

# Regional Seminar on costs and tariffs for TAL Group member countries



Havana, Cuba, 20-23 February 2007

## “Benchmarking and new challenges”

NOTE: The opinions expressed in this document are those of the author and do not necessarily reflect the opinions of ITU or its membership.

The terms and definitions used are those of the author and in no way replace the official ITU definitions.

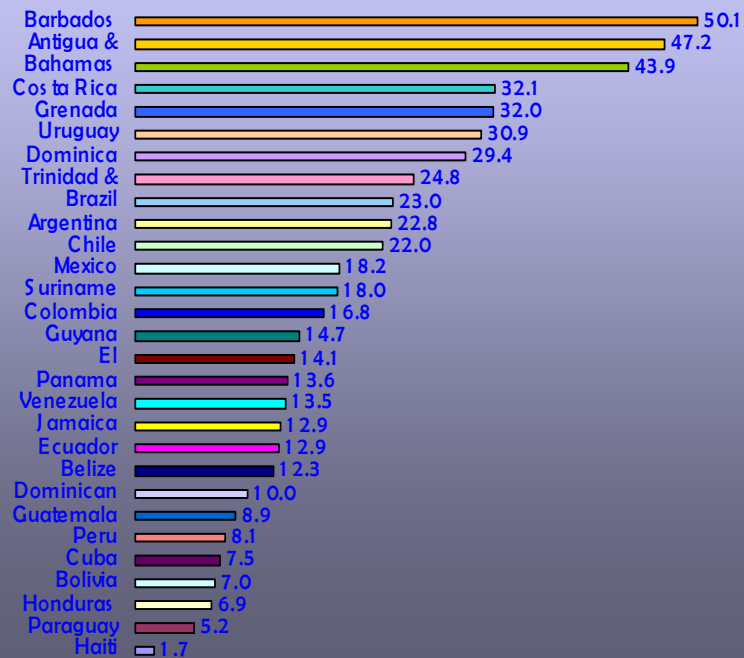
# BENCHMARKING

Used in the region as an ex ante and ex post complement to pricing and tariff-setting

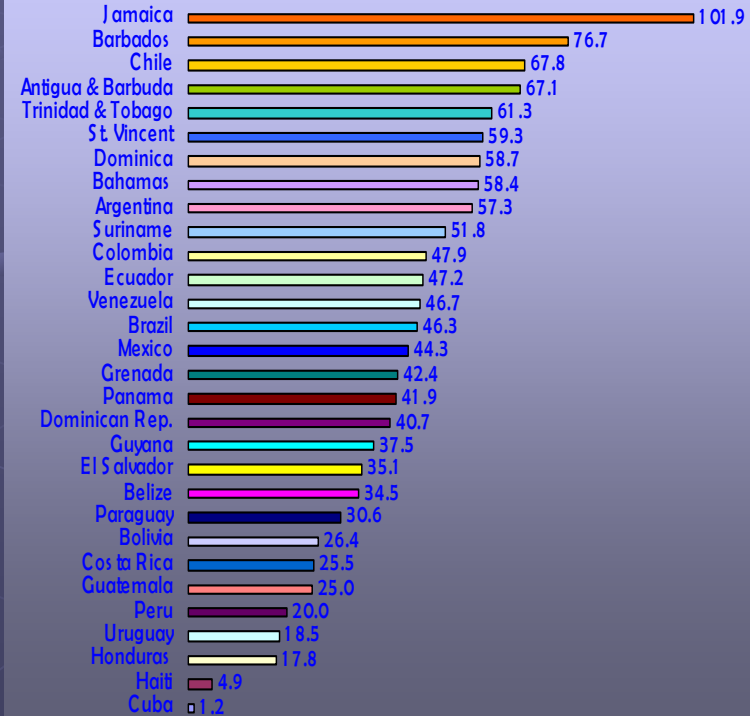
- Allows for evaluation of best practices
- Ease of access to information
- Speed of implementation
- Low cost
- Able to withstand adjustments and corrections: extreme cases, purchasing power parity (PPP), levels of competition, etc.

