



**BELGISCH INSTITUUT VOOR POSTDIENSTEN
EN TELECOMMUNICATIE**

**COMMUNICATIE VAN DE RAAD VAN HET BIPT
VAN 7 JULI 2008 BETREFFENDE
DE IMPACT VAN DE SLUITING VAN DE CENTRALES
OP DE BREEDBANDTOEGANGSMARKTEN**

Inhoudsopgave

Situering	3
De leefbaarheid van subloopontbundeling	4
Plannen van het BIPT omtrent de Sluiting van de toegangspunten tot het aansluitnetwerk.....	5
VASTLEGGEN VOORWAARDEN	5
HET BESLISSINGSPROCES	6
BIJLAGE : Studie over subloopontbundeling.....	6

SITUERING

Belgacom heeft tijdens haar algemene vergadering op 9 april 2008 verklaard dat ze in het kader van de modernisering van haar netwerk en het omschakelen naar Ethernet-technologie in haar corenetwerk en het gebruik van VDSL2 voor toegangsnetwerk ongeveer 10% à 15% van haar centrales wil sluiten.

Op 13 juni 2008 heeft Belgacom haar plannen aan het BIPT voorgesteld en een paar dagen later aan de sector gecommuniceerd. Het BIPT beschikte pas een dag na de communicatie aan de sector over de concrete lijst van 65 centrales die geïdentificeerd zijn voor sluiting.

Door een aantal toegangspunten tot het aansluitnetwerk of subaansluitnetwerk te sluiten, zorgt Belgacom ervoor dat er geen recuperatie mogelijk is van de investeringen die de alternatieve operatoren gedaan hebben als onderdeel van het uitbouwen van een eigen netwerk.

De impact van de sluiting van 65 centrales is aanzienlijk. Alhoewel het gaat om slechts 10 à 15% van het aantal centrales wordt er 40% van de BRUO-lijnen en 14% van de BROBA-lijnen geïmpacteerd en is er in 52 van deze centrales collocatieruimtes aanwezig. Daarnaast is het ook belangrijk op te merken dat deze sluiting ook implicaties kan hebben op interconnectiepunten voor spraakdiensten en mobiele backhaul.

Daarnaast staan er een aantal centrales op de lijst waar de komende maanden een nieuwe collocatieruimte werd gepland. De kans is groot dat deze investeringen niet zullen doorgaan indien het Instituut niet voldoende snel meer transparantie geeft over wat er met deze geplande sluitingen zal gebeuren. Het wegvallen van deze bijkomende investeringen kan verstrekende gevolgen hebben voor de concurrentie op de Belgische breedbandmarkt.

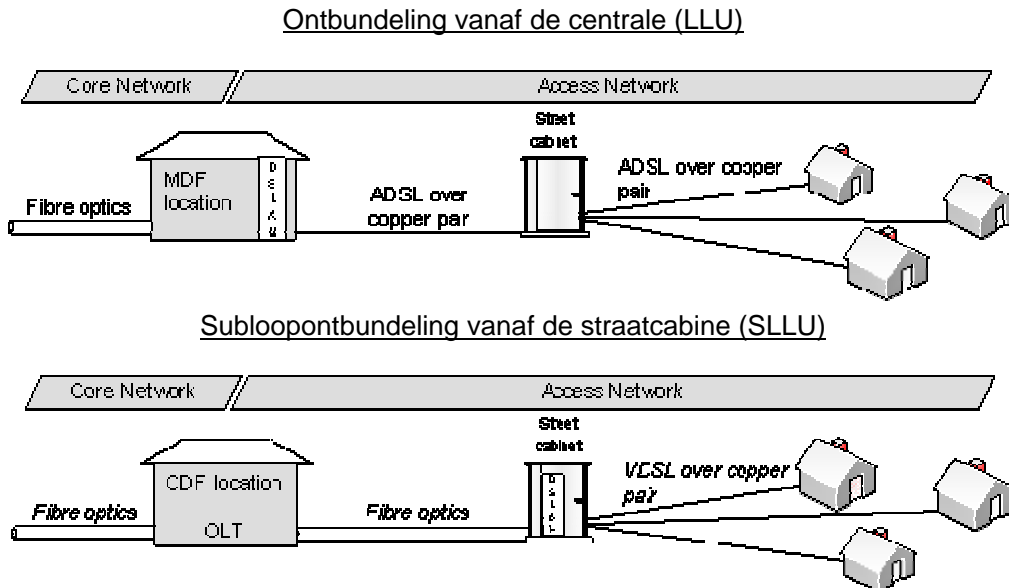
De eerste centrales moeten tegen 1 januari 2013 leeg zijn dus de alternatieve operatoren moeten in de periode 2011-2012 deze centrales verlaten.

Het gaat hier om uitzonderlijke omstandigheden die specifieke maatregelen vereisen. In het verleden werden reeds collocatieruimtes gesloten, maar was er steeds de mogelijkheid om een ontbundelde toegang tot dezelfde eindgebruikers te bekomen via een andere locatie, waardoor de dienstverlening kon verder gezet worden.

Belgacom erkent dit ook door in haar presentatie van 14 juni 2008 duidelijk te maken dat de voorziene sluiting van 02NOR niets te maken heeft met de Move to All IP-plannen van Belgacom. De MDF toegang voor 02NOR blijft behouden en de alternatieve operator kan via een collocatie in 02MAR dezelfde eindgebruikers van een BRUO-lijn voorzien, terwijl bij de 65 aangekondigde LEX'en die met sluiting bedreigd worden geen ontbundelde toegang meer mogelijk is op dat niveau.

DE LEEFBAARHEID VAN SUBLOOPONTBUNDELING

Door het wegvallen van ontbundeling op niveau van de centrales (LEX) worden de operatoren verplicht om te investeren in subloopontbundeling op het niveau van de straatcabines (KVD)



Figuur 1. Overzicht van evolutie van toegangsnetwerk (Bron: Cullen, 2007)

De bereidheid en mogelijkheden van een operator om te investeren in een verdere uitrol van het netwerk naar de KVD is afhankelijk van het aantal klanten dat hij met dit aanbod weet te bereiken en de kosten verbonden aan deze investering.

