Local Loop Unbundling Measures and Policies in the European Union

Ioannis P. Chochliouros
Hellenic Telecommunications Organization S.A. (OTE), Greece

Anastasia S. Spiliopoulou-Chochliourou
Hellenic Telecommunications Organization S.A. (OTE), Greece

George K. Lalopoulos
Hellenic Telecommunications Organization S.A. (OTE), Greece

INTRODUCTORY FRAMEWORK: THE CHALLENGE

Recent European policies have very early identified (European Commission, 1999) the great challenge for the European Union (EU) to promote various liberalisation and harmonisation measures in the relevant electronic communications markets to support initiatives for competition, innovation, development, and growth (Chochliouros & Spiliopoulou-Chochliourou, 2003). In order to fully seize the growth and job potential of the digital, knowledge-based economy, it has been decided that businesses and citizens should have access to an inexpensive, world-class communications infrastructure and a wide range of modern services, especially to support "broadband" evolution and multimedia penetration. Moreover, different means of access must prevent information exclusion, while information technologies should be used to renew urban and regional development and to promote environmentally sound technologies. A fundamental policy was to introduce greater competition in local access networks and support local loop unbundling (LLU) in order to help bring about a substantial reduction in the costs of using the Internet and to promote high-speed and "always-on" access.

The "local loop" mainly refers to the physical copper-line circuit in the local access network connecting the customer's premises to the operator's local switch, concentrator, or equivalent facility. Traditionally, it takes the form of twisted metallic pairs of copper wires (one pair per ordinary telephone line); fiber-optic cables are being deployed increasingly to connect large customers, while other technologies are also being rolled out in local access networks (such as wireless and satellite local loops, power-line networks, or cable TV networks). Although technology's evolution and market development are very rapid, the above alternatives—even in a combined use—cannot provide adequate guarantees to ensure the sufficient and nationwide spreading of LLU in a reasonable time period and to address the same customer population, if practically compared to the digital subscriber loop (DSL) option, offered via the existing copper. Until very recently, the local access network remained one of the least competitive segments of the liberalised European telecommunications market (European Commission, 2001) because new entrants did not have widespread alternative network infrastructures and were "unable" with traditional technologies to match the economies of scale and scope of operators notified as having significant market power (SMP) in the fixed network (European Parliament & European Council, 1997). This resulted from the fact that operators rolled out their old copper local access networks over significant periods of time, protected by exclusive rights, and were able to fund their investment costs through monopoly rents. However, a great challenge exists as the Internet-access market is rapidly becoming a utility market. Prices for customer premises equipment (CPE) are based on commodity product pricing, while digital subscriber-line services are beginning to be considered by the consumer as a utility service in the same view as the telephone or electricity network.

THE AIM OF THE RECENT EUROPEAN POLICIES: TOWARD AN INNOVATIVE FUTURE

The importance to new entrants of obtaining unbundled access to the local loop of the fixed incumbent across the EU (and the entire European Economic Area [EEA]) was strongly acknowledged by the European Commission, which has promoted early initiatives in this area, in particular, with its adoption in April 2000 of a recommendation (European Commission, 2000b) and then an associated communication (European Commission, 2000a) on LLU. These measures were reinforced by the announcement that a legally binding provision for unbundling would be included in the new regulatory framework (Chochliouros & Spiliopoulou-Chochliourou, 2003).

The basic philosophy of the proposed measures to liberalise the markets was the estimation that it would not be economically viable for new entrants to duplicate the incumbent's copper local loop and access infrastructure in its entirety and in a reasonable time period, while any other alternative infrastructures (e.g., cable television, satellite, wireless local loops) do not generally offer the same functionality or ubiquity.

LLU has a large impact on both the deployment rules and the engineering of broadband systems (Ödling, Mayr, & Palm, 2000). The motivation for liberalising the European telecommunications market was to increase competition and, consequently, to provide faster development of services and more attractive tariffs. In order to achieve the projected target, and following the regulatory practices already applied in the United States, the European Commission obliged operators having SMP in the fixed network to unbundle their copper local telecommunications loop by December 31, 2000. This was, in fact, a first measure to promote the opening of the local markets to full competition and the introduction of enhanced electronic communications. The related argumentation was based on the fact that existing 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 where these could substitute for the operator's current offerings. Any such delays would be at the expense of the end users; therefore, it was 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.

The most appropriate practice for reaching agreement on complex technical and pricing issues for local loop access is commercial negotiation between the parties involved. However, as experience has demonstrated multiple cases where regulatory intervention is necessary due to imbalance in the negotiation power between the new entrant and those market players having SMP, and due to the lack of other possible alternatives, it should be expected that the role of national regulatory authorities (NRAs) will be crucial for the future (European Parliament & European Council, 2002b). NRAs may intervene at their own initiatives to specify issues, including pricing, designed to ensure interoperability of services, maximise economic efficiency, and benefit end users. Moreover, cost and price rules for local loops and associated facilities (such as collocation and leased transmission capacity; Eutelis Consult GmbH, 1998) should be cost-oriented, transparent, non-discriminatory, and objective to ensure fairness and no distortion of competition.

CURRENT MEANS OF ACCESS & TECHNICAL IMPLEMENTATIONS: THE WAY FORWARD

It is recommended that NRAs ensure that an operator having "SMP" provides its competitors with the same facilities as those that it provides to itself (or to its associated companies), and with the same conditions and time scales. This applies in particular to the roll-out of new services in the local access network, availability of collocation space, provision of leased transmission capacity for access to collocation sites, ordering, provisioning, quality, and maintenance procedures. However, LLU implies that multiple technical, legal, and economical problems have to be solved simultaneously, and decisions have to be made on all relevant topics, especially when market players cannot find commonly accepted solutions (European Parliament & European Council, 2000). Physical access should be normally provided to any feasible termination point of the copper local loop where the