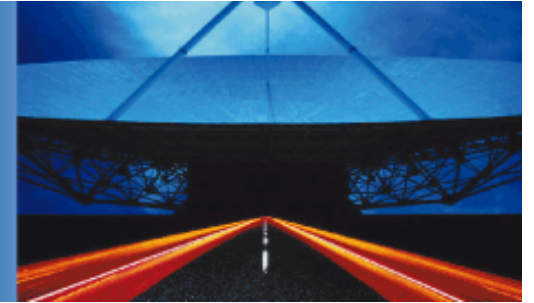




Workshop on
Market Mechanisms
for Spectrum Management



Convergence and Spectrum Management

Cristina Bueti – Marco Obiso
International Telecommunication Union

ITU, Geneva, 22-23 January 2007

The views expressed in this presentation are those of the authors and do not necessarily reflect the opinions of ITU or its Membership.

What is the Spectrum Debate all About ?

... Objective ...

...radio frequencies and any associated orbits [...] are limited natural resources [...] that must be used [...] so that countries or group of countries may have equitable access to those orbits and frequencies..."

ITU Constitution, Geneva 1992, Art. 44, No. 196

... reality ...

Today's Radio Resource Management is facing a dramatic need for evolution with no clear way ahead

One Size Does Not Fit All

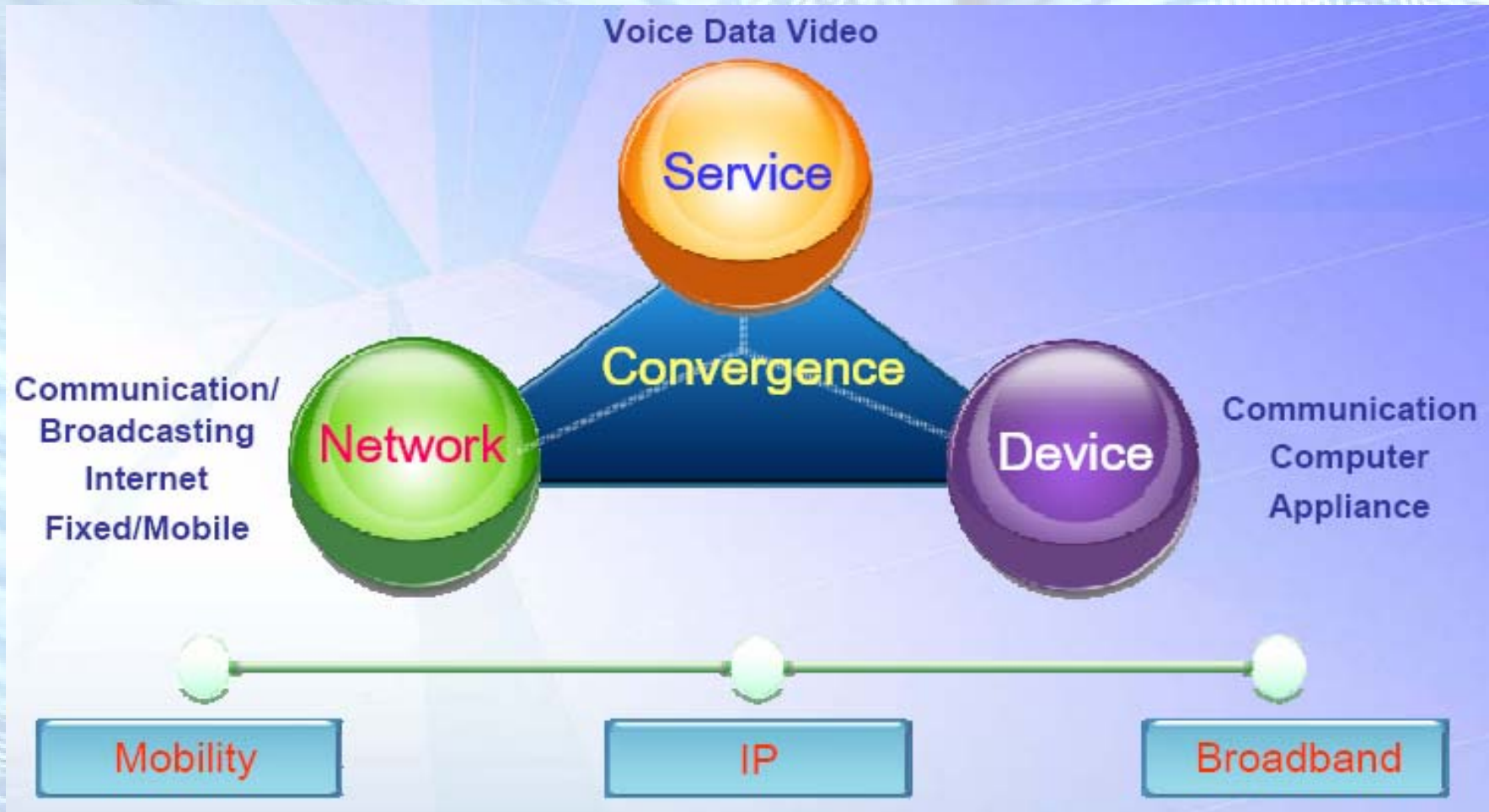
- Three primary models of spectrum management:
 - “Command and Control”
 - “Commons” model
 - Market mechanisms / “usage rights”
- Correspond to three decision-making regimes:
 - Government officials “decide”
 - Technology “decides”
 - The market “decides”
- Each model has its place!
 - Command and control to meet military, emergency services, radio astronomy, and other public needs.
 - Commons model to foster innovation.
 - Market mechanisms wherever otherwise possible.