Schaal- en breedtevoordelen worden belangrijker dan bij LLU omdat de kritische massa om bepaalde businessplannen leefbaar te houden minder gemakkelijk aanwezig is op straatcabineniveau dan op LEX-niveau. Daardoor worden de opties voor de alternatieve operatoren beperkter.

De Analysys Mason studie (zie bijlage) toont aan dat subloopontbundeling slechts in beperkte mate levensvatbaar is. Het uitrollen van VDSL2 in bepaalde straatcabines is slechts interessant indien een alternatieve operator voldoende marktaandeel heeft (genieten van breedtevoordelen), er extra inkomsten per klant kunnen gegenereerd worden door vernieuwende diensten aan te bieden, de backhaulconnectie op een betaalbare manier kan gebeuren en er gebruik kan gemaakt worden van de bestaande remote optical platforms.

Het BIPT is van mening dat Belgacom momenteel de enige operator is die vanwege zijn schaal- en breedtevoordelen in staat is om VDSL2 met een nationale dekking uit te rollen.

Om de concurrentie in België in stand te houden is het noodzakelijk dat er enerzijds de mogelijkheid is voor alternatieve operatoren om in subloopontbundeling te investeren indien ze een positieve business case zien voor bepaalde straatcabines. Hiertoe is het noodzakelijk dat het BIPT bijkomende ondersteunende diensten toevoegt aan het referentieaanbod.

Anderzijds toont de haalbaarheidsstudie aan dat voor de meeste straatcabines subloopontbundeling geen optie is en dat een volwaardig bitstreamaanbod noodzakelijk is om de competitie in stand te houden.

PLANNEN VAN HET BIPT OMTRENT DE SLUITING VAN DE TOEGANGSPUNTEN TOT HET AANSLUITNETWERK

VASTLEGGEN VOORWAARDEN

Op Belgacom zijn er als SMP operator een aantal toegangsverplichtingen van toepassing. Volgens het marktanalysebesluit van 11 januari 2008 is het Belgacom verboden toegang terug te trekken zonder dat het BIPT of de rechtbank haar expliciete toestemming gegeven heeft:

Overeenkomstig artikel 61, § 1, derde lid, van de wet betreffende de elektronische communicatie mag Belgacom zonder de toestemming van het BIPT of van een rechtbank het verstrekken van een verrichting inzake ontbundelde toegang niet onderbreken als dat nadeel zou berokkenen aan de operator die op die dienst heeft ingeschreven. De gevolgen van een onderbreking van de dienstverlening zijn voor de eindgebruiker en de alternatieve operator zo ernstig dat die onderbreking niet mag plaatsvinden zonder de voorafgaande toestemming van het BIPT of van een rechtbank.

Bovendien mag Belgacom geen diensten uit zijn referentieaanbod intrekken zonder het voorafgaande akkoord van het BIPT. Belgacom heeft als verplichting om de verworvenheden te handhaven van de referentieaanbiedingen die eerder werden aangenomen, tenzij een van die verplichtingen zou ingaan tegen de doelstellingen van de wet betreffende de elektronische communicatie.

Het Instituut is dus bevoegd om de voorwaarden op te stellen waaraan Belgacom moet voldoen alvorens de toegang van de alternatieve operatoren ingetrokken wordt door de sluiting van de centrales.

Het Instituut is van oordeel dat de volgende maatregelen noodzakelijk zijn alvorens tot sluiting over te gaan:

- Wanneer Belgacom beslist om een site voor toegang tot het aansluitnetwerk of subaansluitnetwerk te sluiten, moet deze centrale nog een bepaalde termijn open blijven na de aankondiging aan het Instituut en aan de begunstigen van het BRUO-aanbod open houden als er op die locatie een ontbundelingsaanbod afgenomen wordt. Het is belangrijk dat investerende operatoren een voldoende return krijgen omdat ze anders niet geneigd zullen zijn om in de toekomst nog investeringen te doen in België, wat verstreckende gevolgen zou hebben voor de toekomstige marktdynamiek en de competitie zware schade zou toebrengen.
- Aangezien de ontbundeling van het VDSL-subaansluitnetwerk als een heel dure optie wordt bevonden, is het proportioneel om het huidige netwerk parallel met de aanleg van VDSL door Belgacom te behouden daar waar Belgacom de LEX'en maar gedeeltelijk sluit en er collocatie mogelijk blijft door de verhuis van de apparatuur.
- Alvorens de wholesaledienstverlening wordt stopgezet moet Belgacom de migratie voorzien naar een volwaardig alternatief voor de huidige diensten die door de sluiting van de centrales worden stopgezet. Dit aanbod moet voldoende mogelijkheden tot diversificatie qua kwaliteit en functionaliteit voorzien zodat er een brede waaier aan diensten kan aangeboden worden aan de eindgebruikers.

HET BESLISSINGSPROCES

Op 10 januari 2008 heeft het BIPT een beslissing genomen betreffende de marktanalyse van de breedbandtoegangsmarkten 11/2003 en 12/2003¹. Belgacom werd hierbij aangeduid als operator met een dominante positie op de markten voor ontbundelde toegang en bitstreamtoegang.

In pagina 200 van bovengenoemd besluit werd reeds voorzien dat het BIPT een consultatie zou lanceren omtrent NGN's (Next Generation Networks) en NGA (Next Generation Access) die het marktanalysebesluit zou aanpassen:

De technologische ontwikkeling naar de NGN's (Next Generation Networks) en NGA (Next Generation Access) zal leiden tot de vervanging van het huidige ATM/xDSL-netwerk van Belgacom door een netwerk waarvan de karakteristieken nog niet bekend zijn en zal het voorwerp uitmaken van een afzonderlijke raadpleging van het BIPT in de loop van het vierde kwartaal van 2007. Daarna zal een aanpassing van dit besluit misschien noodzakelijk zijn.

