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European Commission
Information Society and Media





COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels,
C(2008)

Draft

COMMISSION RECOMMENDATION

of [...]

on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU

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on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive)¹ and in particular to Article 19(1) thereof,

Whereas:

- (1) According to Article 8(3) of the Framework Directive, National Regulatory Authorities (NRAs) shall contribute to the development of the internal market *inter alia* by cooperating with each other and with the Commission in a transparent manner to ensure the development of consistent regulatory practice. However, a key observation during the assessment of more than 800 draft measures notified under Article 7 of the Framework Directive concerns inconsistencies in the regulation of voice call termination rates.
- (2) Although some form of cost orientation is generally provided for in most Member States, a divergence between price control measures prevails across the Member States. In addition to a significant variety in the chosen costing tools, there are also different practices in implementing those tools. This widens the spread between wholesale termination rates applied across the European Union, which can only be partly explained by national specificities. This has been recognised also by the European Regulators Group (ERG)² in its "Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates" (Common Position)³. NRAs have also, in a number of cases, authorised higher termination rates for smaller fixed or mobile operators on the grounds that these operators are new entrants into the market and have not benefited from economies of scale and/or are subject to differing cost conditions. These asymmetries exist both within and across national boundaries, although they are slowly decreasing. The ERG has recognised in its Common Position

¹ OJ L 108, 24.4.2002, p. 33.

² The ERG was established by Commission Decision 2002/627/EC (OJ L 200, 30.7.2002) as amended by Decision 2004/641/EC (OJ L 293, 16.9.2004, p. 30).

³ ERG (07) 83 final 080312, p. 73.

that termination rates should normally be symmetric and **asymmetry requires an adequate justification**⁴.

- (3) Significant divergences in the regulatory treatment of fixed and mobile termination rates create fundamental competitive distortions. Termination markets represent a situation of two-way access where both interconnecting operators are presumed to benefit from the arrangement but as these operators are also in competition with each other for subscribers, termination rates can have important strategic and competitive implications. Where termination rates are set above efficient costs this creates substantial transfers between fixed and mobile markets and consumers. In addition, in **markets where operators have asymmetric market shares, this can result in significant outpayments from smaller to larger competitors**. Furthermore, the absolute level of mobile termination rates remains high in a number of Member States compared to those applied in a number of countries outside of the European Union, and also compared to fixed termination rates generally, thus continuing to translate into high, albeit decreasing, prices for end-consumers. High termination rates tend to lead to high retail prices for originating calls and correspondingly lower usage rates, thus decreasing consumer welfare.
- (4) The lack of harmonisation in the application of cost-accounting principles to termination markets to-date demonstrates a need for a common approach which will provide greater legal certainty and the right incentives for potential investors, and reduce the regulatory burden on existing operators that are currently active in several Member States. The objective of coherent regulation in termination markets is clear and recognised by the NRAs and has been repeatedly expressed by the Commission in the context of its assessment of draft measures under Article 7 of the Framework Directive.
- (5) Certain provisions of the regulatory framework for electronic communications networks and services require necessary and appropriate cost-accounting mechanisms and price control obligations to be implemented, namely Articles 9, 11 and 13 in conjunction with Recital 20 of Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)⁵.
- (6) Commission ***Recommendation 2005/698/EC⁶ of 19 September 2005 on accounting separation and cost accounting*** under the regulatory framework for electronic communications (Recommendation on accounting separation and cost accounting) has provided a framework for the consistent application of the specific provisions concerning cost accounting and accounting separation, with a view to improving the transparency of regulatory accounting systems, methodologies, auditing and reporting processes to the benefit of all parties involved.
- (7) Wholesale voice call termination is the service required in order to terminate calls to called locations (in fixed networks) or subscribers (in mobile networks). The charging

⁴ ERG (07) 83 final 080312, p. 82.

⁵ OJ L 108, 24.4.2002, p. 7.

⁶ OJ L 266, 11.1.2005, p. 64.

system in the EU is based on Calling Party Network Pays (CPNP), which means that the termination charge is set by the called network and paid by the calling network. The called party is not billed for this service and generally has no incentive to respond to the termination price set by its network provider. In this context, excessive pricing is the main competition concern of regulatory authorities. High termination prices are ultimately recovered through higher call charges for end users. Taking into account the two-way access nature of termination markets, further **potential competition problems include cross-subsidisation between operators**. These potential competition problems are common to both fixed and mobile termination markets. Therefore, in the light of the ability and incentives of terminating operators to raise prices substantially above cost, cost orientation is considered the most appropriate intervention to address this concern over the medium term. Recital 20 of the Access Directive notes that the method of cost recovery should be appropriate to the particular circumstances. In view of the specific characteristics of call termination markets and the associated competitive and distributional concerns, the Commission has for a long time recognised that setting a common approach based on an efficient cost standard and the application of symmetrical termination rates would promote efficiency, sustainable competition and maximise consumer benefits in terms of prices and service offerings.

