Chapter 10
Strategic Scenarios for Fixed–Mobile Convergence: An Integrated Operator Case

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ABSTRACT
This study demonstrates that an integrated operator can benefit from cost savings, customer retention and prevention of revenue erosion by having a fixed-mobile convergence (FMC) migration strategy including introduction of advanced service packages. This development is driven by increasing importance of mobile network capabilities and services, as well as the decreasing gap between fixed and mobile systems, in terms of technological models and prices, making FMC both requested by the market and commercially feasible to provide. FMC is expected to offer benefits for network and service operators as well as businesses and consumers. The authors have analyzed the operator’s dilemma on proper migration strategy in exploiting the benefits of cost savings and generating new revenues, but exposing oneself to the risk of substitution effects among its fixed and mobile products. They provide quantitative comparison of some strategic scenarios utilizing techno-economic case study methodology in modeling an integrated operator business in a Western European context.

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INTRODUCTION

Next Generation Services delivered via Fixed-Mobile Convergence (FMC) networks have been under discussion and consideration for several years. Though concepts and experimental implementations are widespread, truly operational experience is still lacking. Various players in the telecommunications value network follow different definitions of the FMC concept. Convergence may start either with common terminal equipment providing access to both fixed and mobile networks, or with a common billing and customer care center offering the user one-stop shopping. Various stages of convergence may be achieved on access and core network technology, management, service enabling, and content and application levels with individual or shared platforms.

In this chapter, we broadly define FMC as the end-to-end provisioning of unified services accessible by an end user independent of the underlying access and core network technologies. To enable an efficient realization of such an ecosystem, convergence has to occur at multiple levels, namely at the network, service, terminal and commercial level. One major enabler to achieve a seamless interconnection between all relevant entities is the use of a common underlying protocol infrastructure, which still is the Internet Protocol (IP). An overarching control platform for services, and underlying resources and transmission capacity, is the IP Multimedia Subsystem (IMS) as standardized and agreed upon in standardization organizations from both fixed and mobile industries.

Our study elaborates on a migration concept for an integrated operator from current separated traditional fixed and mobile networks towards FMC and IMS at different levels of service provisioning. The model investigates the impact on the overall profitability of the integrated operator. Our investigation considers different players in the FMC ecosystem, namely, the operators of access and core networks, service and content providers, hardware and software manufacturers and vendors, and legal authorities. Key drivers for industry development, for technology evolution and market demand are taken into account. The work is based on European CELTIC co-operation project ECOSYS (ECOSYS, 2004-2007) with partners from operators, universities, vendors and SMEs.

The chapter is structured as follows: After description of the players and the drivers in the FMC ecosystem, operators’ motivations as well as strategic considerations for migration to FMC are compared. FMC framework and required investments assumed for the study are introduced, and considerations on OPEX (operational expenditure) are presented. Afterwards, the composition of FMC services offered is described and an elaboration of the common underlying geographical-economic model is given. The results for an integrated operator with and without FMC service provisioning are analyzed. The chapter concludes with an outlook on the next generation operator’s future strategic decisions against the latest market development.

PLAYERS IN THE FMC SERVICE GAME

The highly complex FMC environment comprises the following players, who all are eager to gain a share of the value generated by FMC:

- Access and core network operators
- Transport network operators
- Service delivery platform developers
- Content providers that may produce content applicable for FMC devices
- Service operators offering value-added services to the end-users
- Software manufacturers providing client software for efficient switching between multiple radio technologies, terminal op-