Het BIPT lanceerde de consultatie² inzake NGN van 3 januari tot en met 29 februari 2008. Het Instituut ontving reacties van Belgacom, Platform, Mobistar en Telenet.

Na het verwerken van de reacties en rekening houdend met de nieuwe elementen zal het Instituut achtereenvolgens het ontwerpbesluit overmaken aan de Raad voor de Mededinging, de gemeenschapsregulators en de Europese Commissie.

M. VAN BELLINGHEN
Lid van de Raad

G. DENEFF
Lid van de Raad

C. RUTTEN
Lid van de Raad

E. VAN HEESVELDE
Voorzitter van de Raad

BIJLAGE : STUDIE OVER SUBLOOPONTBUNDELING

¹ De markten 11/2003 en 12/2003 staan sinds de nieuwe EC-aanbeveling van december 2007 bekend als de markten 4 en 5.

² <http://bipt.be/ShowDoc.aspx?objectID=2593>

1 Background

Analysys Mason has been commissioned by the Belgian Institute for Postal services and Communications (BIPT) to investigate the business case for sub-loop unbundling (SLU) for alternative operators in Belgium.

With local loop unbundling (LLU), the line is handed over from the incumbent operator to other alternative operators (OAOs) at the Main Distribution Frame (MDF).¹ In contrast, with sub-loop unbundling (SLU) the line is handed over at the street cabinet, which is much closer to the end user than the MDF. The deployment of fibre-to-the-cabinet (FTTC) and the use of the *sub-loop* from the street cabinet (utilising VDSL technology) significantly reduces the length of copper loop required to reach customers, enabling high downstream bandwidths of several tens of Mbit/s to be offered to many customers, as well as important improvements in upstream speed compared to ADSL2+ technology. This development is likely to be attractive to business customers, and will also help providers to offer IPTV and video streaming services to the mass market, therefore representing a means to increase the range of services offered and the revenue per client achieved. However, such a deployment requires significant investment as the number of street cabinets (around 30 000 in Belgium) is much higher than the number of MDFs (around 1000).

As presented by the BIPT in its Consultation document on NGN and NGA (February 2008), the incumbent operator Belgacom has already commenced a very aggressive FTTC/VDSL roll-out, with coverage reaching over 60% of population in spring 2008 and 80% forecasted in the long term. Moreover, Belgacom announced in June 2008 that, following its network upgrade, it plans to close 65 local exchange buildings during the period 2013-18 and as a result, wishes to cease providing services such as LLU that depend on those local exchanges (when these buildings are closed).

In this context, BIPT is currently considering additional measure to be imposed on the wholesale network infrastructure and broadband access markets (Markets 11 and 12 of the 2003 list of relevant markets²) so as to continue stimulating competition to the benefit of end users. Analysys Mason has already carried out analysis for the national regulators of Ireland (ComReg) and the Netherlands (OPTA) to assess the commercial attractiveness of SLU in these countries.³ On the basis of this project experience, we have developed for BIPT an economic model that takes into account the specificities and characteristics of the Belgium market so as to assess the commercial attractiveness of SLU to alternative operators in Belgium. This work aims at contributing to BIPT's assessment of appropriate and justified remedies for Markets 11 and 12, by identifying the key levers to promote the development of competition in the Belgian market.

¹ Which can be located either in a local exchange (LEX) or in a local distribution centre (LDC), which is itself linked to a LEX by an optical fibre.

² Markets 4 and 5 of the 2007 list of relevant markets

³ These reports can be found on <http://www.odtr.ie/fileupload/publications/ComReg0810a.pdf> and <http://www.opta.nl/download/Analysys+Final+Report.pdf>

2 Approach

2.1 Methodology

Main principles

Our model examines the business case of an alternative operator in the Belgian market and compares the cost of LLU and SLU under different conditions of coverage, backhaul, co-location and market share. In order to do this, we calculate the relevant network costs downstream of each local exchange for LLU and for SLU, as presented in Figure 2.1 below.

- **For LLU**, we consider the relevant network costs within the LEX and all its attached LDC that are incurred by the alternative operator in order to provide double-play services (Internet access and telephony) by renting the (full) local loop of the incumbent.
- **For SLU**, we consider the relevant network costs from the LEX and all its attached LDC to and within street cabinets (SC), that are incurred in order to provide triple-play services (TV, Internet access and telephony) by renting the (sub) local loop of the incumbent.⁴

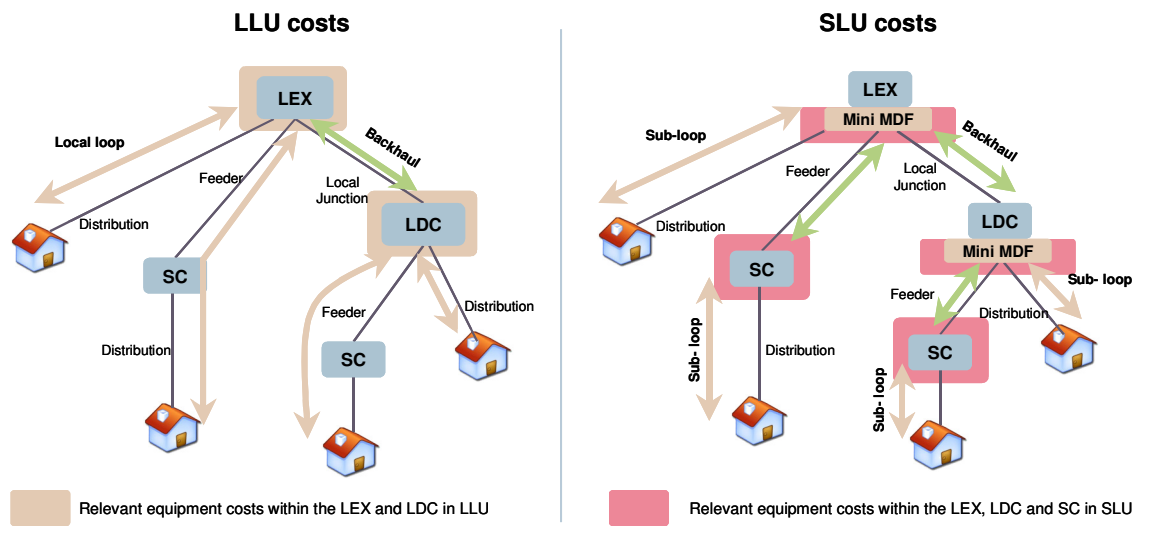


Figure 2.1: Schematic of LLU and SLU costs incurred by alternative operator [Source: Analysys Mason]

