

Response to the consultation in preparation for the 2007 Global Symposium for Regulators

ANRT Morocco

Introduction

Conventional telecommunication networks are in the process of being gradually replaced by so-called next-generation networks (NGNs) based on all-IP technology. This transition, which promises to facilitate access to innovative services that will contribute to the creation of the information society, could have repercussions on the way the principal players in the market are organized, with respect to the flow of economic resources, and on the regulatory authorities, in the form of new areas of regulatory action that will come to play an important role in the development of such networks.

The present contribution accordingly aims to provide the views of the Moroccan *Agence nationale de la Réglementation des Télécommunications* (ANRT) on the role that regulators should play in dealing with these new trends.

Impact of NGNs on areas of regulation

Analysis of the repercussions that the new IP-enabled NGN environment will have for regulatory strategy has made it possible to identify the following areas for regulation, along with the approach, in terms of methodology, that will best suit the national context.

i. Access

In an NGN environment, access is obviously a crucial point, but this is not unique to NGN. Regulatory mechanisms such as unbundling should lead to broad adoption of high-speed access allowing all players to provide NGN services. Other policy alternatives may also be encouraged, such as the deployment of wireless access, and effective regulation of the xDSL backhaul market; further down the road, FTTx deployment projects could be envisioned on a sharing basis.

ii. Competition

In an NGN environment, competition between providers of new multimedia services is no longer limited to telecommunication operators; the influence of the major Internet players (MSN, Skype, Yahoo) is increasingly making itself felt. Regarding tariffs, the decision whether to regulate or not must be based on an analysis of the specific (relevant) markets.

The concept of **offer replicability** is an essential aspect of NGN. For this reason, its application must be monitored, particularly with regard to tariff offers and others that have special technical requirements for the subscriber interface, in connection with transport offers. At the same time, in order to encourage innovation it would be better not to extend it to convergent and multimedia offers.

iii. Consumer awareness and protection

Consumer protection is naturally a high priority for regulators. In the NGN context, the following considerations are particularly important.

Network and service interoperability

This is one of the most difficult issues to manage in a multi-network, multi-operator context, with new, sophisticated software-controlled terminals that allow operators to provide customized service offers on their networks. The regulator's scope of action in this regard is becoming increasingly restricted, and responsibility is devolving to the operators, who must imperatively make their user interface specifications public.

Identification, location and access to emergency services

Location of the caller in an NGN context is required for emergency calls, among other things. Now, the flexibility of IP-enabled NGN systems may make it more difficult to correctly locate a caller within such a network. The regulator must therefore force the operators to implement suitable mechanisms and technology to allow caller location, just as soon as the technology is available.

Reliable routing of emergency calls to the correct calling centre is a regulatory obligation that is independent of the technology and the nature of the network. But the technical nature of IP-enabled NGNs is such that they have a direct impact on the uninterrupted availability of telephone service: in fact, there is no longer such a guarantee, as the subscriber's terminal equipment has a separate power source. For this reason, regulators may wish to consider a dual approach that involves ensuring that consumers are properly informed in advance, through the subscriber contract, and making it mandatory for operators to provide backup power, e.g. in the case of unbundling.

iv. Interconnection

NGN being based on the separation of the layers (access, transport, control and service), there is more than one type of interconnection. Now, with regard to opening the service layer to interconnection, in our view it would be premature to spend too much time on this, as these models are not yet sufficiently mature. As for interconnection between the transport and signal layers, there are two aspects to be considered:

- ***The technical aspect:*** In the short term, interconnection will naturally continue to be based on the conventional interfaces during a transition period. However, studies could be conducted jointly with the operators, to define the technical specifications for future NGN interfaces. The regulator should also create strong incentives to set up an independent structure for IP traffic exchange.
- ***The economic aspect:*** Interconnection tariffs are not necessarily tied to the type of technology used, but rather to usage. Whether conventional networks or IP-enabled NGN, a case-by-case approach should be used. For example, a flat-fee approach to interconnection tariffs will result primarily from developments in the tariff structure on the retail market, and not from the migration towards NGN.

v. Investment

In general, NGNs improve the economic viability of the various players on the market, as they allow them, for example, to share the infrastructure from different services. This allows operators to make significant savings on capital costs and operating costs, thanks to the combined effects of NGNs, with their intrinsic advantages, and sharing. In a competitive context, this in turn allows them to find ways of coping with such threats as the decline of the fixed market and the inevitable levelling-out of growth in the mobile market.

vi. Licensing

Under the principle of technology neutrality, licences are granted independently of technology. Thus, the introduction of NGN must be transparent for the purposes of licensing for setting up or operating telecommunication networks and services in the widest sense.

Furthermore, thanks to technological innovation, a wide range of innovative offers can easily be accommodated within the service layer of NGN operators. In this way, new players (high value-added service providers; application and content developers) will spring up around the global operators, with whom they will be linked by commercial contracts and strategic partnerships.

vii. Pricing

Thanks to the optimization of NGN capital investments and operating costs, it is only natural that NGN deployment should result in downward pressure on prices, both in the retail market and in the wholesale and interconnection market.

However, regulators need to closely examine some of the pricing fundamentals. In particular, it will be necessary to enshrine the obligations for separate accounting of activities, which could be skewed due to the tendency toward infrastructure sharing, and the updating of tariff models, given that NGNs are used for transporting many types of traffic (voice, data, multimedia), both fixed and mobile.

viii. End-to-end QoS

According to the principle of technology neutrality, QoS obligations apply to NGNs just as they do to traditional networks, particularly as advances in technology make practically equivalent QoS a reality. Nonetheless, it should be possible to introduce some flexibility into the QoS requirements for some services carried by IP-enabled NGNs, under the condition that transparency is guaranteed and subscribers are informed – differentiation being provided by numbering or tariffs, for example.

Furthermore, QoS problems may arise during the interconnection process, in which case the same requirements must be maintained, essentially through mechanisms put in place by the various players in line with the contractual framework.

Compliance with QoS obligations may be monitored by setting up procedures for regular information on the implementation of the appropriate mechanisms in the NGNs, and by means of spot-checks.

ix. Universal service *versus* universal access

In an NGN environment, the offer is no longer oriented towards the provision of a particular service, but rather a range of innovative services. The problem must therefore be framed in terms of how to ensure **universal access**, not service.

In addition to the above-mentioned areas, there are of course others that will be affected by the transition to NGN, as in the following.

x. Numbering, naming, addressing

Clearly, access to NGN services by means of a unique identifier would be more effective. However, none of the unified naming techniques currently on the horizon is sufficiently mature to make this feasible in the immediate future. For this reason, the survival of the E.164 national numbering plan is in no danger for the time being.

The trend towards assigning non-geographical numbering blocks to IP-based and roaming services seems to satisfy current needs. Nonetheless, long-term developments may make it necessary to bring together the different players so as to assess the possibility of abandoning the geographical orientation of geographical numbers.

xi. Security

Security of networks and of communications is one of the obligations that operators and providers of services must meet. But IP-enabled NGNs by their very nature are open, so there is a need to implement network protection systems against the risk of intrusion, spam and viruses.

Regulators, working with operators, may develop procedures for regularly informing them about the mechanisms deployed in their networks.

xii. Legal interception

Operators are subject to the legal interception obligations under domestic legislation. In the NGN context, this is now a possibility.
