

## Chapter II

# Service–Level Roaming: A New Virtual Home Environment Concept

**Giovanni Frattini**

*Atos Origin Italia S.p.A., Italy*

**Ivano De Furio**

*Atos Origin Italia S.p.A., Italy*

**Roberto Russo**

*Atos Origin Italia S.p.A., Italy*

**Luigi Romano**

*Atos Origin Italia S.p.A., Italy*

**Federico Ceccarini**

*Atos Origin Italia S.p.A., Italy*

### ABSTRACT

*We will discuss on new methods and tools for building high personalized, virtual e-business services. A new service provisioning architecture based on web services has been conceived, taking into account issues related to end-user mobility. The following pages deal with a proposal for creating real localized, personalized virtual environments using web services and domain ontologies. In particular, to overcome interoperability issues that could arise from a lack of uniformity in service descriptions, we propose a way for controlling and enforcing annotation policies based on a service registration authority. It allows services to be advertised according to guidelines and domain rules. Furthermore, this solution enables enhanced service/component discovery and validation, helping software engineers to build services by composing building blocks and provision/deliver a set of personalized services.*

## STATE OF ART

The advent of wireless and mobile technology has created both new opportunities and new challenges for the business community. Our aim is to present a possible solution for enabling new mobile services inherently ubiquitous.

The penetration of mobile device in western countries is still increasing. The Italian case is really surprising: every single Italian has more than one mobile terminal. Thus, considering this large potential audience, and the increasing power of new generation terminals, a large space for innovation exists. The magnitude of the mobile penetration has the potential to create a substantial pressure on the current business models (not only on the e-commerce business models). It could generate a substantial change of the value propositions in many industries. Nevertheless, m-commerce has to face several limitations. Among the others: uniform standards, ease of operation, security of transactions, minimum screen size, display type and bandwidth, billing services, connectivity costs and, above all, the role that all the actors are currently playing in the value chain. A successful m-commerce provider must usability is a fundamental requirement for a successful m-business. Wireless users demand hyper-personalized information, not reduced versions of generic information. Therefore, new models for exploiting at the best the unique characteristics mobile terminals are more than necessities.

To summarize, m-commerce is not a new distribution tool, a mobile Internet or a substitute for personal computers. Rather, it is a new aspect of consumerism and a much more powerful way to speak with consumers. Unleashing the value of m-commerce requires understanding the role that mobility plays in people's lives. That calls for a radical shift in thinking (Nohria & Leestma, 2001).

M-commerce, as defined by Muller and Veerse (1999), stands for conducting commercial transactions via a "mobile" telecommunications network

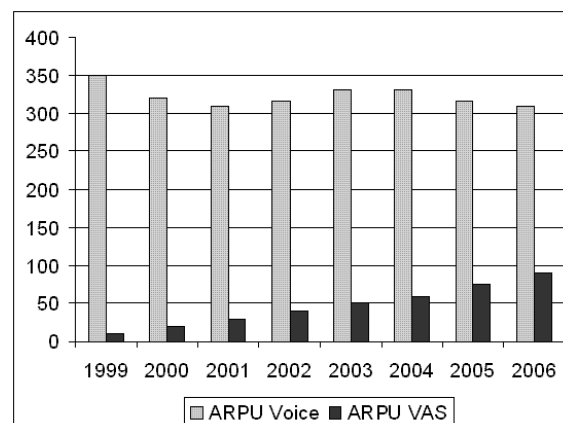
using a communication, information and payment (CIP) device such as a mobile phone or a palmtop unit. In a broader sense, m-commerce can be defined simply as exchanging products, ideas and services between mobile users and providers.

Let us consider the m-commerce from another perspective: the telecom operators point of view. Telecom operators are facing difficulties due to more and rapid change of the business scenarios. The revenues per minutes from voice traffic have steadily decreased in the last 10 years (see Figure 1). The so-called Value Added Service (VAS) revenues are following the reverse path: the growth ratio is almost 35% per year.

This is the main reason that drives telecommunications industries to invest in new value added services. Actually, Value Added Services revenues come mostly from content provisioning. Typical services are based on the download of contents like: logos, ring tones, games. The value chain for VAS is shown in Figure 2.

Mobile operators are in the middle of the value chain and control provisioning and billing processes. It means that, if goods vendors want to

*Figure 1. Average revenue per user (ARPU) for voice are slowly decreasing while VAS are constantly increasing their importance (Italian case. ©2008-2009 Assinform. Used with permission)*



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