# TELEDENSITY (1)

Fixed telephony per 100 inhabitants

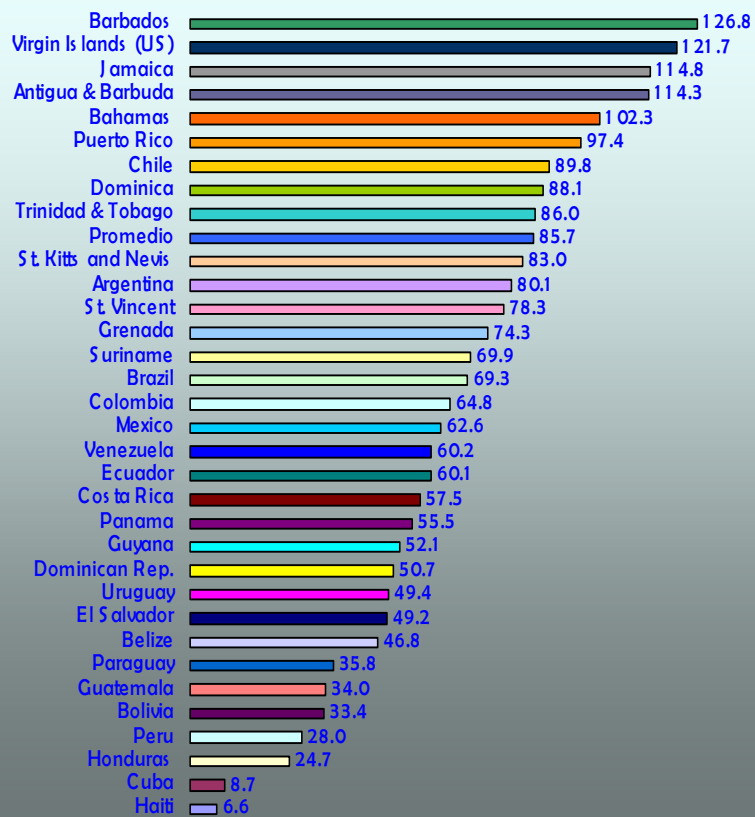


Mobile subscribers per 100 inhabitants

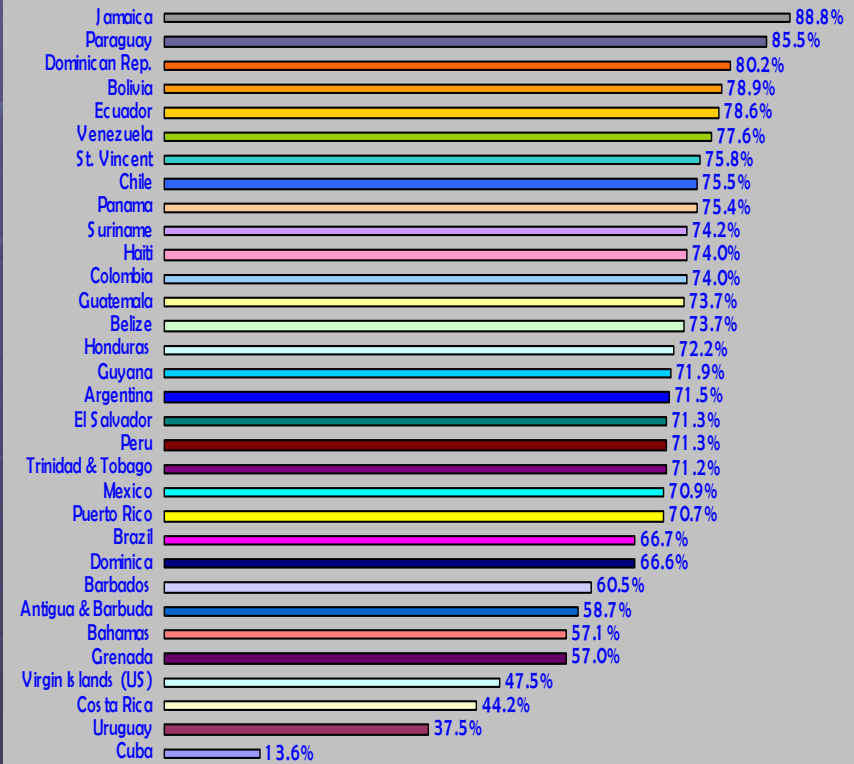


# TOTAL TELEDENSITY AND PERCENTAGE OF MOBILE (2)

Total telephony (fixed plus mobile)