Triple-play services, in the context of SLU, are considered because it is commonly recognised by operators that FTTC/VDSL investment can only be justified in the context of additional revenues (over and above those achieved via LLU-based services) such as those offered by the triple-play approach.

⁴ In order to take all of the incremental costs for triple-play services into account, we also consider the costs of content rights and a video platform (which are located higher in the network hierarchy than the local exchange).

The main outputs of the cost model are:

- The NPV of the cost over a period of 10 years of providing services using the two delivery options (LLU and SLU), divided by the NPV of the number of customers. This calculation makes it possible to assess the average cost per subscriber per year taking into account the phasing of costs.
- The difference of the average cost (per subscriber per year) for these two delivery options, which represents the incremental ARPU⁵ that would be necessary for the alternative operator to cover the cost difference calculated between SLU and LLU.

Network topology

Our model considers the same network inputs as the BIPT local loop cost model,⁶ such as the number of LDC/SC/lines per LEX, the distance between the LEX/LDC/SC, and so on.

The share of lines per street cabinet that the modelled alternative operator will unbundle is an important input for the model. We have first estimated the total proportion of lines that will support services provided by all of the alternative operators, with a progression from the current 8% to around 20 % in 2018. We have then examined two possibilities:

- The modelled alternative operator has 50% of the total market share of all the alternative operators – this represents a “leading” DSL alternative operator.
- The modelled alternative operator has 100% of the total market share of all the alternative operators – this represents either a leading alternative operator which has consolidated the other DSL alternative operators in the market, or an alternative operator that is providing wholesale services to all of the other DSL alternative operators.

We have derived the length of the backhaul needed on the basis of the topology and factors used in the BIPT local loop model, as well as on real data provided by Belgacom. We have considered four possible backhauling options:

- **Build own**, whereby the alternative operator builds its own backhaul (trenching, putting ducts, installing fibre) to connect its street cabinets from the LEX or LDC and, where applicable, connects its LDC to the LEX.
- **Duct sharing**, whereby the alternative operator rents the ducts from another operator and installs its own fibre.

⁵ Assuming that fixed costs are the same in the two delivery options and therefore that this additional ARPU also represent additional margin

⁶ Described in the annex to the decision by BIPT board taken on 13 June 2007 regarding BRUO rental fee.

- **Fibre lease**, whereby the alternative operator leases dark fibre from another operator.
- **Ethernet backhaul**, whereby the alternative operator uses a bitstream type of service (comparable to a BROBA offer priced by user) to connect the street cabinet to the LEX.

It should be noted that in the absence of regulated services corresponding to the last three of these backhaul options, we have used estimates for these main cost drivers based on reference offers or current prices in other EU countries (including Netherlands, Ireland, France, etc.), or have used Analysys Mason estimates.

In modelling the installation of relevant equipment at street cabinet locations, we have considered three options:

- **Build own ROP** (Remote Optical Platform), whereby the alternative operator builds its own platform next to Belgacom's street cabinet, pays for a tie cable to get access to the sub-loop and installs its equipment in this platform.
- **Share ROP with one OLO**, whereby the alternative operator shares with another alternative operator the costs of building a shared platform close to Belgacom's street cabinet, with a tie cable to get access to the sub-loop. In this option, both alternative operators install their equipment in a single platform, so that the cost, although higher in total than for one operator, is shared between the two alternative operators.
- **Share ROP with incumbent**, whereby the alternative operator uses a potential regulated co-location offer in Belgacom's ROP. We have evaluated the price of this offer as the incremental cost for the incumbent operator for an extended platform that can accommodate two operators, compared to the cost of a platform for one operator alone.

Services provided

In our interviews with the main Belgium operators, it was their view that the main source of revenues in order to cover the additional cost of FTTC/VDSL compared to ADSL will be from TV services, currently not provided by alternative operators on the basis of ADSL services. For this reason, we have differentiated the services provided based on LLU and SLU as follows:

- services provided with LLU in our model are double-play services (Internet access and telephony)
- services provided with SLU are triple-play services (TV, Internet access and telephony).

Model structure and main cost elements

As presented in Figure 2.2 below, the model calculates for one local exchange at a time, and is populated by a file which contains data for all the LEXs ordered by decreasing number of lines.

Cost elements	<i>Capex</i>	<i>One-off opex</i>	<i>Recurring opex</i>
Video content rights (only relevant for SLU business model)			√
Backhaul (<i>build own backhaul, duct sharing, fibre lease, Ethernet backhaul</i>)	√	√	√
Unbundling (<i>local loop or sub-loop line rental, connection/disconnection charges</i>)		√	√
Equipment and maintenance (<i>DSLAM, video platform</i>)	√		√
Co-location (<i>ROP costs, power, tie cables</i>)	√	√	√

Figure 2.3: Cost elements considered for LLU and SLU in the model [Source: Analysys Mason model]

The annex of this document details all the main unit costs considered in the model.

3 Key findings

We present below the key findings of our analysis.