Changing Paradigms

- Increasing demand for spectrum
 - New technologies and services
 - Need for mobility
 - Advantages of wireless infrastructure
- Rapid technological change
- Greater capabilities of market players
- Convergence
 - Blurring of regulatory boundaries between different services & technologies

Convergence concept



Source: Korea Telecom

Implications of ICT Convergence and Spectrum Management

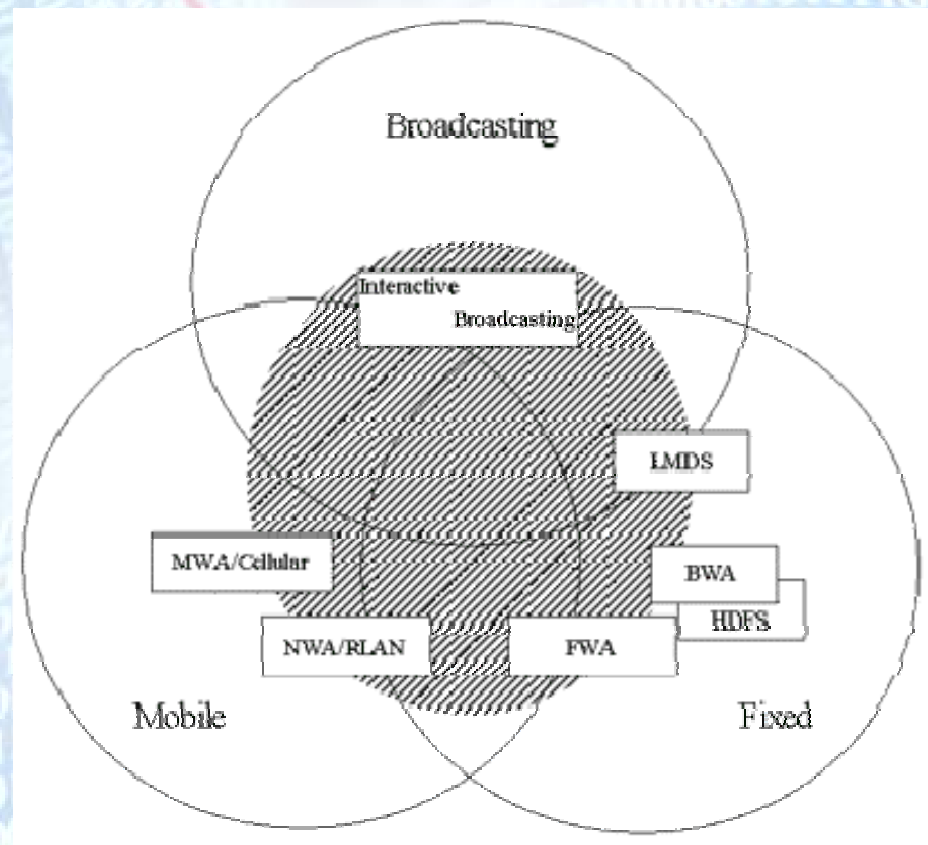
How to cope with ICT Convergence

- Introduction of Technology neutrality in spectrum regulation
 - Interference
 - Economies of scale
 - International coordination
- Spectrum trading and in band migration
- New wireless technologies
- Digital terrestrial television