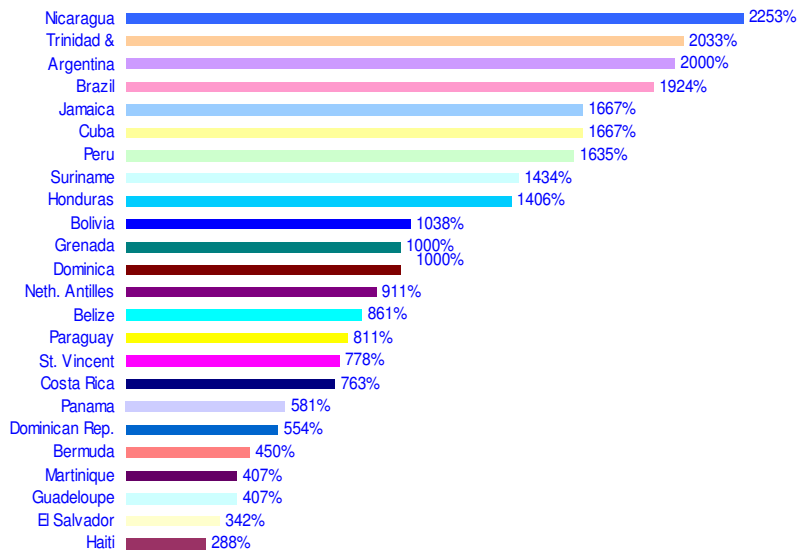
Mobile subscribers as a % of total telephony



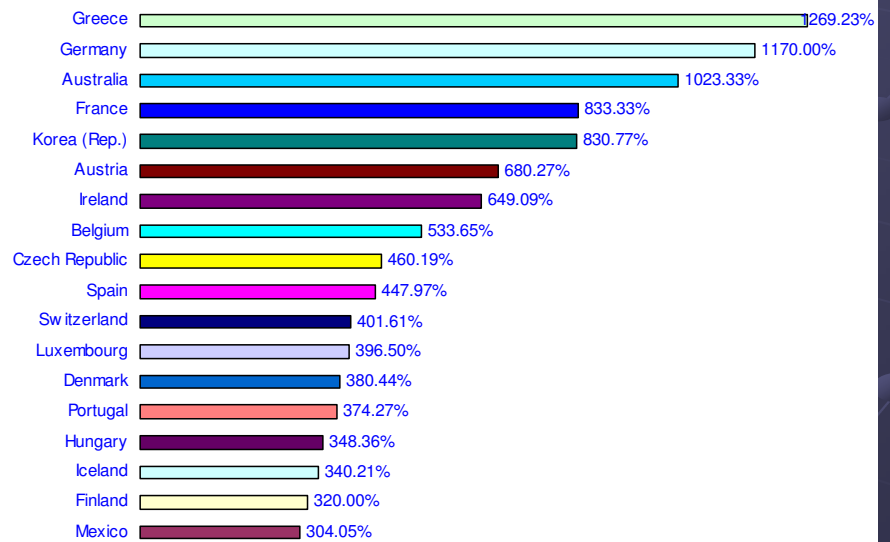


# PRICES: DIVERGING CHARACTERISTICS

Relationship of price of mobile call vs fixed call  
(3 minutes during normal hours)  
Selected LAC countries



Relationship of price of mobile call vs fixed call  
(3 minutes during normal hours)  
Selected OECD countries



# TODAY: THE CHALLENGE OF TECHNOLOGICAL CHANGE

“In a market steered by the dynamics of innovation with the constant potential for disruption by emerging technologies, it is often impossible to predict with any degree of confidence the kind of direction the market may take”.

European Regulators Group: “Guidelines for implementing the Commission Recommendation C (2005) 3480”.

**Technological and network convergence warns us of the limitations of static models that do not take account of the reality of the continuous evolution both of technologies and their applications, and consequently of changes in the type and quality of services.**

**This new scenario also implies the need for another perspective in the area of regulatory policy.**

# CHARACTERISTICS OF NGNs

“A next generation network is a packet-based network able to provide telecommunication services, 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.” Brian Moore, Chairman of ITU-T Study Group 13

