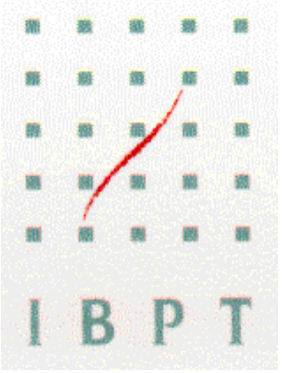

LRIC Bottom-up model for interconnection

Consultation Document 1.0

Prepared by BIPT

In collaboration with Bureau van Dijk Management Consultants

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Consultation Document Bottom-up LRIC model

May 7, 2001

1. INTRODUCTION

1.1 Background

In 1996, the BIPT has developed, in collaboration with an external consultant, a top-down model for the verification of the interconnection tariffs of Belgacom N.V. This model, which has been updated yearly, is to a large extend based on information budgeted by Belgacom N.V. [1] It is based on the 'Fully Distributed Cost'-methodology and since 1998, assets are valued at their current cost. A description of this model is made available on the BIPT website:

http://www.bipt.be/Pages/Dutch/Librairi/Communic/kostmodelbesch%20(2000).pdf

The "Platform Telecom Operators & Service Providers vzw/asbl" has set out its position on the BIPT top-down model for the interconnection tariffs in its letter of April 19th, 2000. One remark was made on the methodology used and the BIPT was asked to indicate its plans to move to the use of a full LRIC-model

The BIPT acknowledges that setting tariffs based on a well-built LRIC-model, will encourage efficient competition. It is also convinced that such a model may contribute to help operators make efficient forward-looking investment decisions. It is therefor that, in its advice to the Minister, the BIPT expressed its intention to consult the industry on the development of a (LRIC) bottom-up model for interconnection[2]. In April 2001, the BIPT initiated the process by appointing *Bureau van Dijk Management Consultants* to develop a LRIC bottom-up model for interconnection.

The present document is the first in a limited series of consultation documents that will be used to obtain the industry's view on the development of the bottom-up model.

1.2 Structure of this document

The issues on which the BIPT is seeking views are described in the next sections. The first option to be made concerns the scope of the model. Next, some methodological issues regarding LRIC and scorched-earth versus scorched-node modelling will be discussed. Third we will address the planning horizon of the project. Finally we will take a more detailed look at the necessary practical arrangements.

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[1] Cf. "Beschrijving van het kostenmodel van het BIPT voor de berekening van de interconnectietarieven voor het jaar 2001 - 21/12/2000

[2] Cf. Advies aan de minister over het voorstel betreffende het referentie-interconnectieaanbod van Belgacom voor het jaar 2001 - 15/12/2000

2. SCOPE OF THE BOTTOM-UP MODEL

This section sets out the issues concerning the scope of the model. The first decision that has to be made concerns the parts of the network that need to be modelled. Modelling of the initial bottom-up model can be restricted exclusively to the core network or to the core network as well as the access network. The BIPT wishes to stress however that there is an important trade-off between the scope of the model and the planning horizon of the model. Inclusion of the access network in the initial model will have a significant impact on the date of availability of the first results.

Question 2.1: *Should the access network be included in the initial bottom-up model. If yes, please indicate what would be the added value of modelling the access network.*

Second, in order to calculate the costs of the core network, the boundary between the access network and the core network has to be defined unambiguously. Determining whether a network element falls within the access network or the core network can be done by considering whether the investment would be driven by the number of subscribers connected to the network or by the number and lengths of calls made. In the former case, the component will generally be included in the access network. In the latter, it will generally be included in the core network.[3]

Question 2.2: *Where can the boundary between the core network and the access network presently be drawn?*

Third, a decision has to be made concerning the type of conveyance services for which a tariff has to be calculated. Belgacom is required to publish a RIO, which provides a description of its different interconnection offerings, and the associated terms and conditions including tariffs. The current reference interconnect offer does also include some other services which make use of more than just the PSTN conveyance network (e.g. Infokiosk, Universal number services). It also currently excludes other services for which the estimation of the LRIC may be desirable (e.g. Internet Services, Leased Line Services).

