



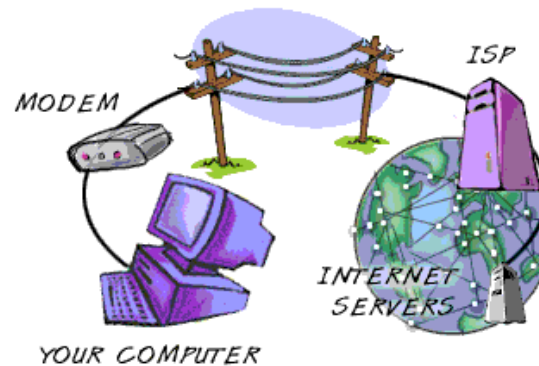
# **WORKSHOP ON TARIFF POLICIES, TARIFF MODELS AND METHODOLOGIES FOR THE DETERMINATION OF COSTS OF SERVICES PROVIDED WITH NGN**

**“Regulatory overview of NGN and the  
Role of the Regulator”**

**8 September 2008,  
Geneva**

**Dr. Tracy Cohen**

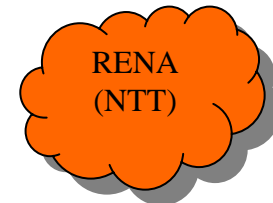
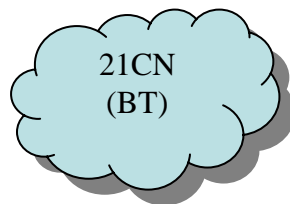
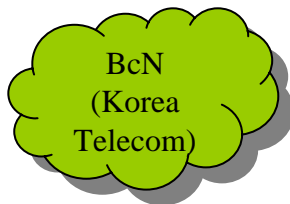
## Understanding NGNs (for lawyers)



Broadband networks that use Internet protocol and which allow integrated data, voice and video (VoIP, IPTV, VoD)

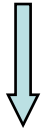
# Defining NGNs

- Architecture /service or application
- Core NGN (transport or backbone)
- Access NGN (upgrading the local loop)
- Technology choices and services not linked
- IP protocol
- Mobility, unfettered, ubiquitous access by users
- Standardization
  - (ETSI, ITU-T, NGN-GSI)
- Migration
  - OECD, 2012 – fixed; 2020 – mobile



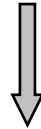
# NGN Drivers

**Operators**



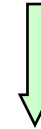
Reduce costs;  
increase revenue;  
increase productivity;  
operational efficiency;  
diversity of offerings;  
increased competition;  
redundant legacy equip;  
consumer demand...

**End Users**



High end, innovative,  
evolving services  
supported by large  
bandwidth capacity;  
multiplay; broadband  
Internet; TV; mobile  
services; telephony,  
pricing; mobility...

**New Entrants**

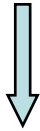


Reduce costs;  
increase revenue;  
operational efficiency;  
diversity of offerings;  
increased competition;  
consumer demand;  
investment decisions...

Technological innovation; Convergence; legacy equipment replacement; mobility, structural market changes; changes in services and user needs; equipment manufacturing

# NGN Challenges

## Operators



Integrity and cost of equipment; ROI concerns for existing investments; Uncertainty - technology specifics; take-up; demand; managing competition from the Internet and new entrants; QoS; regulatory risk

## End Users



Consumer issues; Interoperability; Quality of service (QoS); access and affordability; Supply; privacy; security

## New Entrants



Degree/intensity of competition between layers; integrity and cost of equipment; uncertainty; market dominance; take-up; demand; walled gardens; managing competition from incumbents; QoS; costs of compliance; regulatory risk

## Distilling Regulatory Essentials

- IP networks to replace traditional PSTN and services
- Traditional players investing in and deploying IP based networks
- Migration will happen
- Pace of technology will always present challenges to regulators
- Possible co-existence of regulatory approaches for PSTN and IP-based networks
- What regulatory approach?
  - New? Legacy? Hybrid model?
- An opportunity to review (and where necessary) remedy the regulatory framework
- New technology or old regulatory challenges?

# Regulatory Challenges

## Structural and Policy

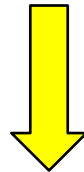
- **Absence of policy or policy failure**
- **Regulatory lag and capacity**
- **Legacy network protection**
- **Access regimes**
- **Affordability**
- **Increasing competition**
- **Fostering investment**
- **Regulatory transparency**

## Implementation

- **Competition**
- **Interconnection**
- **Universal service and access**
- **Standards and interoperability**
- **Licensing**
- **Numbering**
- **Spectrum assignment**
- **Consumer protection**
- **Emergency services**

# Regulatory Approach

- **What** services to regulate?
  - Emerging markets/services?
  - Voice?
  - Timing and sequencing
- **Who** to regulate?
- **How** to ensure investment?



- Different contexts, different approaches and answers
- Light touch, targeted, proportional
- Regulate for market abuse/dominance, concentration
- Regulatory “holidays”/Forbearance?



# Implementation Issues

- **Licensing**
  - Abandon service and technology specific licensing
  - Horizontal licensing
  - New licensing criteria (class)?
- **Numbering**
  - Access to numbering resources
  - Framework for legacy, transitional and NGN services
  - Review plans, interoperability, emergency services
  - Specific number allocation scheme?
- **Spectrum Assignment**
  - Legacy assignments can block market entry
  - Critical for alternative technology deployment

## Implementation, cont...

- **Interconnection**

- New entrants dependent on access to economic bottlenecks controlled by incumbents
- What rules for converged PSTN and IP networks?
- Efficient access and interconnection regimes must be established or augmented to foster end to end services competition

- **Consumer Protection**

- Regulatory oversight required,
  - E.g. QoS; portability, liability
  - 'subjective user satisfaction', e.g. speed, accuracy, reliability, and security
- Broad consultation e.g. OFCOM; TRAI
- Address interim quality issues for Internet access
- Emergency services (nomadicity, location,



### **OFCOM Consumer Principles**

- equivalence
- no prejudice
- full accounting

## Recommendations

- Different country contexts should inform
- Start thinking about processes and consult widely
- Facilitate competition and growth in services
- Encourage competitive market based outcomes
- Monitor market power in new services/markets
- Enable convergence
- Revisit relevance of traditional PSTN approach
- Technology and service agnostic approach, unified licensing



**CONSULTATION**

e.g. “NGN co” - UK

“NGN eCo”- India

## Recommendations, cont...

- No need to reinvent the wheel
- Pursue universal service goals efficiently
- Promote consumer protection
- Maintain legacy PSTN and operation until migration
- Create reasonable certainty for the sector
- Explore co and self-regulation options
- Balance roles of regulator and market
- Plan, time and sequence reform optimally

**THANK YOU**

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