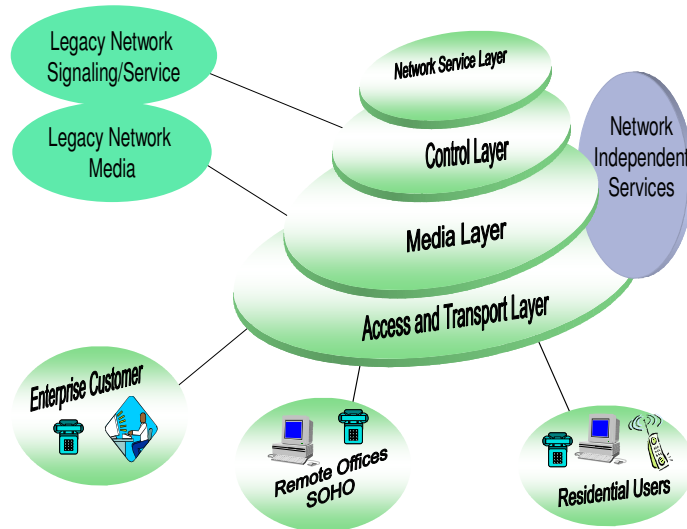
Fundamental characteristics of “next generation networks” ITU (2004)

- All kinds of services on all kinds of media
- Decoupling of service provision from network
- Interworking
- Open interfaces
- Generalized mobility
- End-to-end quality of services

# ARCHITECTURE OF AN NGN



## NGN Network Architecture NGN Layers



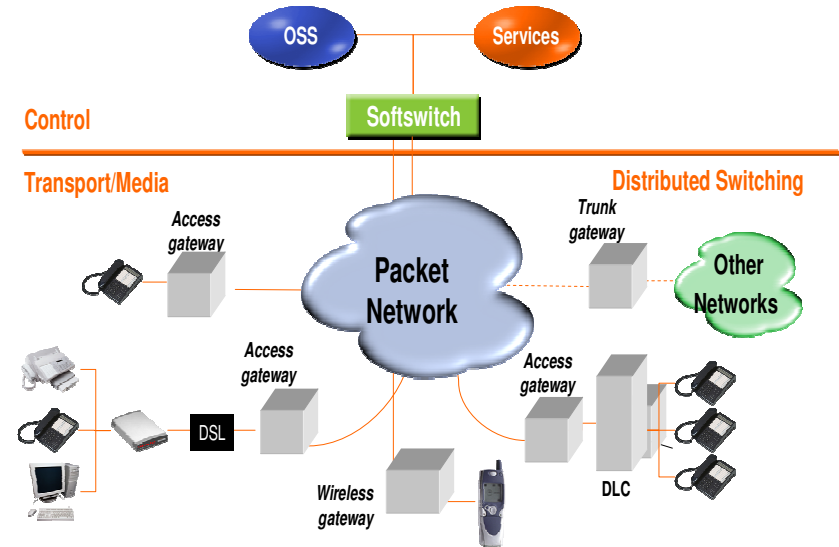
May 2006

ITU/BDT NGN Network Architecture - O.G.S.

- slide 5



## NGN Network Architecture Target architecture



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- slide 6

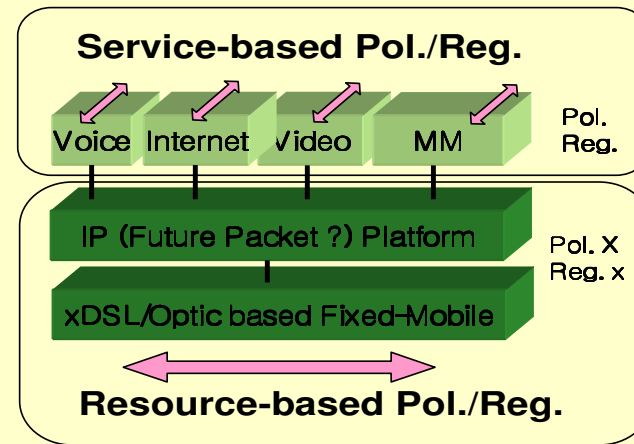
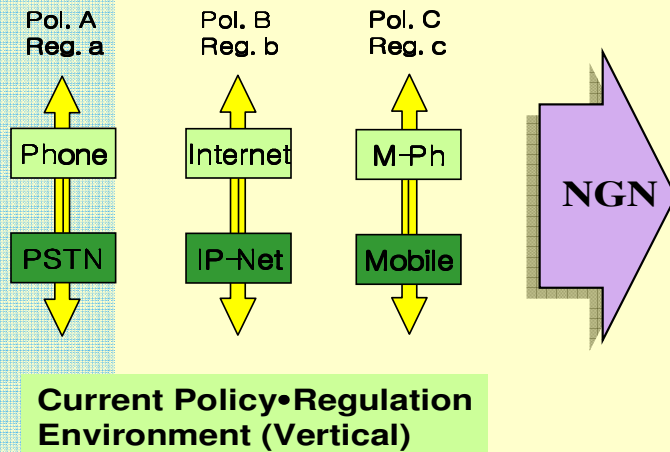
Source: Oscar González Soto, ITU Consultant Expert, "NGN Concept and Network Architecture".  
Regional Seminar on Costs and Tariffs for TAL Group member countries, ITU/BDT, Rio de Janeiro, Brazil, 05/06.