- (8) According to Article 8(1) of the Framework Directive, Member States shall ensure that when carrying out the regulatory tasks specified in that Directive and the Specific Directives, in particular those designed to ensure effective competition, NRAs take the utmost account of the desirability of making regulations technologically neutral. Article 8(2) of the Framework Directive further requires NRAs to promote competition by, amongst other things, ensuring that all users derive maximum benefit in terms of choice, price and quality of service and that there is no distortion or restriction of competition. In order to achieve these objectives and a consistent application in all Member States, the regulated termination rates should be brought down to the costs of an efficient operator as soon as possible. However, **new entrants may be subject to higher unit costs for a transitional period before having reached the minimum efficient scale**. In such situations, NRAs might allow them to recoup their higher incremental costs compared to those of a modelled operator for a transitional period of **up to four years**. Drawing upon the ERG Common Position, it is reasonable to envisage a timeframe of four years for phasing out asymmetries⁷, based on the experience of regulators who have applied glidepaths in the fixed market and on the estimation that in the mobile market it can be expected to take three to four years to reach a market share of between 15 and 20%⁸, thereby exceeding the level of the minimum efficient scale.
- (9) In a competitive environment, **operators would compete on the basis of current costs and would not be compensated for costs which have been incurred through inefficiencies**. Historic cost figures therefore need to be adjusted into current cost figures to reflect the costs of an efficient operator employing modern technology.
- (10) Operators which are compensated for actual costs incurred for termination have few incentives to increase efficiency. The implementation of a bottom-up model is

⁷ ERG (07) 83 final 080312, p. 41.

⁸ ERG (07) 83 final 080312, p. 94.

consistent with the concept of developing a network for an efficient operator whereby an economic/engineering model of an efficient network is constructed using current costs. It reflects the equipment quantity needed rather than that actually provided and it ignores legacy costs.

- (11) Given the fact that a **bottom-up model** is based largely on derived data, e.g. network costs are computed using information from equipment vendors, regulators may wish to reconcile the results of a bottom-up model with the results of a top-down model in order to produce as robust results as possible and to avoid large discrepancies in operating cost, capital cost and cost allocation between a hypothetical and a real operator. In order to identify and improve possible shortcomings of the bottom-up model, such as information asymmetry, the NRA may compare the results of the bottom-up modelling approach with those resulting from a corresponding top-down model which uses audited data.
- (12) The cost model should be based on efficient technological choices, considering that those technologies should be available in the timeframe considered by the model. Hence, a bottom-up model built today should assume that the core network for fixed networks is **Next-Generation-Network (NGN)**-based. The bottom-up model for mobile networks should be based on a combination of 2G and 3G employed in the access part of the network, reflecting the anticipated situation, while the core part is assumed to be NGN-based.
- (13) Taking account of the particular characteristics of call termination markets, the **costs of termination services should be calculated on the basis of forward-looking long-run incremental costs (LRIC)**. In a LRIC model, all costs become variable, and since it is assumed that all assets are replaced in the long run, setting charges based on LRIC allows efficient recovery of costs. LRIC models include only those costs which are caused by the provision of a defined increment. An incremental cost approach which allocates only efficiently incurred costs that would not be sustained if the service included in the increment was no longer produced (i.e. avoidable costs) promotes efficient production and consumption and minimises potential competitive distortions. The further termination rates move away from incremental cost, the greater the competitive distortions between fixed and mobile markets and/or between operators with asymmetric market shares and traffic flows. Therefore, it is justified to apply a pure LRIC approach whereby the relevant increment is the wholesale call termination service and which includes only avoidable costs. *A LRIC approach would also allow the recovery of all fixed and variable costs which are incremental to the provision of the wholesale call termination services and would thereby facilitate efficient cost recovery.*
- (14) Avoidable costs are the difference between the identified total long-run costs of an operator providing its full range of services and the identified total long-run costs of that operator providing its full range of services except for the wholesale call termination service supplied to third parties (i.e. stand-alone cost of an operator not offering termination to third parties). **To ensure an appropriate attribution of the costs, a distinction needs to be made between those costs that are traffic-related, i.e. all those fixed and variable costs which rise with increased levels of traffic, and those costs that are non-traffic-related, i.e. all those costs which do not rise with increased levels of traffic.** To identify the avoidable costs relevant for wholesale call termination, non-traffic-related costs should be disregarded. Then, it may be appropriate to attribute

traffic-related costs firstly to other services (e.g. call origination, SMS, MMS, broadband, leased lines, etc.) with wholesale voice call termination being the final service to be taken into account. The cost allocated to the wholesale call termination service should thus be equal only to the additional cost incurred to provide the service. As a consequence, cost accounting based on a LRIC approach for wholesale call termination services in fixed and mobile markets should allow the recovery only of costs which would be avoided if a wholesale call termination service was no longer provided to third parties.