Convergence and Terrestrial wireless interactive multimedia (TWIMs)

...that terrestrial wireless interactive multimedia applications are capable of supporting the bidirectional exchange of information between users or between users and servers and may be implemented within one or more of the mobile, fixed and broadcasting services;



Source: Item d - recommendation 722 - Final acts - WRC 2003

Building the Information Society



Additional steps should be taken in ITU and other regional organisations to ensure rational, efficient and economical use of, and equitable access to, the radio-frequency spectrum by all countries, based on relevant international agreements.

WSIS Plan of Action, Para 13r

Background Resources Website

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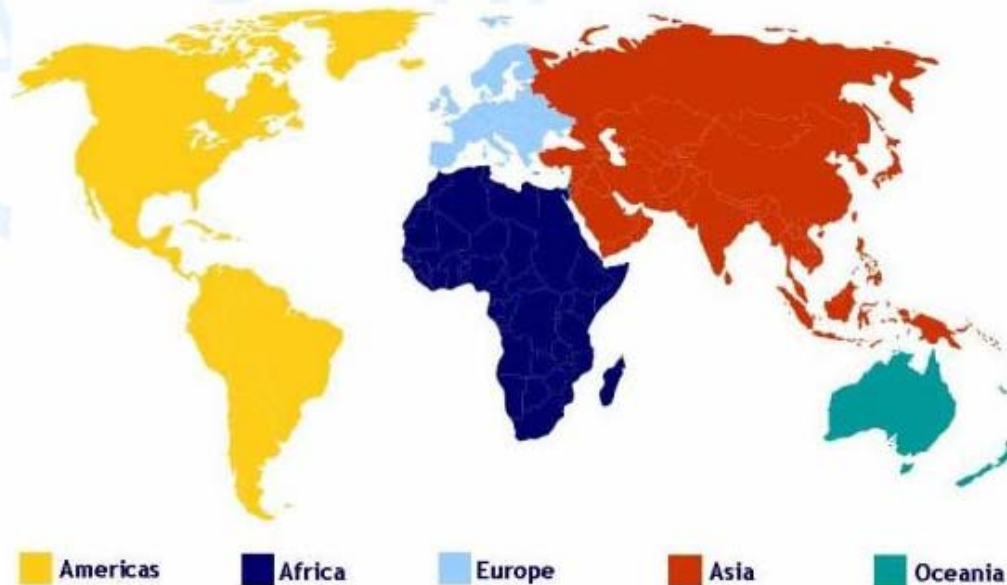
Background Resources on Spectrum Management



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Location Map

This section provides useful resources on **Regional and National Initiatives** related to Spectrum Management. By selecting the geographic area it is also possible to access the profile of single countries.



Topics

This section provides some background information on spectrum management policy and regulation in general. This list of resources is not exhaustive. If you would like additional related resources to be reflected, please contact **Ms. Cristina Bueti** or **Mr. Marco Obiso** at spectrum@itu.int

- ▣ [Framing the Debate](#)
- ▣ [Trading and License Exempt](#)
- ▣ [Approaches to Liberalization](#)
- ▣ [Spectrum Management Reform](#)
- ▣ [International Entities](#)
- ▣ [ITU Survey on Spectrum Management](#)

<http://www.itu.int/osg/spu/stn/spectrum/resources.html>

ITU Survey on Spectrum Management

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on Spectrum Management



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Country Initiatives: Americas

▣ United States

["Regulations and procedures for federal radio frequency"](#), US Department of Commerce, January 2006 revision

[The President's spectrum initiative](#)", E.R. Stark, 8th Annual International Symposium Advanced Radio Technology, March 2006

▣ Canada

["Canada Telecommunications Policy Review Panel"](#), Final Report 2006

["Decision to rescind the broadband spectrum cap policy"](#), Canada Department of Industry notice, April 2006

