



# **Bridging the Gap: Taking Tomorrow's Network into Today**

## **Case Study of the Italian Republic**

Marco Obiso  
International Telecommunication Union (ITU)

ITU New Initiatives Workshop on Tomorrow's Network Today

St. Vincent (Aosta), Italy  
7-8 October 2005

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



# Background and objectives

Italy has been chosen by the ITU as an ideal Case Study candidate because of its rapid growth during the past few years in the field of ICT.

Two Case Studies have been produced:

- Ubiquitous Network Societies: The Case of the Italian Republic
- Bridging the Gap: Taking Tomorrow's Network into Today – The Case of the Italian Republic

Provide a state of the art review of the Italian telecommunication system and investigate on a possible evolution towards Tomorrow's Network



## Ubiquitous Networks..

- Integrated ICT paradigm, in which computing capabilities are incorporated everywhere and linked
- ubiquitous computing encompasses non-traditional computing devices
- the new computing devices have the following characteristics:
  - usually equipped with a selection of different sensors to collect data from their environment..
  - Mobile, and the tasks they are programmed to perform depend on the geographical location and neighborhood of other devices.

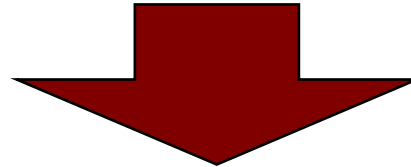
## ..and Next Generation Networks

- packet-based transport technologies
- open standardized interfaces between the different network layers (transport, control and services)
- service-related functions independent from underlying transport-related technologies
- unrestricted access by users to different service providers
- support generalized mobility
- consistent and ubiquitous provision of services to users

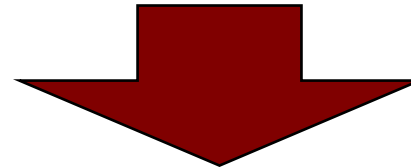


# Forces of Convergence in Italy

- Consolidated Broadband infrastructure (~ 5.6 Millions lines)
- Consolidated Mobile communication (~ 62 Millions active users)
- Growing Wireless Technologies
- Switch-off Digital Terrestrial TV – Planned for December 2006



Italy can be ready to accept the challenge of full convergence



Some interesting initial cases on:

- Fixed mobile Convergence (FMC)
- Unlicensed Mobile Access



## Fixed mobile convergence..

CNIPA is trialing Avaya Mobile enterprise fixed mobile convergence (FMC) applications for Series 60 platform devices jointly developed with Nokia. These downloadable applications transform Series 60 platform mobile devices into virtual desktop phones by enabling workers on the move to access the features and functions of their Avaya Communication Manager office desk phone

The trial, which is due for completion during the month of October, is taking place at CNIPA's head office in Rome and is being piloted by employees from all areas of the business, including the president of CNIPA and the information technology department