- (15) In any case, it may be noted that call termination is a service which generates benefits to both calling and called parties (if the receiver did not receive a benefit it would not accept the call), which in turn suggests that both parties have a part in the creation of costs. The use of cost causation principles to set cost-orientated prices would suggest that the creator of the costs should bear those costs. Recognising the two-sided nature of call termination markets with costs being driven by two sides, not all related costs need to be recovered via the regulated wholesale termination charge. However, for the purposes of this Recommendation, it is proposed that all of the avoidable costs of providing the wholesale call termination service can be recovered via the wholesale charge, i.e., all of those costs which increase in response to an increase in wholesale termination traffic.
- (16) In setting termination rates, any deviation from a single efficient cost level should be based on objective cost differences outside the control of operators. In fixed networks, no such objective cost differences outside the control of the operator have been identified. In mobile networks, *uneven spectrum assignment* may be considered an exogenous factor which results in per-unit-cost differences between mobile operators. Exogenous cost differences may arise where spectrum assignments have not taken place using market-based mechanisms but on the basis of a sequential licensing process. However, the extent of this cost disadvantage depends on a range of factors and this relative cost disadvantage decreases as the market shares of the later entrants increase. In addition, where the spectrum assignment takes place through a market-based mechanism such as an auction or where there is a secondary market in place, frequency-induced cost differences become more endogenously determined and are likely to be significantly reduced or eliminated.
- (17) A depreciation method that reflects the economic value of an asset is the preferred approach. If, however, the development of a robust economic depreciation model is not feasible, other approaches are possible including straight-line depreciation, annuities and tilted annuities. The criterion for choosing among the alternative approaches is how closely they are likely to approximate an economic measure of depreciation. Thus, if the development of a robust economic depreciation model is not feasible, the depreciation profile of each major asset in the bottom-up model should be examined separately, and the approach which generates a depreciation profile similar to that of economic depreciation should be chosen.
- (18) With regard to efficient scale, different considerations apply in fixed and in mobile markets. The **minimum efficient scale may be reached at different levels in the fixed and mobile sectors as this depends on the different regulatory and commercial environments applicable to each.**

- (19) When regulating wholesale termination charges, NRAs should neither preclude nor inhibit operators from moving to alternative arrangements for the exchange of terminating traffic in the future to the extent that these arrangements are consistent with a competitive market.
- (20) A period of transition until 01.02.2012 should be considered long enough to allow NRAs to put the cost model in place and for operators to adapt their business plans accordingly while, on the other hand, recognising the pressing need to ensure that consumers derive maximum benefits in terms of efficient cost-based termination rates.
- (21) For NRAs with limited resources an additional transitional period may exceptionally be needed in order to prepare the recommended cost model. In such circumstances, if an NRA is able to demonstrate that a methodology (e.g., benchmarking) other than a bottom-up LRIC model based on current costs results in outcomes consistent with this Recommendation and generates efficient outcomes consistent with those in a competitive market, it could consider setting interim prices based on an alternative approach until 01.02.2014. Such an outcome should not exceed the average of the termination rates set by NRAs implementing the recommended cost methodology.
- (22) This Recommendation has been subject to a public consultation.

HEREBY RECOMMENDS:

