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Role of Regulators and regulatory bodies in an NGN converged Network

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AGENDA

- Need for Regulation in NGN
- Regulatory challenges
- NGN-An Indian perspective

Need for Regulation

- The legacy network is going to continue for a long time (at least a decade, perhaps decades)
- Need to design NGN network for the long term
- Need to have a scalable architecture
- Need to design NGN to gracefully inter-work with the legacy network
- Need to provide quality of experience for end user satisfaction

Need for Regulation

- Need to protect nodes from attacks (unintentional errors/oversights and malicious individuals and organizations)
- Need to protect the once closed SS7 legacy network from such attacks
- And perhaps, an opportunity to learn from the past!
- Passive regulators say “it is service providers’ business model what do we have to do with it?” Proactive ones: “stop don’t change till we figure it out!”

Regulatory Challenges

- Investment & competition
- Addressing social needs
- Numbering and Emergency services
- Security
- Regulatory and Licensing requirements
- Interconnection
- Interconnection charges
- QoS levels

Investment & Competition

- The innovation of the NGN is driven by operational cost savings and the introduction of advanced services
- Competition must be effective in all identified relevant markets for NGN
- Vertically integrated Telecommunication Service Providers may leverage their market power
- Consumer should gain from the benefits of the NGN

Investment & Competition

- Specific problems of access
- The last mile will still be a bottleneck in the near term
- Service bundling on retail level without appropriate cost oriented wholesale
- Remedies for market dominance
- regulatory holidays for emerging markets?

Addressing social needs

- Regulatory framework should facilitate expansion of Infrastructure, especially in rural and remote areas
- Power imbalance between consumers and operators
- Universal service obligation
- Promote Access in Low Density Areas

Numbering and Emergency services

- Deployment of NGN will put lot of pressure on the numbering requirement.
- Clear guidelines to be framed in advance for projected future roadmap.
- Large scale change in number while migrating to NGN should be avoided
- Access to emergency services-VOIP services are not fixed to geographical location
- Methodologies for implementation of Emergency number dialing be left to service providers.

Security

- Lawful Interception
 - Inherent characteristic of PSTN
- In an IP network, reliably capturing the right data, without needlessly compromising the privacy of other users, is likely to add complexity
- Lawful Monitoring System
- Centralized
- Under Government control

Security

Problem

- Easy access and connectivity, including application continuity, expose carrier networks to security threats
- Attractive target for cyber-crime and cyber-terrorism
- No single technology to resolve all potential threats

Requirement

- Network security to track and anticipate the emerging threats
- Secure the content and identity information
- Operators to comply with global as well as regional specific regulations

Solution

- Network-Level Security architecture
- Security solutions to protect customer's and operator's communication content
- Identity management concepts and security solutions

Licensing and regulatory requirements

- ◆ Focus on 'Light touch' regulation with special emphasis on regulatory forbearance
- ◆ Continuity of the legal and regulatory requirements, rules and principles including pricing where it make sense
- ◆ Time bound resolution of regulatory impediments for rollout and migration to NGN services

Licensing and regulatory requirements

- VOIP 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 Numbering systems
- Level playing field issues between the licensed telecom operators and value added service providers.

Interconnection

- Seamless migration to NGN
- NGN disrupts traditional boundaries
 - ➔ The role of the service provider and their responsibilities will change
 - ➔ Interconnection to the legacy PSTN is necessary
- The Points of Interconnection will change and may be reduced

Interconnection

- The market dominant Operator will try to dictate Points of Interconnection (PoI) to the disadvantages of the interconnected service provider
- Costs for new conditions of the PoI caused by dominant service provider to bear by other service provider
- Access to the service platform for intelligent services (e.g. location information, roaming) in NGN environment

Interconnection

Some Interconnection issues;

- ➔ Service or Network specific Interconnection
- ➔ Availability and right of Interconnection
- ➔ Commercial issues
- ➔ Location of interconnection
- ➔ Assets
- ➔ Sharing of common Capability
- ➔ Access to parts of the infrastructure

Interconnection charges

- Pricing – where to go on an IP network
- NGN Interconnection has to inherit the current regulated Interconnection Charge like Bit-stream charges, originating services, terminating services, access services, network services) ???
- Death of distance and blurring of the traditional boundaries between Access (local) providers and long distance carriers

Interconnection charges

- Billing and accounting in a new service environment
- Return on investments regarding the risks of the migration to NGN with still the focus on cost-orientation
- The regulatory policy has to ensure the continuity of regulated interconnection services and prices as far as possible for the NGN environment

Quality of Service (QoS)

- *Telco world*: no difference in quality between players
- *NGN world*: Quality of Service can be expected to be an important differentiating factor in competition
- Markets for low quality and for high quality may develop – regulators should not encourage one over the other , awareness among consumers is required so that they can take informed decision
- Market should be left to determine prices and conditions in the context of quality of service

NGN-An Indian perspective

- The telecom operators in India had already initiated their move towards NGN by implementing IP based core network
- The migration to NGN is likely to be in stages
- Telecom Regulatory Authority of India (TRAI) took the initiative in July 2005 with an objective of awareness building and released a study paper
- A consultation paper on “Issues pertaining to Next Generation Networks (NGN)” was issued in January 2006

NGN-An Indian perspective

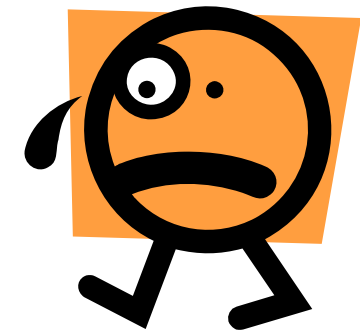
- TRAI sent its recommendations on “Issues pertaining to Next Generation Networks (NGN)” to Government in March 2006
- An expert committee named ‘NGN eCO’ was constituted on 20th June, 2006 having 30 representatives from various sectors of the Stakeholders. The major tasks entrusted to ‘NGN- eCO’ were:
 - NGN awareness building program.
 - Timetable for NGN migration in the country
- NGN-eCO submitted its final report to the TRAI on 24th August 2007.

NGN-An Indian perspective

- National seminar by TRAI on "Awareness Building on NGN" in December, 2007 at New Delhi
- TRAI initiated consultation process on "Licensing Issue relating to Next Generation Networks" in 2009.
- TRAI is in the process of formulating recommendations on Licensing Issue relating to Next Generation Networks in consultation with stakeholders
- The TRAI is also considering consultation process on "NGN Interconnection Issues" and "NGN Quality of Service issues" at appropriate time to help smooth migration to NGN.

Summary

- Network & Services convergence is real & inevitable.
- There is a need for balanced regulatory approach
- Technological developments are important but are not enough to create new sustainable environment (Some regulation and policy oriented considerations should be taken into account)
- Regulatory challenges have been identified and are being addressed



Thank you

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