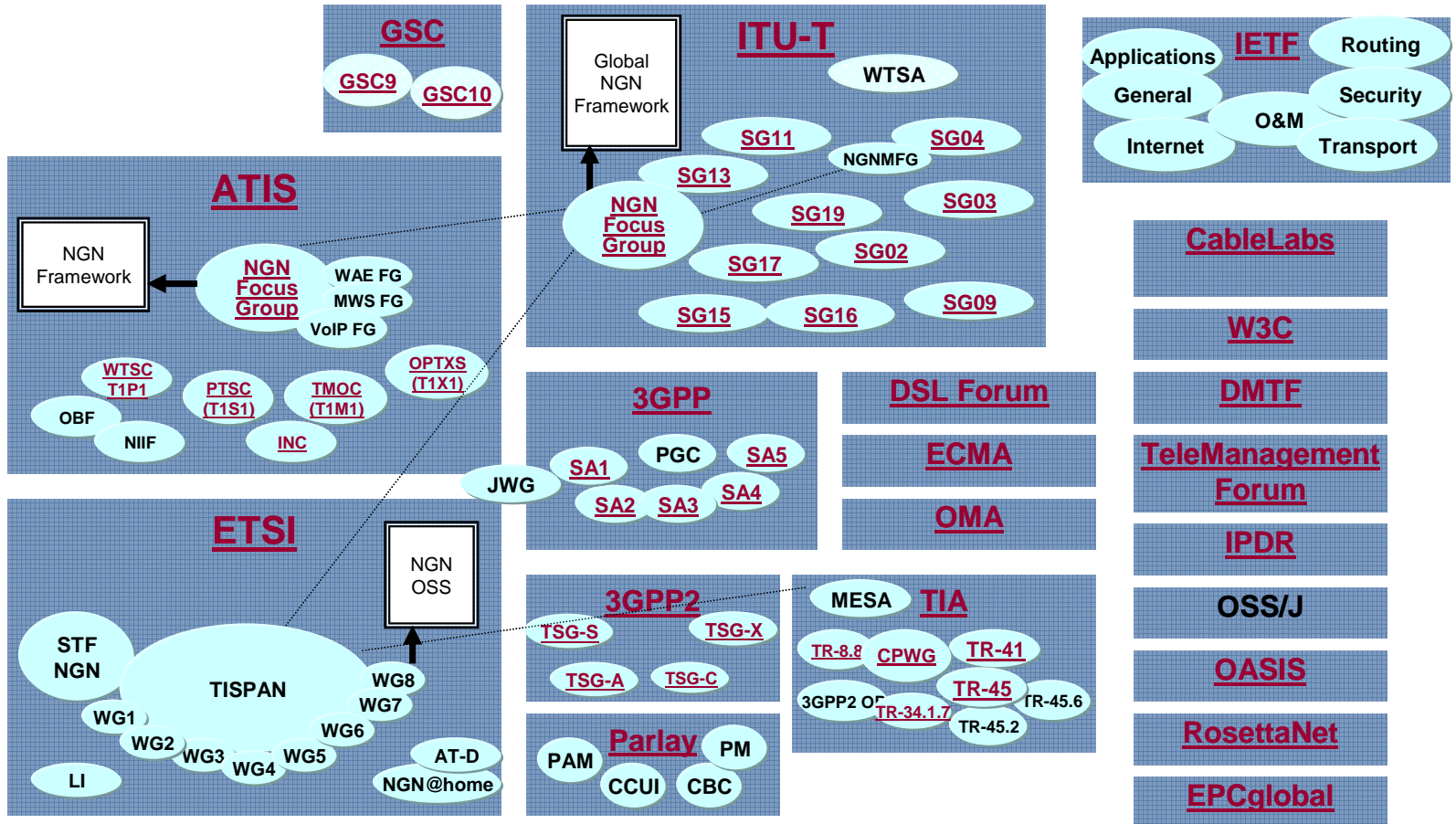
## ..Unlicensed Mobile Access

A survey commissioned by Motorola, Inc. has confirmed strong consumer demand for Unlicensed Mobile Access (UMA)-enabled services across key European territories, with Italy, Spain and Sweden the most enthusiastic nations in terms of acceptance and potential take-up.

The online survey, which targeted 1,000 consumers in each of six leading European markets, Germany, France, Italy, Spain, Sweden and the United Kingdom, concludes that a UMA-enabled service would be positively received.



# The Standardization Process





# Policy and regulations

## Italian Government's steps towards Tomorrow's Network

- WIFI Decree
- Spectrum Management
- DTT and related interactive Services
- Definition of clear rules for VoIP providers

## In particular on VoIP:

- Public consultation (VoIP)
  - Deadline in September 2005 for Request for Comments
  - Major players participated in the consultation with feedback and comments
- Next steps:
  - A Synthesis of the responses will be published on AGCOM web site soon
  - Finalized Regulation (by the end of the year?)



## Enabling factors: a technical view

- Triple play to consolidate network and service convergence
- IMS: the emerging communication framework to move forward
- All-IP Network and IPv6 as technical triggers in the process
- Next Generation Networks, as next step in the migration to Tomorrow's Network





## Triple Play Solutions

Telecom Italia has begun free trials of its IPTV service in more than a thousand households in 4 Italian cities (Rome, Milan, Bologna and Palermo).