The need for the modelling of these services may depend on the extent to which such services are competitive or potentially competitive in the market. However some services will be non-competitive and may require more attention. Therefor the BIPT welcomes the operators' view on the different services that should be modelled in the initial bottom-up model. The BIPT wishes to mention once more the existence of a trade-off between timing and scope of the model.

Question 2.3: *For which services LRIC estimation is required? Should Internet and leased line services be included? Please motivate your answer.*

3. METHODOLOGY

This section sets outs the issues associated with the methodology that the BIPT and its consultant will adopt when developing the bottom-up cost model. It does not address specific questions related to detailed cost attribution rules or broader issues of what costs may be recovered through interconnection charges, but aims to set the general framework of the initial bottom-up model.

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[3] Cf. Recommendation 98/960/EC of 8 April 1998 on interconnection in a liberalised telecommunications market (Part 2 – accounting separation and cost accounting)

3.1 The use of LRIC

In its Recommendation 98/195/EC of 8 January 1998 on interconnection in a liberalised telecommunications market (Part 1 – interconnection pricing), the European Commission has recommended the use of long run average incremental costs for the assessment of cost oriented interconnection tariffs for terminating access. This recommendation of the Commission has been confirmed in the Review (Consideration 14 of the proposal for a Directive of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associates facilities, COM(2000)384).

Long run and forward looking

The *"long run"* in the definition of LRIC is the time horizon within which the firm can undertake capital investments or desinvestments to increase or decrease the capacity of its different network service offerings. The long run horizon implies that the entire investment cost caused by interconnection would be avoidable. As a consequence, they are captured by a LRIC measure. Costs that are variable in the shorter term would also be measured.

In LRIC cost modelling, forward looking costs may be the most appropriate cost base. This implies that asset valuation is based on replacement costs as derived from the current cost accounting (CCA) methodologies. In practice, this means that assets are valued using the cost of replacement with the modern equivalent asset (MEA). This is the lowest cost asset, providing at least equivalent functionality and output as the asset being valued. In practice, this may be the latest available and proven technology, which is therefore the asset that a new entrant might be expected to employ.

Question 3.1: *Do you agree that LRIC should be calculated on the basis of MEAs? If not, please motivate.*

Defining the relevant increment

LRIC cost modelling includes only those costs that are caused by the provision of a defined increment of output. This means that a decision has to be made concerning the definition of the relevant increment. It is possible to define an almost infinite number of different increments, such as individual or collections of products, services, components or elements. In practice, there are two main ways to define the size of the increment.

The first way defines the size of the increment as the incremental cost of the interconnection traffic. This implies that the incumbent bears all service-specific fixed costs that are associated with conveyance. In practice this means that most service-specific fixed costs of the local exchanges and most duct costs on routes used by the transmission network are not taken into account in the increment. This however can lead to a significant under-recovery of the incumbent's costs.

The second way of defining the size of the increment is taking into account the total service as the increment. This is also the recommendation of the EU. This approach allows the incumbent to recover part of its fixed costs since interconnection charges will be raised above (short-term) marginal costs. This approach may also tend to encourage investment in competing networks and reflect the real costs of new entrants.

Question 3.2: *Should the increment be defined as either the incremental cost of the interconnection traffic or of total traffic? Please motivate your answer.*

Question 3.3: *If the BIPT would opt for defining the increment as total traffic, what would be the impact on investments in competing networks?*

3.2 Scorched earth versus scorched node modelling

One of the key assumptions to be made with bottom-up modelling is the choice between a *scorched earth* and a *scorched node* assumption. The adopted methodology will have a significant impact on the final results of the model. However, one has to bear in mind that the results of the model should provide the right incentives to the incumbent to invest efficiently in its own network. At the same time, they should provide the correct economic signals to assist new entrants in deciding between building their own networks or paying for interconnection with the incumbent's network.

A *scorched earth* approach, also called the Greenfield scenario, assumes that optimally dimensioned switches would be employed at locations that are optimal to the overall transmission design. The scorched earth scenario reflects the structure of a completely new network that would have been designed from scratch. The main difficulty in this approach is the agreement between all market parties on the optimal network structure. Moreover it may be considered unreasonable not to allow the incumbent to recover its costs, caused by the existing network configuration, since it can not change this fundamentally within a reasonable period of time.

