



CONTRIBUTION OF THE NATIONAL REGULATORY AUTHORITY FOR COMMUNICATIONS OF ROMANIA (ANRC) ON THE ECONOMIC AND REGULATORY ASPECTS REGARDING THE MIGRATION TO NEXT GENERATION NETWORKS

The sources of all information presented hereinafter are:

- migration plans to NGN (purged of any confidential data) of Romtelecom (the Romanian fixed lines incumbent);*
- public announcements of Romtelecom; and*
- other public information regarding the migration to NGN.*

1. Migration to NGN

As in most of the EU countries, the traditional TDM networks in Romania are gradually migrating towards IP-based Next Generation Networks (NGN). Although it is not clear today how the NGN networks will look like in detail, the strategies already employed by other incumbent operators in EU may provide some useful indications. In 2005, Romtelecom, made public its investment plans to migrate to a packet switched network, but it did not disclose more detailed information on the planned migration.

The transition to NGN typically covers two major areas of interest: NGN core and NGN access.

1.1. Core Network

Romtelecom will most likely start by employing the overlay approach and in a second stage will migrate completely to NGN. Both the current level of depreciation and the possibility of upgrading the legacy assets dictate the pace of deployment of this strategy.

The objectives of Romtelecom NGN core implementation include the replacement of analogue and small digital exchanges with access nodes, consolidation and optimization of the switching network, while avoiding making investments in non-upgradeable legacy assets.

Romtelecom is extending the core network by installing fiber optics local rings to connect remote concentrator units / optical network units (ONU) to the local exchanges and is establishing national and metropolitan IP-MPLS backbones.

In the future, Romtelecom will start using the IP-based network to provide voice services, but no IP interconnection is likely to become available in the short run. The gradual transition to NGN will advance, as media gateways will replace the transit exchanges. TDM and IP networks will run in parallel for some time, but it is not certain when an all IP environment will be achieved. At this point, there is no information available regarding the number of the network nodes at each hierarchy level, and the number of interconnection points at the different hierarchy levels. IP interconnection will be available at the media gateways.

1.2. Access Network

In relation to the access network, the incumbent plans to reduce the length of local loops to less than 1km (especially by deploying ONUs), to increase the number of broadband enabled lines (upgrade completed in the major cities), and to increase the number of ADSL lines.

By deploying ONUs, the incumbent shortens the distance to the end-users (the actual copper-based access network). There are no major plans for replacing the copper last mile to the end-user with fiber optics.

The main advantage of the new access network architecture is that both the incumbent and the alternative operators have the possibility to provide enhanced products (higher speeds, diversified services etc.). However, the access to the incumbent's copper access network (LLU) becomes problematic, as alternative operators have to invest more to reach a smaller customer base (lower number of users per distribution frame). The access to street cabinets also poses technical issues such as installing the hand-over distribution frames and the DSLAMs and ensuring the backhaul service.

2. Economic and Regulatory Aspects

The impact of NGN on the regulatory activity is very difficult to assess at this stage, in the absence of detailed information on the migration announced by the Romanian fixed lines incumbent. Given that a predictable regulatory framework is essential for competition and investment, it is important to identify potential foreclosure strategies associated with the migration towards NGN.

In case of the access network, the aggressive deployment of ONU could hinder LLU based competition. ANRC has several options, such as to define alternative wholesale products (ULL+ strictly regulated backhaul/dark fiber/duct sharing; bitstream access).

Regarding the IP-MPLS core network, the incumbent has the possibility to leverage its market power from the wholesale access markets into the wholesale data transmission markets. Most probably, alternative operators will require regulated backhaul over IP-MPLS network. The regulatory options in this case would be to regulate leased lines backhaul and/or regulate Private Virtual Circuits backhaul over IP-MPLS.

If NGN remains regulated under the current European regulatory framework, the structure of the relevant markets is likely to change. The EC Recommendation regarding the definition of relevant markets looks only at services without any discrimination based on technology; nonetheless, the technical solutions may affect the services and the configuration of the markets.

ANRC considers that the current European regulatory framework is flexible enough to deal with the issue of NGN. At the level of principles, the current best practices will remain best practices in the "NGN future"; however, during the transition period, national regulators and the European Commission may need to develop new guidelines regarding the application of the regulatory principles.