Chapter 2

A New Global Ubiquitous Consumer Environment for 4G Wireless Communications

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ABSTRACT

A changed wireless environment for 4G and future generations of wireless communications is addressed in this chapter. This change is primarily focussed on making the end user of wireless services more central and more a consumer in the global wireless environment than heretofore. In the ‘Ubiquitous Consumer Wireless World (UCWW)’—the descriptive name for this new wireless environment paradigm—the global supply of wireless communications services is founded on the new Consumer-centric Business Model (CBM). This is a radical change and departure from present globally pervasive business model for service delivery based on the user being a subscriber, called appropriately the Subscriber-centric Business Model (SBM). The reasons and background for the drive to bring about this changed wireless environment are reviewed, with the main body of the chapter focusing on descriptions of the technological composition of two of the new core infrastructural enabling elements. These are the third-party authentication, au-

DOI: 10.4018/978-1-61520-674-2.ch002
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The migration towards next generation mobile communications, often referred to as ‘Beyond 3G’ (B3G), 4G, or wireless NGN, probably is one of the most challenging research topics of today’s wireless world. For some 4G means higher-capacity new radio interfaces. For others it is an ‘all-IP’ integrated wireless environment. For others again it is being conceived as a new wireless environment encompassing existing, planned and future mobile and fixed wireless networks, both terrestrial and satellite, with harmonious internetworking. Most presume that this internetworking, which of its nature should be heterogeneous internetworking, will be network-driven, and will be seamless and largely transparent to the users. Some others more recently argue the opposite, that it will be user-driven, and seamless and transparent to the networks.

It is becoming difficult, however, to escape the dominant generation-defining category of an order of magnitude, or thereabouts, increase in data rates, with other attributes, e.g., all-IP, heterogeneous network integration, full multimedia service delivery, playing a less significant role in defining a new generation in wireless communications.

For 4G and for all further generations of wireless communications, one may also address the techno-business wireless environment for delivery of wireless services. This is the environment in which all new and existing generations of wireless communications will function, deliver services, make money for their owners, and also reflect, and be responsive to, socio-economic concerns of users and communication services’ stakeholders. It is this underlying wireless environment—and its potential to evolve through architectural change in its core foundational infrastructural—which is the theme of this chapter.

The principal network provider goal in the evolution of the wireless world, as may discerned over its lifetime to date, is to sell services to a great common market of mobile users in overlapping local, regional, and global domains. Today, and typically for some this may be referred to as defining 4G, the connectivity and services should be available anytime, anywhere, and anyhow through the best connection to the user. Services should be rapidly deployed on-demand, customized to the user’s needs, and adapted to the current wireless and connection environment. Accordingly, system and service integration is regarded as an important step towards the future 4G paradigm of ‘Always Best Connected and best Served’ (ABC&S)
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