Local Loop Unbundling (LLU) Policies in the European Framework

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INTRODUCTORY FRAMEWORK

Recent European policies have very early identified (European Commission, 1999) the immense challenge for the European Union (EU) to promote various liberalization and harmonization measures in the relevant electronic communications markets, especially by supporting a series of particular initiatives for competition, investment, innovation, the single market, and consumer benefits (Chochliouros & Spiliopoulou, 2003). In order to fully seize the growth of the digital, knowledge-based economy, it has been suggested that both businesses and citizens should have access to an inexpensive, world-class communications infrastructure and a wide range of modern services, all appropriate to support "broadband" evolution and a wider multimedia penetration. Moreover, all possible different means of access had to prevent from "info-exclusion," while information technologies should be used to renew urban and regional development and to promote innovative technologies (Chochliouros & Spiliopoulou, 2005). To achieve all these expectations, an essential European policy was to "initiate" further competition in local access networks and support the "local loop unbundling" (LLU) perspective, in order to help bring about a considerable reduction in the costs (in terms of price, quality, and innovative services) of using the Internet and to promote high-speed and "always-on" access (Bourreau & Doğan, 2005; Commission of the European Communities, 2006b).

The local loop mainly referred to the physical copper line circuit in the local access network connecting the customer's premises to the operator's local switch, concentrator, or any other equivalent facility. Traditionally, it takes the form of twisted metallic pairs of copper wires (one pair per ordinary telephone line). However, some other potential alternatives can also be taken into account: fiber optic cables are nowadays being increasingly deployed to connect various customers, while other technologies are also being rolled out in the local access network (such as wireless/satellite local loops, power-line networks, or even cable TV networks). Although technology's evolution and market development are very rapid, the above alternatives—*even in a combined use*—cannot provide adequate guarantee to ensure sufficient and nationwide spreading for LLU in a quite reasonable time period (Philpot, 2006) and mainly to address the same customer population, if practically compared to the digital subscriber loop (DSL) option which is offered via the existing copper infrastructures.

Until very recently, the local access network remained one of the least competitive segments of the liberalized European telecommunications market (Commission of the European Communities, 2001) because new entrants did not have widespread alternative network infrastructures and were not able with traditional technologies to match the economies of scale and the scope of other traditional operators notified as having "significant market power" (SMP) in the fixed network (European Parliament & Council of the European Union, 1997). This resulted from the fact that incumbent operators rolled out their old copper local access networks over significant periods of time protected by exclusive rights while, *at the same time,* they were able to fund their investment costs through

existing monopoly (or oligopoly) rents. However, this was a feature of the past; as Internet access market has started to become a utility market, together with the full liberalization of the fixed telephony market and the rapid evolution of the broader electronic communications sector, the entire scenery has been dramatically modified. New players (such as Internet companies) are entering the market for IP telephony and are leveraging their large customer bases to gain competitive advantage (Commission of the European Communities, 2006c, 2007). They thus exert pressure on traditional fixed providers to develop new strategies, including investment in broadband and next generation networks to create new, more lucrative, revenue streams from, *for example*, content services (Chochliouros et al., 2007; Hausman & Sidak, 1999). Digital subscriber line services have been so considered, by the consumer, as a utility service in the same view as the telephone or electricity network.

THE EUROPEAN STRATEGIC APPROACH FOR CREATING AN INNOVATIVE FUTURE

The significance to new "market players" of obtaining unbundled access to the local loop of the fixed incumbent across the EU, and the entire European Economic Area (EEA), was strongly recognized by the European Commission, which has thus promoted early initiatives in this area, in particular, with the adoption, *in April 2000*, of a Recommendation (Commission of the European Communities, 2000a) and then an associated communication (Commission of the European Communities, 2000b) on LLU. These revolutionary measures were further supported by the inclusion of the unbundling perspective within the concept of the new European regulatory framework of 2002 (Chochliouros & Spiliopoulou, 2003).

The basic philosophy of the proposed approach for market's liberalization was the assessment that it would not be economically viable for new entrants to duplicate the incumbent's copper local loop access infrastructure in its entirety and within a reasonable time period, while any other alternative infrastructures (e.g., cable television, satellite, optical, and wireless local loops) were not able to offer the same functionality or ubiquity (Commission of the European Communities, 2004a, 2005).

Meanwhile, LLU has also had a huge impact on both the deployment rules and the engineering of modern broadband systems (Ödling, Mayr, & Palm, 2000). The motivation for liberalizing the European e-communications market via LLU was to increase competition and, *consequently*, to provide a broader portfolio of service offerings in more attractive tariffs. Conforming to regulatory practices already applied in the U.S., the European Commission has necessitated operators having SMP in the fixed network to unbundle their copper local telecommunications loop by December 31, 2000. This was, *in fact*, a primary measure to promote the "opening" of the local access markets to the full competition and to introduce new and enhanced electronic facilities in the marketplace. The related argumentation was based on the event that incumbent operators could roll out their own broadband high-speed bit stream services for Internet access in their copper loops, but they might "delay" the introduction of some types of DSL technologies (and services) in the local loop (Starr, Sorbara, Cioffi, & Silverman, 2003), where these could substitute for their current offerings. However, any such delays would be at the expense of the end users; it was therefore appropriate to allow third parties to have unbundled access to the local loop of the SMP (or "notified") operator, in particular, to meet users' needs for the competitive provision of leased lines and high-speed Internet access at least at an initial stage.

The most appropriate international practice for reaching agreement on complex technical and pricing issues for local loop access is the commercial negotiation between the parties involved (Baranes & Bourreau, 2005). However, experience has demonstrated multiple cases where regulatory intervention was necessary due to imbalance in the negotiation power between the new entrant and those market players having SMP (Commission of the European Communities, 2004b, 2006c), and due to the lack of other possible alternatives, it is expected that the role of National Regulatory Authorities (NRAs) would be crucial (European Parliament & Council of the European Union, 2002b) for the future. Thus, under the actual European regulatory practice, NRAs may intervene at their own initiatives to specify issues, including pricing, designed to ensure interoperability of services, maximize economic efficiency, and benefit end users. Meanwhile, costing and pricing rules for local loops and associated facilities (such as collocation and leased transmission capacity) (Eutelis Consult