

This presentation will provide a general overview of NGN technology with a focus on two set of issues:

1/ the key “building blocks” that pave the road to NGN. Mainly, **Voice over IP** both at access and network levels, **broadband access** with all kind of possibilities to offer new services (like video) to end-users, and **backbones** with sufficient capacity to handle a dramatic increase of end-user traffic.

2/ the NGN architecture *per se* that allows the introduction of **any kind of service** around a single platform based on the packet based IP protocol of the Internet. This part will examine some main NGN architectures that are proposed by ITU and other standardization bodies.

Next, we will focus on the NGN migration issues and, in particular the work done at ITU-D SG2 and **Question 19-1/2** on “Strategy for migration from existing networks to next-generation networks for developing countries”. We will discuss three set of issues:

1/ Main **NGN migration approaches** and examples of current migration initiatives taking place in developed as well as in developing countries.

2/ Specific challenges posed by developing countries in their migration path to NGN. Mainly the generalization of **broadband access** and the appropriate technology to use and, in a concomitant manner, the development of national **backbones** capable of handling the traffic generated by a large-scale generalization of this broadband access.

3/ A **questionnaire** proposed by Q19-1/2 to developing countries that would help for the elaboration of future guidelines for their migration to NGN.

This presentation, though focused on the technical issues associated with NGN migration, will finally outline some important **economic** and **regulatory** challenges:

1/ from the economic perspective: the change of the telecom operators business model that we see altogether in many developed countries with the generalization of **service bundles** offers (telephony – in VoIP guise, TV and Internet access) at a competitive price and the competition between players that operate **distinct access platforms** (copper, fibre, cable TV, and broadband wireless) and come from different cultures (not necessarily telecoms).

2/ NGN convergence is at the intersection of the Internet and the telephony network models. It blends the **flexibility** and openness of the Internet with the **quality** that is historically inherent with telephony services. NGN will thus raise significant challenges from the **regulatory standpoint**. Issues of **market definition, service definition, interconnection** and **Quality of Service**, to name but a few, will be much more complex than that in the “old world” of simple telephony.