3.1 Replicating Belgacom’s business model is not realistic for an alternative operator

We have first assessed the commercial viability of an alternative operator that would theoretically try to replicate Belgacom’s business model – that is, by:

- covering 80% of the population in Belgium
- using a “Build own” option for backhauling
- using a “Build own ROP” option for installing its equipment.

Under this scenario, we assumed that the alternative operator would have 50% of the total alternative operator market share (estimated to represent 10% of the copper lines within the coverage area by 2018).

As presented in Figure 3.1, under these assumptions, from the local exchange, the costs to provide LLU-based services amount to EUR326 per customer per year, and EUR2336 for SLU-based services. The incremental ARPU necessary to cover the additional costs between SLU and LLU is therefore EUR168 per month, which is clearly not realistic.

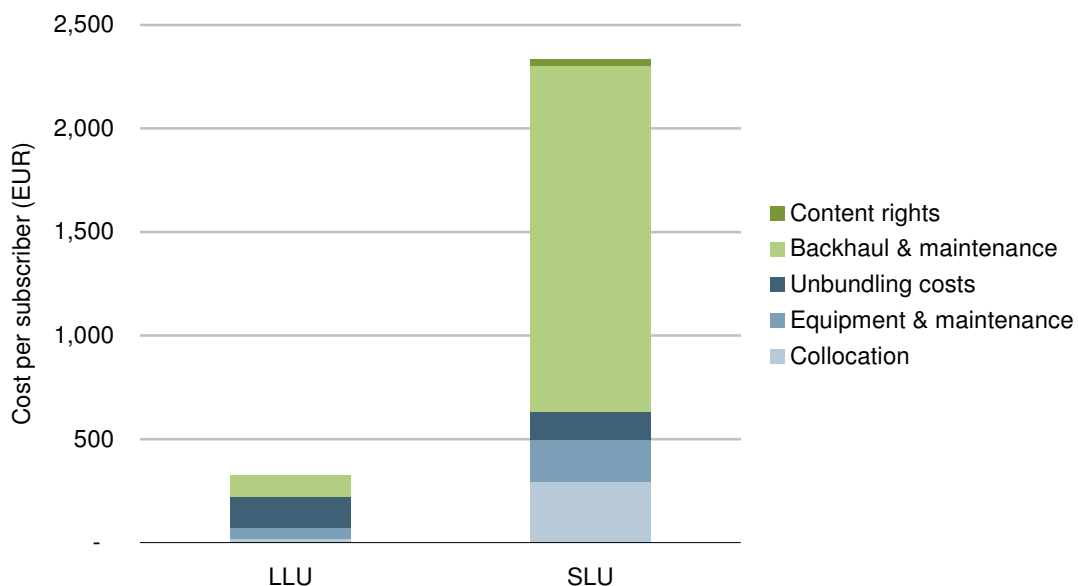


Figure 3.1: LLU and SLU annual costs per subscriber, assuming 80% coverage [Source: Analysys Mason]

It should be noted that that this figure does not represent the business case of the incumbent operator since :

- Belgacom can expect (and already achieves) a much higher market share than the one considered for the modelled alternative operator
- The incumbent can enjoy a lower cost of backhaul than the alternative operator (and these costs represent more than 70% of the cost per line in the SLU case). This is due to the mutualisation of the incumbent infrastructure with other services and potentially lower unit cost than the one we have considered in this study for alternative operators since Belgacom has the opportunity to roll out its backhaul network on an “opportunistic basis” (e.g while maintaining its network or when civil work is necessary)
- Belgacom could consider a longer investment perspective than the 10-year perspective that we have considered in this study for alternative operators.

3.2 Different levers can be identified to improve the SLU business model

In order to assess the commercial attractiveness of an SLU business model for an alternative operator, we have reviewed the following options :

- population coverage
- backhaul options
- co-location options
- market share.

3.2.1 Population coverage

Figure 3.2 below shows the impact of the number of LEXs covered, sorted by increasing number of lines, on the average annual cost per subscriber for LLU and SLU.

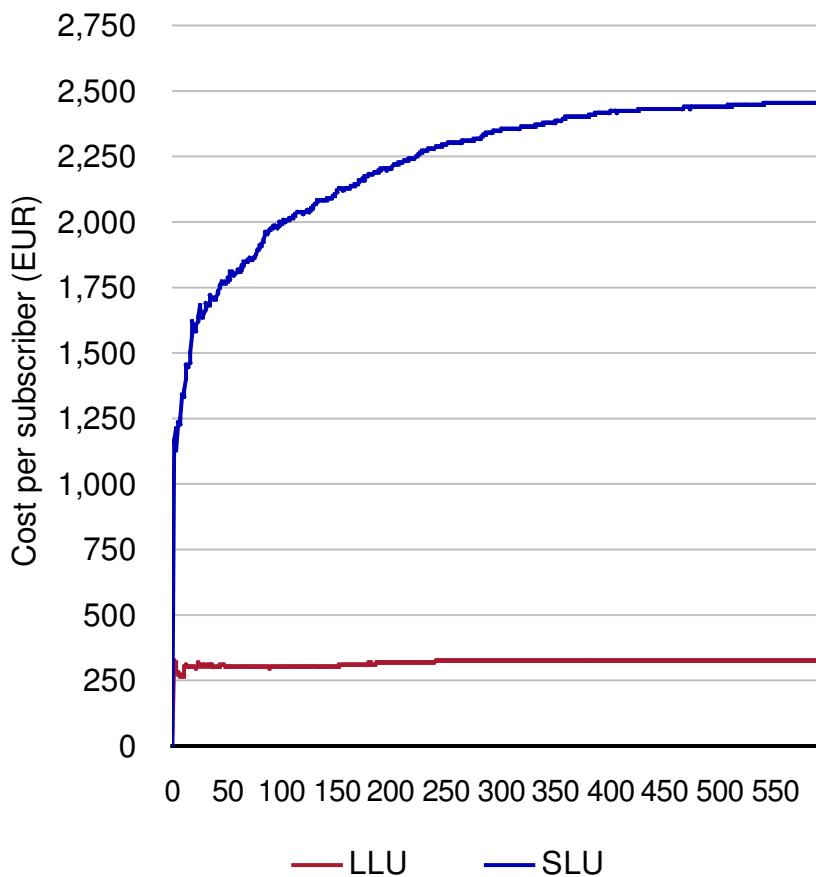


Figure 3.2: Impact of coverage on the average annual cost per subscriber for LLU and SLU [Source: Analysys Mason model]

As illustrated by the figure above, the SLU business case is more sensitive to scale effects than the LLU business case, so that reducing coverage has a bigger impact on SLU profitability than for LLU. In order to consider a realistic coverage scenario for an alternative operator, we assume that an alternative operator will not look to cover more than the 50 biggest LEXs (representing less than 10% of total LEXs in Belgium), in total covering around 30% of the population in Belgium.

