

Local Loop Unbundling

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IN ESSENCE

Local loop unbundling (LLU) is one of the most important and controversial policy instruments adopted in many countries since the second half of the 1990s. Its aim is to foster competition within local telecommunication markets.

LLU requires any former monopolist (i.e., the incumbent) to lease, at cost, part of its local network facilities to any requesting competitor (i.e., the new entrants). The local assets that can be leased from the incumbent are called unbundled network elements (UNEs).

INTRODUCTION AND DEFINITIONS

A critical issue in the context of telecommunications market openness is the access to the local network (as defined in Table 1). It is critical because a local network allows telecommunication service providers to reach the end users. It is especially critical because, despite the recent liberalization of the industry, a combination of historic and structural factors grant incumbent operators a strong, privileged position.¹

One of the regulatory answers given in recent years is the obligation, for the incumbent, to share part of its local facilities with new operators. The possibility to lease the incumbent's local network assets is generally referred to as unbundling of the local loop. As this article shows, the incumbent's legal obligations to provide such access can be more or less burdensome, from both a technical and an economic point of view.

BACKGROUND

The history of telecommunications in developed countries is the history of a monopolistic, vertically integrated industry that regulators, year after year, have tried to take back to competition. Specific

technical and economic conditions (see Note 1) made and make this a tremendous challenge.

The long process toward competition started in the U.S. during the 1950s and 1960s, when the monopoly for terminal equipment—then justified with “network integrity” arguments—was first disputed.² Eventually, the long distance monopoly, then considered a natural monopoly,³ was also challenged. A series of decisions in the United States (U.S.) during the 1960s and 1970s testify an increasing desire to overcome the status quo, although in a context of high uncertainty for the political and economic consequences (Brock, 1994).⁴ The process accelerated during the 1980s, with the divestiture of AT&T in 1982 and, since 1984, with the duopoly policy promoted by the Thatcher Administration in the United Kingdom (U.K.). With the privatization of British Telecom, the U.K. also devised new forms of “incentive regulation”.⁵ During the 1990s, the positive results in these pioneering countries prompted liberalization reforms worldwide.

The local telecommunications market seems to be the last bastion of the monopolistic era. Indeed, in the last decade, technological innovation and demand growth weakened the idea of a local natural monopoly (see Note 3). Accordingly, the U.S. Congress removed legal barriers to entry in 1996;⁶ the European Parliament and the Council required member states to do the same by January 1998.⁷ Yet, after several years, the incumbent operator still dominates local telecommunications.

THE POLICY MEASURES

Current regulations in the U.S. and European Union (EU) seek to encourage local competition by reducing entry barriers for new competitors. To that end, different rules facilitate alternative methods of entering the market. The strategy of a new entrant can be based on one, or a mix of the following methods.

First, new competitors can purchase incumbents' services on a wholesale basis and resell them under

Table 1. Preliminary definitions

Generically, the expressions “local network”, “local loop”, “local access”, or “access network” can be used equally to refer to all local telecommunication assets, including switching and “last mile” transport facilities. The expression “local” has a spatial meaning and typically refers to an urban area. The expression “last mile” informally refers to the part of the public switched telephone network (PSTN) that extends from the customer premises equipment (CPE) to the first network’s switching center (the central office, also called local or switching exchange). In plain English, it is the physical connection – generally made of a pair of copper wires – between the subscriber’s location and the nearest telephone exchange. The last mile, which is also called “line” or “subscriber line”, coincides with the most restrictive definition of local loop.

A “local telecommunications market” may include the provision of: - calls (voice or data) originated and terminated within a given urban area; - enhanced features such as touch-tone calling or call forwarding; - access to local services by other providers (e.g. long distance), which are charged for using the local network; - and high speed Internet access services, like DSL services and cable-modem; such that a small but significant and non-transitory increase in price (SSNIP) above the competitive level will be profitable for a hypothetical monopolist. (This integrates the definition by Harris and Kraft, 1997, and the Federal Trade Commission-Department of Justice Merger Guidelines, as included in Woroch’s definition, 1998).

their own brand. Where using this strategy, a firm is said to operate as a “reseller”. Regulations tend to set wholesale prices on a discount basis (“price minus” mechanism): typically, wholesale prices are set equal to the retail prices minus commercial, billing, and other avoidable costs.⁸

Second, new competitors can build their own loop or upgrade an existing local communication network (i.e. cable TV). In this case, the law grants the right to interconnect to the public telecommunications network, so that network externalities do not preclude competition.⁹ When using this strategy, a firm is operating as an “infrastructure provider”. The resulting competition is referred to as facility-based competition.¹⁰ In the U.S., as in the EU, interconnection must be provided at cost, at any technically feasible point, at non-discriminatory conditions, and ensuring the same quality of the incumbent’s services. The kind of costs to be accounted for varies among the countries.¹¹

Third, and most important here, new entrants can provide local services by leasing specific facilities (“elements”) from the incumbent’s network. As said, this practice is the unbundled access to the local loop. Where using unbundled elements, a firm can be said to operate as a service provider. Service providers foster a service competition among players that actu-

ally rely on the same infrastructure. An unsolved thorny issue is which form of competition—service or facility-based—delivers the highest social returns and under which circumstances.

More details on unbundling policies in the U.S. and EU are provided in the next sections.

OVERVIEW OF THE U.S. UNBUNDLING POLICY

Section 251(c)(3) of the Telecommunications Act of 1996 decrees, for incumbent local exchange carriers (ILECs), “[t]he duty to provide, to any requesting telecommunications carrier (...) nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory (...).” The controversial expression “at any technically feasible point” is blurred by section 251(d)(2): “In determining what network elements should be [unbundled], the [FCC] shall consider, *at a minimum*, whether– (A) access to such network elements (...) is *necessary*; and; (B) the failure to provide access to such network elements would *impair* the ability of the telecommunications carrier seeking access to provide the services that it seeks to

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