable concept?
- Question 19: Do you expect to make use of the WBA offer, and under which conditions? In which way and with which objective do you think you will use WBA? How does WBA fit in your own company's strategy? Do you see WBA as an access model that will also remain important for your company in the future, or do you see WBA mainly as a stepping-stone that enables the further rollout of your own infrastructure?
- Question 20: What is your point of view regarding the significance of WBA as a possible alternative to MDF access?
- Question 21: What is your point of view regarding the relation between WBA and high quality wholesale broadband access?
- Question 22: What is your point of view regarding the significance of SLU as a possible alternative to MDF access? And in combination with a particular WBA offer?
- Question 23: In addition to SLU backhaul and SLU co-location, do you see other subjects that can guarantee that SLU contributes to the development of a fully-fledged equivalent alternative to MDF access? For example, in terms of new types of access or variants of existing types of access?
- Question 24: What is your view on KPN's intended offer for SLU backhaul? What does SLU backhaul mean for the structure of the competitive in the Dutch communications sector, also in terms of the theme of infra versus services competition?
- Question 25: According to you, which models could be used to deal with the SLU backhaul? Which model would be relevant in the framework of the fully-fledged equivalent alternative to MDF access?
- Question 26: If KPN wouldn't offer SLU backhaul, what do you think could be possible alternatives? And what would this mean for the significance of SLU in the fully-fledged equivalent alternative to MDF access?

- Question 27: Do you expect to make use of the SLU backhaul offer, and under which conditions? In which way and with which aim do you think you will start using SLU backhaul? How does SLU backhaul fit into your own company's strategy? Do you see SLU backhaul as a type of access that could be important for your company in the future, or do you see SLU backhaul mainly as a step-up that will enable further rollout of your own infrastructure?
- Question 28: According to you, what are the models for dealing with SLU co-location? Which model would be relevant for the fully-fledged equivalent alternative to MDF access?
- Question 29: What is your point of view regarding the 'overlay' proposed by KPN and the period proposed by KPN for that overlay?
- Question 30: What is your point of view regarding the desired implementation of a transition period and the relevant aspects in the framework of that period? Do you think there are other relevant aspects?
- Question 31: What is your point of view regarding the aspects that are relevant in the context of the sale of MDF locations intended by KPN? Do you think there are other relevant aspects?
- Question 32: What is your point of view regarding the aspects that are relevant for the transition towards a fully-fledged equivalent alternative to MDF access? Do you believe there are other relevant aspects?
- Question 33: What is your point of view regarding the possible role that OPTA could or has to play in the framework of the assessment or approval of a sufficient alternative to MDF access?
- Question 34: According to you, what are the relevant issues with regard to the relation between All-IP and fixed telephony? Which of those issues will be important in the short term and which in the longer term? In which way could these issues be resolved, and do you see a role for OPTA in this?
- Question 35: According to you, what are the relevant issues regarding the relation between All-IP and wholesale and retail leased lines? Which of those issues will be important in the short term and which in the longer term? In which way could these issues be resolved, and do you see a role for OPTA in this?