As presented in Figure 3.3 below, under these assumptions⁷ the additional costs of providing services with SLU compared to LLU total EUR1468 per customer per year. The incremental monthly ARPU necessary to cover these additional costs therefore represents EUR122 per month.

⁷

Alternative operator covering 50 LEXs, building its own backhaul and its own ROP, with 50% of total alternative operator market share.

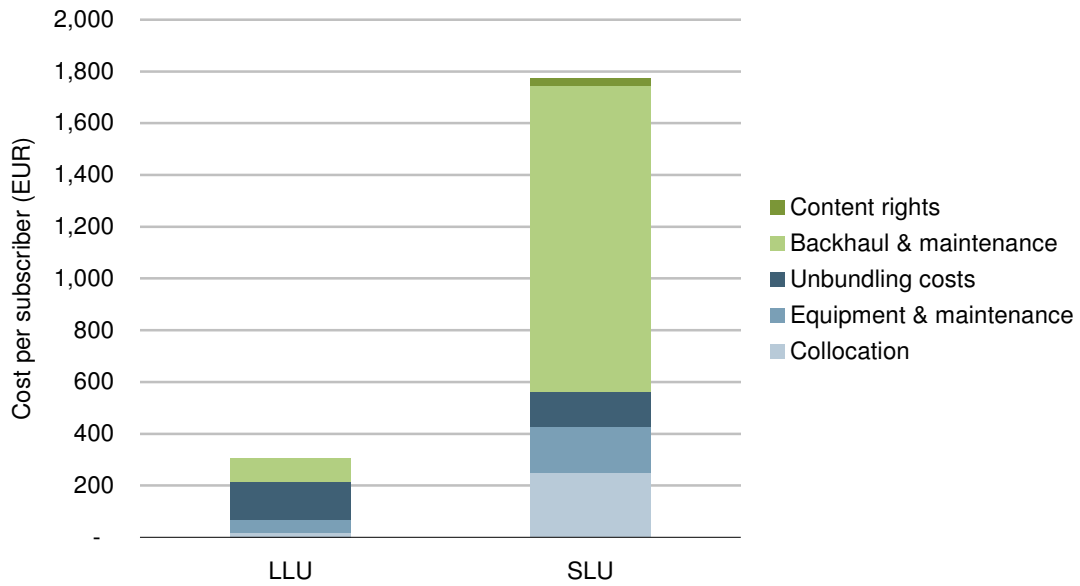


Figure 3.3: LLU and SLU costs per subscriber for the 50 biggest LEXs [Source: Analysys Mason]

3.2.2 Backhaul options

Figure 3.4 below shows the impact of the different backhaul options on the average cost per subscriber for SLU with all other parameters kept as in section 3.2.1 above, namely:

- 30% of the population covered
- using a “Build own ROP” option to install its equipment
- 50% of total alternative operator market share.

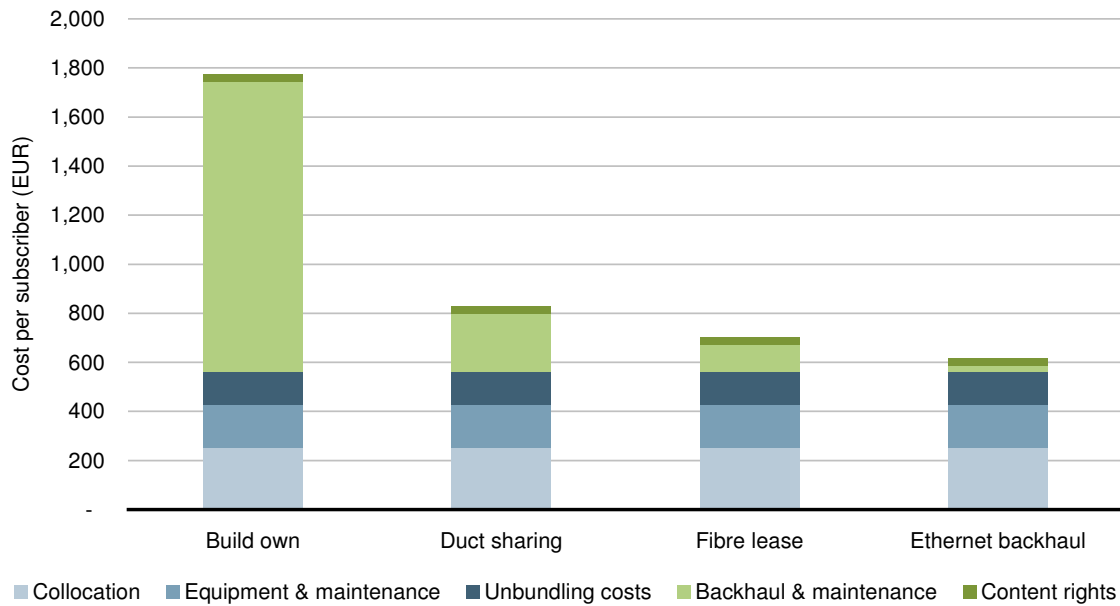


Figure 3.4: Impact of backhaul choice on SLU cost per subscriber for the 50 biggest LEXs [Source: Analysys Mason]

As illustrated in the graph above, backhaul is a fixed cost that is difficult to cover with a limited number of customers served by street cabinet. Given the average size of a street cabinet (typically 150 lines in total) and the market share considered for alternative operators (typically 10% to 20%), the “Ethernet backhaul” option, with a flat cost per customer, provides the most efficient cost structure.

