

NGN Governance Issues

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- **Next Generation Networks (NGNs)** can be seen as an evolution from PSTN- and IP-networks to a **unified public network for electronic communications based on IP**. Where today's regulation is focussing on voice services, future regulatory approaches will deal with electronic communications in a broader sense.

ITU-T (SG 13) has recently given the following definition of an NGN:

“A Next Generation Network (NGN) is a packet-based network able to provide services including Telecommunication Services and able to make use of multiple broadband, QoS-enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies. It offers unrestricted access by users to different service providers. It supports generalized mobility which will allow consistent and ubiquitous provision of services to users.”

“The NGN can be defined by the following fundamental characteristics:

- Packet-based transfer
- Separation of control functions among bearer capabilities, call/session, and application/service
- Decoupling of service provision from network, and provision of open interfaces
- Support for a wide range of services, applications and mechanisms based on service building blocks (including real time/ streaming/ non-real time services and multi-media)
- Broadband capabilities with end-to-end QoS and transparency
- Interworking with legacy networks via open interfaces
- Generalized mobility
- Unrestricted access by users to different service providers
- A variety of identification schemes which can be resolved to IP addresses for the purposes of routing in IP networks
- Unified service characteristics for the same service as perceived by the user
- Converged services between Fixed/Mobile
- Independence of service-related functions from underlying transport technologies
- Compliant with all regulatory requirements, for example concerning emergency communications and security/privacy, etc.”

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- Multiservice networks need harmonised interfaces and defined protocols, whereby standardisation should remain a market driven process. We prefer **international/global standards to support global markets**.
 - Various requirements are no longer specified by the law, they are market-driven. Quality is a good example for a market request.
 - Siemens as a global player has to be aware of legal and regulatory differences in different states. **We strongly support all efforts to make regulatory approaches world-wide as harmonised as possible** and as a consequence make regulation predictable, effective, stable and secure.
 - Light regulation: **no more regulation than absolutely necessary !**

- **EU's New Regulatory Framework** is a good example for a road ahead to a **technologically neutral regulation for Next Generation Networks**:

Next Generation Networks as unified public networks will definitely not be today's Internet, they will be of another quality. NNGs will offer more than just Voice over IP. They will be used to offer a wide variety of electronic communication services. Basically the EU is currently of the opinion that Voice over IP does not fulfil all quality requirements set for voice telephony and can therefore, from a regulatory standpoint, not be considered as being covered by the voice telephony definition. The new legislation does not set a specific regulation for voice. **With the new regulatory framework the distinction between switched and packet based networks is no longer relevant**, as in the future "technological neutrality" and "electronic communications" will be the catching phrases to be interpreted. As such NGNs should be scalable and reliable, meeting defined quality of service requirements, the EU would not make a distinction between switched and packet-oriented voice any more.

- In general the New Regulatory Framework does **not** cover **content regulation**. But there are several principles addressed within EU regulations:
 - Media pluralism
 - Cultural and linguistic diversity
 - Protection of user and consumer rights
 - Maximum benefit for end-users/stimulation of consumer confidence
 - Freedom of expression
 - Impartiality
 - Social inclusion
 - Protection of minors
 - Access for disabled users (choice, price, quality)
 - Proper functioning of the single market (internal market)

Special NGN requirements:

- High reliability, network integrity and availability, QoS
- Security and safety of the state in general (lawful interception) have to be granted by NGNs and must be a part of the market offer.
- Introduction of access to caller location information for calls to emergency services (including calls to the European emergency number, 112)
- Data protection and privacy issues are becoming more important (e.g. in billing) from the customer's point of view and have to be considered in NGNs (data protection rules in the communications sector must be technologically neutral and robust).
- Carrier selection, carrier pre-selection and interconnection are permanent requirements whereby interfaces towards traditional and Next Generation Networks have to be provided.
- Unique numbers, a comprehensive scheme for number allocation and number portability are key challenges.