A *scorched node* approach, on the other hand, assumes that the existing nodes will still be used in the model. However, the scorched node approach replaces existing technologies with optimal technologies that are able to deliver equivalent functionality (MEAs) (e.g. this could mean the replacement of an analogue tandem switch by a digital tandem switch and possibly also the replacement of a host switch by a remote concentrator). Moreover, it assumes the utilisation of optimal transmission technologies that connect these different nodes. This approach has the advantage that it takes into account the current geographical situation of the existing incumbent. However, this may perhaps not be the most efficient solution, compared to the scorched earth approach.

The scorched node approach is often altered into a *modified scorched node* approach. This approach takes the actual node-configuration as a starting point but changes the actual structure in order to replicate a more efficient network than is currently in use. This approach acknowledges that it might be impossible for the incumbent to base its tariffs on a network structure that would be completely rebuilt. However, it encourages the incumbent to improve its efficiency by redesigning the network structure (e.g. by moving nodes from local exchanges to concentrators).

Question 3.4*: What approach should the BIPT take for its bottom-up model? What will be the impact of this approach on current interconnection tariffs and on infrastructure investments by the incumbent, as well as the OLOs? Please motivate your answer.*

4. PLANNING

The quality and the level of detail of the bottom-up model, depends to a great extent on the time span available for the development of the model. As the input of the industry in the process of developing the bottom-up model is crucial, the BIPT wishes to provide sufficient time for the industry to formulate their comments.

However the BIPT would like to arrive at a first basic result by the end of this year. After this, further detail and other services may be added. Nevertheless, the BIPT wishes to consult the

industry about the acceptability of this time frame. If another timeframe is suggested, one has to bear in mind the trade-off between detail and timing.

For the verification of the interconnection tariffs in the BRIO[4] 2002, the updated top-down model will stay the leading model. However, reconciliation with the bottom-up model will be made to get a better insight in the differences between the two models.

Question 4.1*: What do you consider an adequate time span to arrive at a first result of the bottom-up model?*

5. PRACTICAL ARRANGEMENTS

5.1 The consultation process

It is the intention of the BIPT to develop a bottom-up model in close collaboration with all industry players. The BIPT now wishes to obtain the views of all interested parties. Depending on the results of the consultation and on the time available, one or more public hearings will be organised in order to enable the industry to explain their views in more detail.

At least the following documents will be provided to the industry during the consultation procedure:

1. Consultation document on the organisation of the consultation procedure and on the scope of the model and the methodology to be applied;
2. Summary of the comments on the first consultation document and decisions taken by the BIPT;
3. Consultation document on the implementation of the methodology;
4. Summary of the comments on the second consultation document and decisions taken by the BIPT;
5. Consultation document on the values to be introduced in the bottom-up model;
6. Summary of the information received and the values/parameters retained by the BIPT.

The BIPT asks that reference be made to the relevant question numbers from the consultation document. Comments that do not relate to a specific question can be added in a separate section. To facilitate the task of analysing the comments, the BIPT invites the industry to group their comments as much as possible.

The BIPT also asks that it is clearly indicated what part of the comments is considered as being confidential business information. The BIPT will not include confidential business information in the summary of the comments.

[4] Belgacom Reference Interconnect Offer (BRIO)

5.2 Advisory Board for technological aspects

Given the importance of the different technological aspects, the BIPT would also like to have a small number of people within the industry that can be contacted regarding a limited number of *ad hoc* technological questions. This would concern very specific questions that may arise during the development of the model and that have nothing to do with policy options or methodological issues. The BIPT would appreciate receiving the name(s) of the person(s) that may be contacted if such questions would arise during the development of the bottom-up model.

5.3 BIPT Point of contact

Comments to this first consultation document should be submitted in writing before Friday, 18th May 2001 at 16.00 p.m. to:

B.I.P.T.
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The BIPT would also like to ask to clearly provide the name(s) of the person(s) that will be responsible for the communication with the BIPT during the different consultation rounds.