["Proposals and changes to the spectrum in certain bands below 1.7 GHz"](#), Canada Gazette Notice, April 2006

["Policy provision for the band 2500-2690 MHz to facilitate future mobile service"](#), Canada Department of Industry radiocommunication act, March 2006

Regional Entities: Americas

▣ CORF - Committee on Radio Frequencies (USA)

Country Profiles

▣ [Antigua & Barbuda](#)

▣ [Argentina](#)

▣ [Bahamas](#)

▣ [Barbados](#)

▣ [Belize](#)

▣ [Bolivia](#)

▣ [Brazil](#)

▣ [Canada](#)

▣ [Chile](#)

▣ [Colombia](#)

▣ [Costa Rica](#)

Country Profiles

Italy

General information	Spectrum Authority The Communications Regulatory Authority (Agcom)
	Contact Details Location: The Communications Regulatory Authority (Agcom) Naples Italy Postal Address: Centro Direzionale, Isola B5 – 80143 Naples Italy International Telephone : 39 081 7507111 Fax: 39 081 7507111 E-mail: info@agcom.it Website: http://www.agcom.it/eng/eng_intro.htm
Spectrum Policy and Planning	Introduction According to law no. 24934, Agcom shares the task of spectrum planning and allocation with the Ministry of Communications.
	Legislation For information on legislation please visit: http://www.comunicazioni.it/it/index.php?Mn1=5&Mn2=25&Mn3=5&Mn4=4 (Italian only)
	Radio Frequency Register For information on radio frequency registration please visit: http://www.comunicazioni.it/it/index.php?IdPag=349 (Italian only)
Relevant Documentation	Online Documentation <ul style="list-style-type: none"> http://www.agcom.it/rel_05/eng/rel_05_eng.pdf
	Reports <ul style="list-style-type: none"> http://www.itu.int/osg/spu/tnt/Documents/TROISI_TNT_03.pdf

Argentina

General information	Spectrum Authority Secretaria de Comunicaciones Comisión Nacional de Comunicaciones
	Contact Details Location: Comisión Nacional de Comunicaciones Buenos Aires Argentina Postal Address: Perú 103, 9° Buenos Aires 1067 Argentina International Telephone : 0054 114 347 9242 Fax: 0054 114 347 9244 E-mail: http://www.cnc.gov.ar/Consultas.asp Website: http://www.cnc.gov.ar/index.asp
Spectrum Policy and Planning	Introduction http://www.cnc.gov.ar/cnc/index.asp (Spanish only) http://www.cnc.gov.ar/espectro/index.asp (Spanish only)
	Legislation For information on legislation please visit: http://www.secom.gov.ar/municipios/seccion.asp?MID=10&Seccion_Id=68 (Spanish only)
	Radio Frequency Register For information on frequency registration please visit: http://www.cnc.gov.ar/espectro/AsignacionFrecuencias/index.asp (Spanish only) For information on radio communication certificate please visit: http://www.cnc.gov.ar/espectro/CertificacionRadio/index.asp (Spanish only)
Relevant Documentation	Online Documentation <ul style="list-style-type: none"> http://www.secom.gov.ar/municipios/ver.asp?MID=10&tipo=nota&id=140 (Spanish only)
	Reports <ul style="list-style-type: none"> http://www.gmu.edu/departments/law/faculty/papers/docs/06-44.pdf

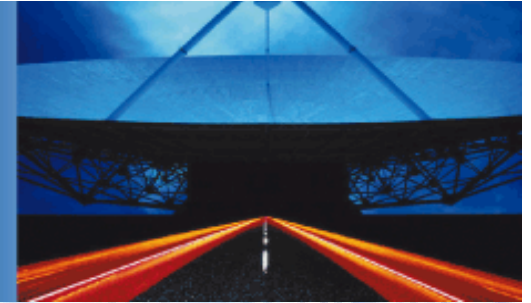
Looking ahead...

- Goal is a framework that is service and technology neutral
- The right decisions on spectrum flexibility could result in lifestyle improving social and economic benefits
- Frequencies for ICT convergent services should be gradually “pooled” together and made available to users as they see fit.
- Technology will always change faster than policy or regulations; the challenge is for policymakers and regulators to design a system flexible enough to meet national goals and accommodate technological change





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Thank you

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www.itu.int/spectrum

www.itu.int/stn