- (1) When imposing price control and cost-accounting obligations in accordance with Article 13 of Directive 2002/19/EC on the operators designated by National Regulatory Authorities (NRAs) as having significant market power (SMP) on the markets for wholesale voice call termination on individual public telephone networks (hereinafter referred to as fixed and mobile termination markets) as a result of a market analysis carried out in accordance with Article 16 of Directive 2002/21/EC, NRAs should set termination rates based on the costs incurred by an efficient operator. This implies that they would also be symmetric. In doing so, NRAs should proceed in the way set out below.
- (2) It is recommended that the evaluation of efficient costs is based on current cost and the use of a bottom-up modelling approach using long-run incremental costs (LRIC) as the relevant cost methodology.
- (3) NRAs may compare the results of the bottom-up modelling approach with those of a top-down model which uses audited data with a view to verifying and improving the robustness of the results.
- (4) The cost model should be based on efficient technologies available in the timeframe considered by the model. The core part of both fixed and mobile networks should therefore be Next-Generation-Network (NGN)-based. The access part of mobile networks should also be based on a combination of 2G and 3G telephony.
- (5) The different cost categories referred to herein should be defined as follows:
 - incremental costs are those costs that can be avoided if a specific increment is no longer provided (also known as avoidable costs);
 - traffic-related costs are all those fixed and variable costs which rise with increased levels of traffic.
- (6) Within the LRIC model, the relevant increment should be defined as the wholesale voice call termination service provided to third parties. This implies that in evaluating the incremental costs NRAs should establish the difference between the total long-run cost of an operator providing its full range of services and the total long-run costs of this operator in the absence of the wholesale call termination service being provided to third parties. A distinction needs to be made between traffic-related costs and non-traffic-related costs, whereby the latter costs should be disregarded for the purpose of calculating wholesale termination rates. The recommended approach to identifying the relevant incremental cost would be to attribute traffic-related costs firstly to services other than wholesale voice call termination, with finally only the residual traffic-related costs being allocated to the wholesale voice call termination service. This implies that only those costs which would be avoided if a wholesale voice call termination service were no longer provided to third parties should be allocated to the regulated voice call termination services. Principles for calculating the wholesale voice call termination service increment in fixed and mobile termination networks respectively are further elaborated in the Annex to this Recommendation.

- (7) The recommended approach for asset depreciation is economic depreciation wherever feasible.
- (8) When deciding on the appropriate efficient scale of the modelled operator, NRAs should take into account the principles for defining the appropriate efficient scale in fixed and mobile termination networks as set out in the Annex to this Recommendation.
- (9) Any determination of efficient cost levels which deviates from the principles set out above should be justified by objective cost differences which are outside the control of the operators concerned. Such objective cost differences may emerge in mobile termination markets due to uneven spectrum assignments. To the extent that additional spectrum acquired to provide wholesale call termination is included in the cost model, NRAs should review any objective cost differences regularly, taking into account *inter alia* whether on a forward-looking basis additional spectrum is likely to be made available through market-based assignment processes which might erode any cost differences arising from existing assignments or whether this relative cost disadvantage decreases over time as the volumes of the later entrants increase.
- (10) In case it can be demonstrated that a new entrant operating below the minimum efficient scale incurs higher per-unit incremental costs than the modelled operator, these higher costs can be recouped during a transitional period via regulated termination rates. This period should not exceed four years after market entry.
- (11) This Recommendation is without prejudice to previous regulatory decisions taken by NRAs in respect of the matters raised herein. Notwithstanding this, NRAs should ensure that termination rates are applied at a cost-efficient, symmetric level by 01.02.2012, subject to any objective cost differences identified in accordance with points (9) and (10).
- (12) In exceptional circumstances and in the event that an NRA is not in a position, due to limited resources, to finalise the recommended cost model in a timely manner and where it is able to demonstrate that a methodology other than a bottom-up LRIC model based on current costs results in outcomes consistent with this Recommendation and generates efficient outcomes consistent with those in a competitive market, it could consider setting interim prices based on an alternative approach until 01.02.2014. Such an outcome should not exceed the average of the termination rates set by NRAs implementing the recommended cost methodology.
- (13) This Recommendation will be reviewed not later than four years after the date of application.
- (14) This Recommendation is addressed to the Member States.

Done at Brussels, [...]

For the Commission
[...]
Member of the Commission

ANNEX

Principles for the calculation of wholesale termination rates in fixed networks

The relevant incremental costs (i.e. avoidable costs) of the wholesale call termination service are the difference between the total long-run costs of an operator providing its full range of services and the total long-run costs of that operator not providing a wholesale call termination service to third parties.

A distinction needs to be made between traffic-related costs and non-traffic-related costs to ensure the appropriate attribution of those costs. The non-traffic-related costs should be disregarded for the purpose of calculating wholesale termination rates. *From the traffic-related costs only those costs which would be avoided in the absence of a wholesale call termination service being provided should be allocated to the relevant termination increment.* These avoidable costs may be calculated by allocating traffic-related costs first to services other than wholesale call termination (e.g. call origination, data services, IPTV, etc.) with only the residual traffic-related costs being allocated to the wholesale voice call termination service.