Under these assumptions, the additional costs to provides the services with SLU compared to LLU amount to EUR399 per customer per year. The incremental monthly ARPU necessary to cover these additional costs represents around EUR33.

3.2.3 Co-location options

Figure 3.5 below shows the impact of the different co-location options on the average cost per subscriber for SLU, with all other parameters kept as in section 3.2.2, namely:

- 30% of the population covered
- Ethernet backhaul option
- 50% of total alternative operator market share.

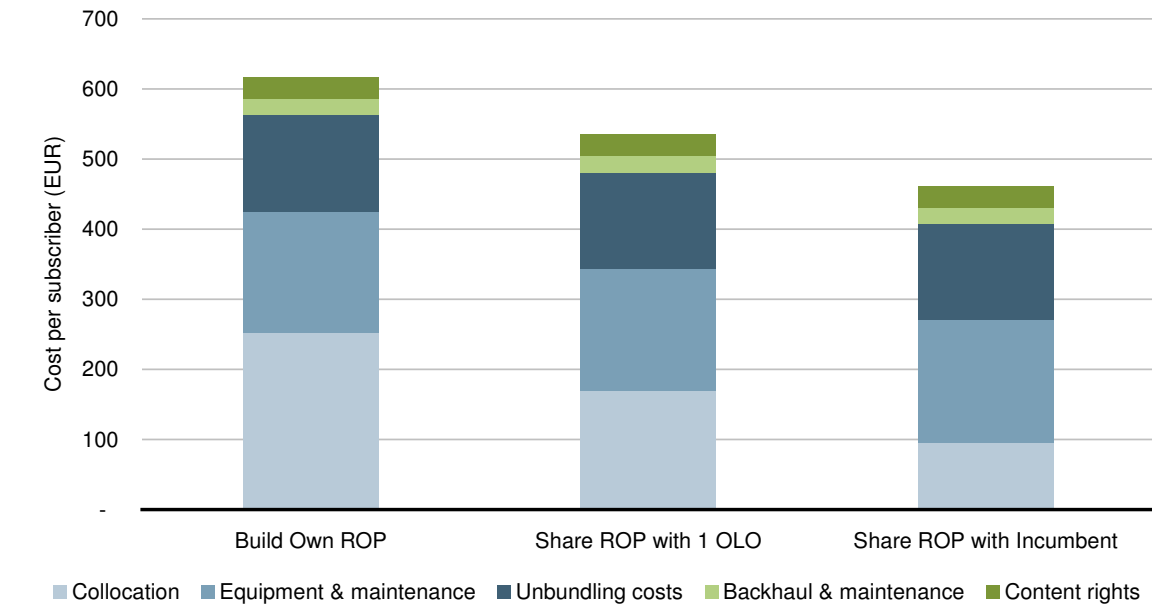


Figure 3.5: Impact of co-location choice on SLU cost per subscriber for the 50 biggest LEXs [Source: Analysys Mason]

The graph shows that, in a similar manner to the backhaul solutions discussed above, building a street cabinet represents a fixed cost that is difficult to cover with the limited number of customers that an alternative operator can serve using that street cabinet. The co-location option “Share ROP with incumbent” provides the best cost structure for the modelled alternative operator.

Under these assumptions, the additional costs to provides the services with SLU compared to LLU are EUR244 per customer per year. The incremental monthly ARPU necessary to cover these additional costs represents around EUR20.

3.2.4 Market share

Figure 3.6 below shows the impact of the market share (in terms of lines) reached by an alternative operator in 2018 on the average cost per subscriber for SLU, with all other parameters kept as in section 3.2.3, namely:

- 30% of the population covered
- “Ethernet backhaul” option
- “Share ROP with incumbent” co-location option.

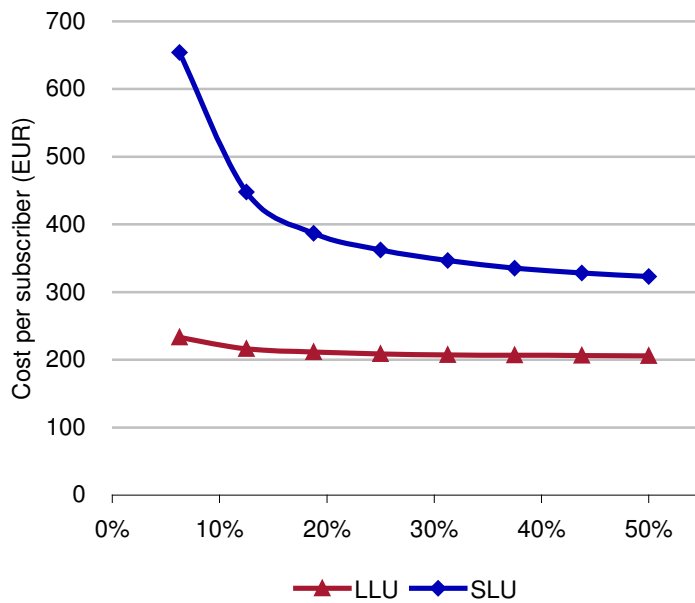


Figure 3.6: Sensitivity analysis on market share for the 50 biggest LEXs [Source: Analysys Mason]

As illustrated by the graph above, the market share of the alternative operator is a very important parameter that can significantly improve the SLU business model in comparison with LLU. For example, if an alternative operator can manage to unbundle around 20% of the lines in the area where it rolls out services (e.g. on the street cabinet to which it is connected)⁸, the additional costs to provides the services with SLU compared to LLU are EUR154 per customer per year. The incremental monthly ARPU necessary to cover these additional costs represent EUR12.8.

