Chapter 6.8
Service Offerings for Fixed–Mobile Convergence
Scenario: An Integrated Operator Case

Jarmo Harno
Helsinki University of Technology, Finland

K.R. Renjish Kumar
Helsinki University of Technology, Finland

Mikko V.J. Heikkinen
Helsinki University of Technology, Finland

Mario Kind
Deutsche Telekom, Germany

Thomas Monath
Deutsche Telekom, Germany

Dirk Von Hugo
Deutsche Telekom, Germany

ABSTRACT

This study demonstrates that an integrated operator can benefit from cost savings, customer retention and prevention of revenue erosion by FMC migration strategy with introduction of advanced service packages. This development is driven by increasing importance of mobile network capabilities and services, as well as the lessening gap between fixed and mobile systems, in terms of technological models and prices, resulting in greater market-pull and commercially feasible FMC offerings. FMC is expected to offer benefits for network and service operators as well as businesses and consumers. We have also analyzed the operator’s dilemma in select-
ing an appropriate migration strategy to exploit
the benefits of cost savings and generating new
revenues, while exposing oneself to the risk of
substitution effects among its fixed and mobile
products. The objective in this article has been to
provide quantitative comparison of some strategic
scenarios utilizing techno-economic case study
methodology in modeling an integrated opera-
tor business in the Western European context.
[Article copies are available for purchase from
InfoSci-on-Demand.com]

INTRODUCTION

Next Generation Services delivered via Fixed-
Mobile Converging (FMC) networks are under
discussion and consideration for several years.
Though concepts and experimental implementa-
tions are widespread, truly operational experience
is still lacking. Various players in the telecommu-
nications value network follow different defini-
tions 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 level, management, service
enabling and content and application level with
own or shared platforms.

In this article, we broadly define FMC as
the end-to-end provisioning of unified services
accessible by the end user independent of the
underlying access and core network technolo-
gies. 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
entities included in this picture is the use of a
common underlying protocol infrastructure which
nowadays still seems to be the Internet Protocol
(IP). An overarching control platform for both ser-
ices and underlying resources and transmission
capacity is the IP Multimedia Subsystem (IMS)
as standardized and agreed on in both fixed and
mobile standardization organizations.

The 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 provi-
sioning. The model investigates the impact on the
overall profitability. The investigation considers
different players in the FMC ecosystem, namely,
the operators of access and core networks, service
and content providers, hardware and software
manufacturers, also vendors and legal authorities.
Key drivers for industry development, 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 article is structured as follows: After
description of the players and the drivers in the
FMC ecosystem, an operators’ motivation as well
as strategic considerations for FMC migration are
compared. FMC framework and required invest-
ments 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 elabo-
ration of the common underlying geographical-
economic model is given. The results for an
integrated operator with and without FMC service
provisioning are analyzed. The article concludes
with an outlook on the potential impact on a next
generation operator’s future strategic decisions.

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: