



# Looking forward: Competition issues likely to arise in the near future

## [Session – 14]

### *Training on Competition and Changing Market Conditions: Impact on ICT Regulation*

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**CONVERGENCE LAW (BILL 2001) OR  
UNIFIED LICENSE (TRAI PROPOSAL 2004)  
WOULD ACCELERATE NEXT GENERATION  
NETWORK (NGN) IN INDIA**

WE MUST MOVE TO SUCH  
NETWORKS LIKE IN SEVERAL  
COUNTRIES

# INTRODUCTION

- Next Generation Networks as the name suggests are the networks of future.
- These are the networks based on emerging technology of IP which is leading to convergence of networks, services and markets and providing efficiency and flexibility.
- Rapid technological developments are taking place in transmission networks (optic fiber), access networks (wireless), switching (IP) and customer premises equipment (integrated). Wireless based access technologies specially Wi-Fi and Wi-Max are making broadband access faster, cost effective & easily extendable to rural areas.
- In India fiber has been extended to 30,000 locations (1 in 20 villages). Most of the fiber is dark. NGN would light up all fibers and connect the entire country with telephones, internet, and all value added services with minimal incremental costs.

# REGULATORY CONCERNS – GENERAL

- Death of distance and blurring of the traditional boundaries between Access (local) providers and long distance carriers.
- VOIP as a “disruptive technology” putting a challenge for the regulators world over to perform a balancing act in maintaining level playing field.
- On-going technological developments causing drastic impact on the telecom scenario forcing a re-look at the service based licensing and geographical area based regulatory regime including Numbering systems.
- Level playing field issue between the licensed telecom operators and value added service providers.

# NGN & RELATED ISSUES

## Strength of present network and Opportunity for NGN in India

- Open unrestricted competition in all segments (including mobile)
- Access service provision unified in 2003 (broadband, triple play, internet telephony permitted in addition to voice, fixed/ mobile/ WLL)
- General technology-neutrality (technology option left to operators)
- General tariff forbearance (Except leased lines where competition is not enough)
- Broadband policy in place (Govt's mission to accelerate access)
- Access network dominated by wireless (166.05 million out of 206 million – April 2007).
- 62 million cable TV homes and 40 million wirelines
- Large unmet demand for telecom services (telephony tele-density – 18.31%, Broadband penetration – 0.2% million)
- Mobile coverage only 40% of population – will expand with mobile tower under USO.

# NGN REGULATORY CHALLENGES - INDIA

- Interconnection issues in NGN context
  - Normally interconnection is mandated for similar category of service providers. In NGN domain, the same services will be provided by different type of service providers, the interconnection regime will need a paradigm shift.
  - In the present networks, the interconnection charges are based on work done principle in terms of minutes and miles (distance and timing based), in case of NGN there is death of distance and also the relevance of usage is also vanishing. Therefore, the interconnection charges will have to be based on capacity (bit rate) and not on miles and minutes basis.
  - In the Internet domain, the interconnection is based on SKA (Senders Keep All) principle. Same needs to be analyzed for NGN.

## ... NGN Regulatory Challenges – India

- Mandating of access to emergency services – 100, 101 etc
  - Normally, IP based network, especially, those making use of Internet are found to be lacking in provision of emergency access.
  - In NGN era, this requirement needs to be mandated to bring it at par with the existing networks in terms of access, which is yet to be achieved in a cost effective manner.
- Security related issues for NGN
  - IP based networks are found lacking in suitability for legal interception and monitoring (LIM)
  - As these networks are required to provide basic voice services, they have to be capable of LIM, which appears to be a technical challenge, but possible.

# NGN IN ACCESS – FACILITATING RADIO SPECTRUM FOR BROADBAND

- ISM Spectrum (2.4 to 2.48 GHz, Wi-Fi) de-licensed for in-campus WLAN using any technology.
- De-licensing of this for outdoor usage has also been notified with 4W EIRP.
- De-licensing of 5.1 to 5.3 and 5.7 to 5.8 GHz spectrum for indoor & in-campus usage has been notified.
- Process for identification and assignment of new frequency bands (3.5 GHz & 2.6 GHz) for Wi-Max deployment.



# NGN – OUTSTANDING ISSUES

- Interconnection regime for NGN domain yet to be initiated
- Standards and interoperability issues for NGN yet to be settled
- Technical challenges in Emergency access/ Security monitoring
- Absence of policy/ regulation for unbundling of local loop
- The shortage of relevant spectrum (3.5 GHz band) for Wi-Max & costly pricing formula for spectrum
- Need for Next Generation Licensing
- Technology- neutral.
- Service agnostic (Single Unified License for Voice, Data, Video, Mobile).
- Class license (licensing value-added services through authorization).

# PAST PROBLEMS : SOLUTIONS

- Email Vs. Internet/SMS
- Radio Paging License Vs. SMS
- Public Mobile Radio Trunking services (PMRTS) Vs. Push To Talk (PTT)
- National Long Distance telephony Vs. Inter-service area connectivity of mobile operators
- IP Telephony Vs. Long distance Telephony
- Whenever technologies or licenses have not been restricted by regulation/license conditions, growth has been phenomenal e.g. SMS, Cable TV
- Our experience with unified access license was similar

THANK YOU