The default demarcation point between traffic- and non-traffic-related costs is typically where the first point of traffic concentration occurs. In a PSTN network this is normally deemed to be the upstream side of the line card in the (remote) concentrator. The broadband NGN equivalent is the line card in the DSLAM/MSAN⁹. Where the DSLAM/MSAN is located in a street cabinet, then it needs to be considered whether the former loop between the cabinet and the exchange/MDF is a shared medium and should be treated as part of the traffic-sensitive cost category, in which case the traffic-/non-traffic-related demarcation point will be located in the street cabinet. If dedicated capacity is allocated to the voice call termination service irrespective of the technology deployed, then the demarcation point remains at the level of the (remote) concentrator.

Following the approach outlined above, examples of costs which would be included in the termination service increment would include additional network capacity needed to transport additional wholesale termination traffic (e.g. additional network infrastructure to the extent that it is driven by the need to increase capacity for the purposes of carrying the additional wholesale termination traffic) as well as additional wholesale commercial costs directly related to the provision of the wholesale termination service to third parties.

To determine the efficient scale of an operator for the purposes of the cost model, NRAs should take into account that in fixed networks operators have the opportunity to build their networks in particular geographic areas and to focus on high-density routes and/or to rent relevant network inputs from the incumbents. When defining the single efficient scale for the modelled operator, NRAs should therefore take into account the need to promote efficient entry while also recognising that under certain conditions smaller operators can produce at low unit costs in smaller geographic areas. Furthermore, smaller operators that cannot match the largest operators' scale advantages over broader geographic areas can be assumed to purchase wholesale inputs rather than self-provide termination services.

⁹ Digital Subscriber Line Access Multiplexer/Multi-Service Access Node.

Principles for the calculation of wholesale termination rates in mobile networks

The relevant incremental costs (i.e. avoidable costs) of the wholesale call termination service are the difference between the total long-run costs of an operator providing its full range of services and the total long-run costs of an operator not providing a wholesale call termination service to third parties.

A distinction needs to be made between traffic-related costs and non-traffic-related costs to ensure the appropriate attribution of those costs. The non-traffic-related costs should be disregarded for the purpose of calculating wholesale termination rates. From the traffic-related costs only those costs which would be avoided in the absence of a wholesale call termination service being provided should be allocated to the relevant termination increment. These avoidable costs may be calculated by allocating traffic-related costs first to services other than wholesale call termination (e.g. call origination, SMS, MMS, etc.) with only the residual traffic-related costs being allocated to the wholesale voice call termination service.

The costs of the handset and the SIM card are not traffic-related and should be excluded from any costing model for wholesale voice call termination services.

Coverage can be best described as the capability or option to make a single call from any point in the network at a point in time, and capacity represents the additional network costs which are necessary to carry increasing levels of traffic. The need to provide such coverage to subscribers will cause non-traffic-related costs to be incurred which should not be attributed to the wholesale call termination increment. Investments in mature mobile markets are more driven by capacity increases and by the development of new services and this should be reflected in the cost model. The incremental cost of wholesale voice call termination services should therefore exclude coverage costs but should include additional capacity costs to the extent that they are caused by the provision of wholesale voice call termination services.

The costs of spectrum usage (the authorisation to retain and use spectrum frequencies) incurred in providing retail services to network subscribers are initially driven by the number of subscribers and thus are not traffic-driven and should not be calculated as part of the wholesale call termination service increment. The costs of acquiring additional spectrum to increase capacity (above the minimum necessary to provide retail services to subscribers) for the purposes of carrying additional traffic resulting from the provision of a wholesale voice call termination service should be included on the basis of forward-looking opportunity costs, where possible.

Following the approach outlined above, examples of **costs which would be included in the termination service increment** would include additional network capacity needed to transport additional wholesale traffic (e.g. additional network infrastructure to the extent that it is driven by the need to increase capacity for the purposes of carrying the additional wholesale traffic). Such network-related costs could include additional **Mobile Switching Centres (MSCs) or backbone infrastructure required to carry the terminating traffic for third parties**. Furthermore, where certain network elements are shared for the purposes of supplying origination and termination services, such as cell sites or Base Transceiver Stations (BTS), these network elements will be included in the termination cost model to the extent that they are needed because of the additional capacity necessary to carry terminating traffic by third parties. In addition, the additional spectrum costs and wholesale commercial costs directly related to the provision of the wholesale termination service to third parties would also be taken into account. This implies that coverage costs, unavoidable business overhead costs and retail commercial costs are not included.

To determine the minimum efficient scale for the purposes of the cost model, and taking account of market share developments in a number of EU Member States, the recommended approach is to set that scale at 15% market share. It may be expected that mobile operators, having entered the market, would strive to maximise efficiency and revenues and thus be in a position to achieve a minimum market share of 15%. In case an NRA can prove that the market conditions in the territory of that Member State would imply a different minimum efficient scale, it could deviate from the recommended approach.