Figure 3.7 below details the types of costs for LLU and SLU under these assumptions.

⁸ Either by assuming a consolidation of the DSL alternative operators in the market, or by assuming that the modelled operator has an SLU business model that relies on providing wholesale offers to other alternative operators.

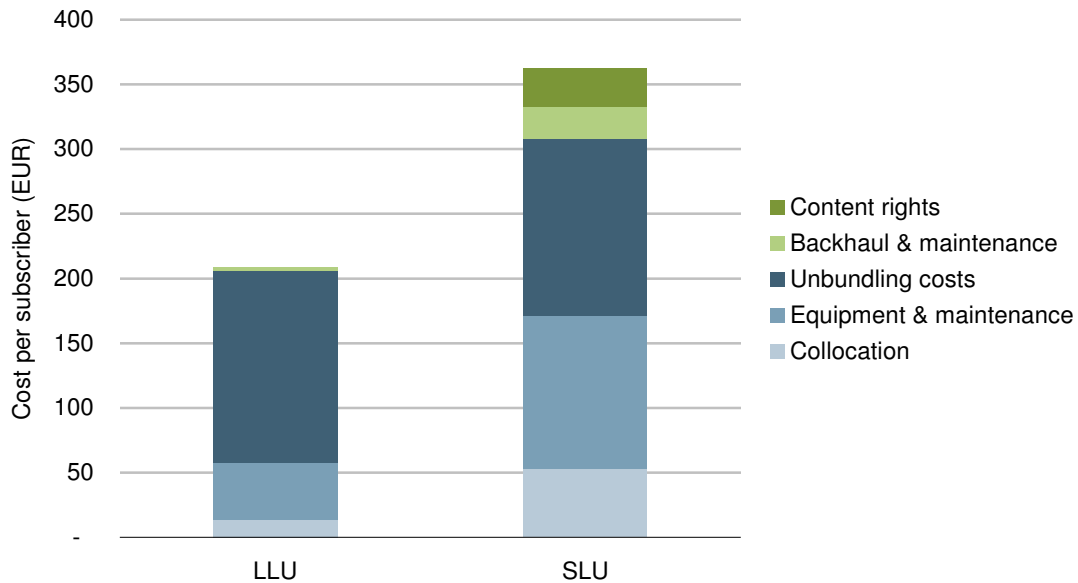


Figure 3.7: LLU and SLU costs per subscriber for the 50 biggest LEXs with around 20% market share in terms of lines [Source: Analysys Mason]

3.3 Conclusion

The results of our model show that, in the current market conditions, and especially without regulatory intervention regarding the conditions under which backhaul and co-location services are made available for SLU, the SLU business model is clearly not as commercially attractive as LLU for an alternative operator.

However, it seems that a viable case can be constructed provided a strict set of conditions are met, which we detail below:

- the alternative operator limits its SLU roll-out to the densest part of Belgium (typically the 50 biggest LEX representing the densest 30% of the Belgian population)
- backhaul links to the MDFs are rented from the incumbent
- the operator co-locates its equipment with the incumbent
- it gains a market share of around 20% (of copper lines) in the area where it rolls out services
- SLU allows the operator to provide triple-play services which enable it to achieve an increase in ARPU of around EUR13 per month compared to the double-play services that can be provided via LLU.

The figure below illustrates these key messages by showing, from an initial coverage of 80%, the relative impact of each of these factors of coverage, backhaul, co-location and market share on the

incremental monthly ARPU necessary to cover the additional costs represented by the SLU model over the LLU model.

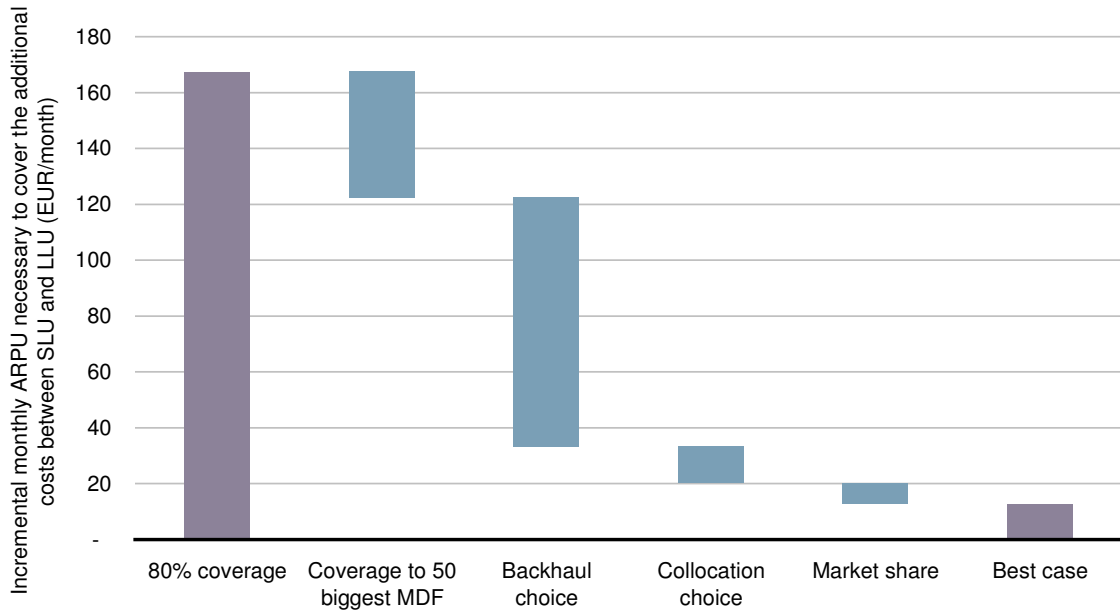


Figure 3.8: *Impact of the different network deployment choices and scenarios on the incremental ARPU necessary to cover the additional cost between SLU and LLU [Source: Analysys Mason]*