# FROM EXISTING NETWORKS TO NGNs



## Impacts on policy and regulatory aspects

- NGN provides for the separation of services and transport
- Policy and Regulation environments will be impacted by this
- Change from Vertical to Horizontal environment



EU Commission Open Workshop – Identifying policy and regulatory issues of Next Generation Networks, Brussels 22 June 2005

ITU-D actions  
World Telecommunication Development  
Conference  
(WTDC-06)-Doha

Study group Questions (non-exhaustive list):

- “Regulatory impact of next generation networks on interconnection”
- “Regulation for licensing and authorization of converging services”
- “Tariff policies, tariff models and methods of determining the costs of services on national telecommunication networks, including next generation networks”.



# IMPACT OF NGNs ON POLICY AND REGULATORY ISSUES

A single network for all services (“one net fits all”):

- From a vertical to a horizontal environment
- Need to match cost-based methodology and cost allocation
- Reduction in CAPEX and OPEX
- Attention to Quality of Service (QoS)
- Licensing regime
- New USO dimension
- Measurement unit: capacity versus utilization time
- Transition and protection of investments
- Costs affected by demand levels and levels of resource consumption (uncertainty)
- Interconnection: peer to peer? (bill and keep)
- Trend towards a “light regulatory approach”
- Importance of stimulating and ensuring competition

# ECONOMIC CONSEQUENCES OF NGNs

## For operators:

- Lower CAPEX and OPEX.
- Model of centralized (PSTN) vs decentralized (ISP) intelligence and management.
- Full replacement (BT) vs overlay on existing network (transition).
- Different service providers connected at different functional levels of the network (VoIP, data, multimedia, Internet, IPTV, video-on-demand, virtual private networks, IP Centrex, multimedia conferencing, messaging, etc.).

## For consumers:

- Availability of choice between all-inclusive providers and providers specializing in specific services.
- Choice based on price and/or QoS.

## For the regulator:

- What is an efficient network? Does one adopt the LRIC of the most efficient network?
- How do the cost structures differ between PSTN and NGN?
- What effect does the migration bias have on stranded costs and sunk costs?
- Transitional tariff policy? Tariffs based on demand for services and consumption of resources (backward cost assignment)?
- Which are the relevant cost drivers: volume, service characteristics, topology of the new network?
- Regulation of VoIP, quality of service, interconnection, opening-up of networks?
- Just-in-time response?



# CHALLENGES FACING THE TAL GROUP

## SUGGESTIONS FOR FUTURE TASKS

- Analyse:
  - Network evolution/migration bias
  - Impact of network and service convergence
    - Difference in cost structure
    - New cost drivers
    - Interconnection models
    - Validity of conventional LRIC model
    - Transitional tariff policy: towards an approach based on demand for services and use of resources within a single multimedia service network?
- Revise the TAL model in the new environment and adapt it appropriately
- Study the status of regulations vis-à-vis competition and entry barriers  
Regional regulatory convergence?
  - Regulation of VoIP?
  - Quality of service
  - Procompetitive actions (portability, licensing regime, opening-up of networks, legal barriers)
- Regional benchmarking
  - Monitoring the evolution of tariffs and prices within the region
  - Operators: Investments and policies for migration
  - Evaluate the regulatory actions of the EU (see case NGN 21C OFCOM NGN UK/BT)
- Liaison with other ITU study groups

**“If you want to know the past, look at the present, which is its result.**

**If you want to know the future, look at the present, which is its cause.”**

**Buddha**

**MANY THANKS FOR YOUR  
ATTENTION!**

**Guillermo Klein**