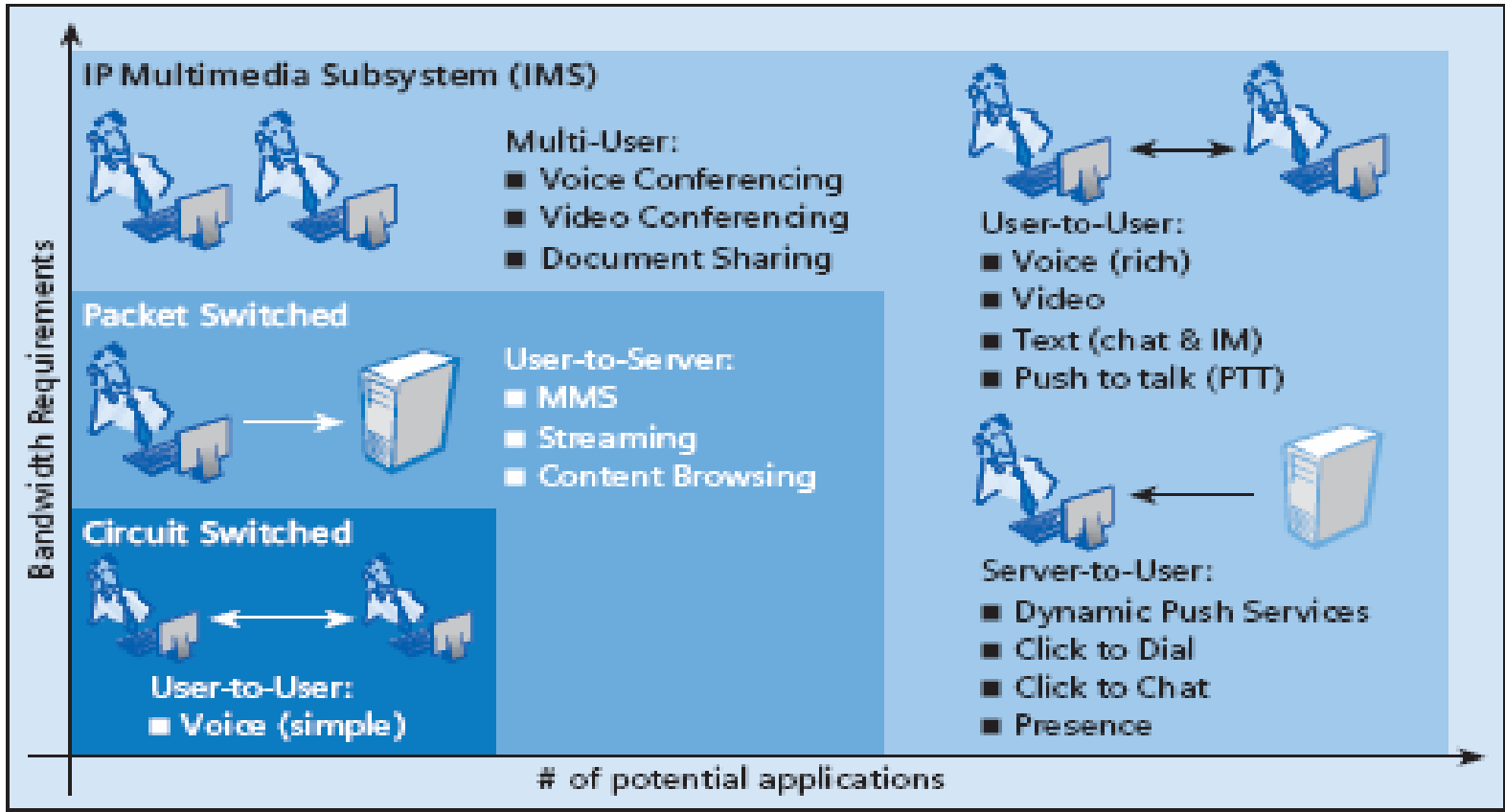
UTStarcom, Inc., a company well known in IP-based, end-to-end networking solutions and services, has announced that it had signed a two-year agreement with Tiscali Italy, a subsidiary of the European Internet Communication Company, to offer subscribers converged voice, video and high-speed data services.

Digital Identity, Italy's largest streaming media developer and services provider and California based EdgeStream, Inc today announced that they have entered into a partnership to provide the 'Next Generation Video on Demand and IPTV Streaming Technology platform' in Italy.



# IP Multimedia Subsystem (IMS)

Generic architecture for offering VoIP and multimedia Services that support multiple access types (GSM, WCDMA, CDMA2000, Wireline broadband access and WLAN)





## IMS in Italy

Ericsson has been selected as supplier of its IP Multimedia System (IMS) including combinational services to TIM Italy. The implementation of the IMS based services will enable TIM's mobile users to share videos, images, and collaborate on whiteboards while having an ongoing phone conversation. The new services will be available on a number of different terminals from a variety of suppliers

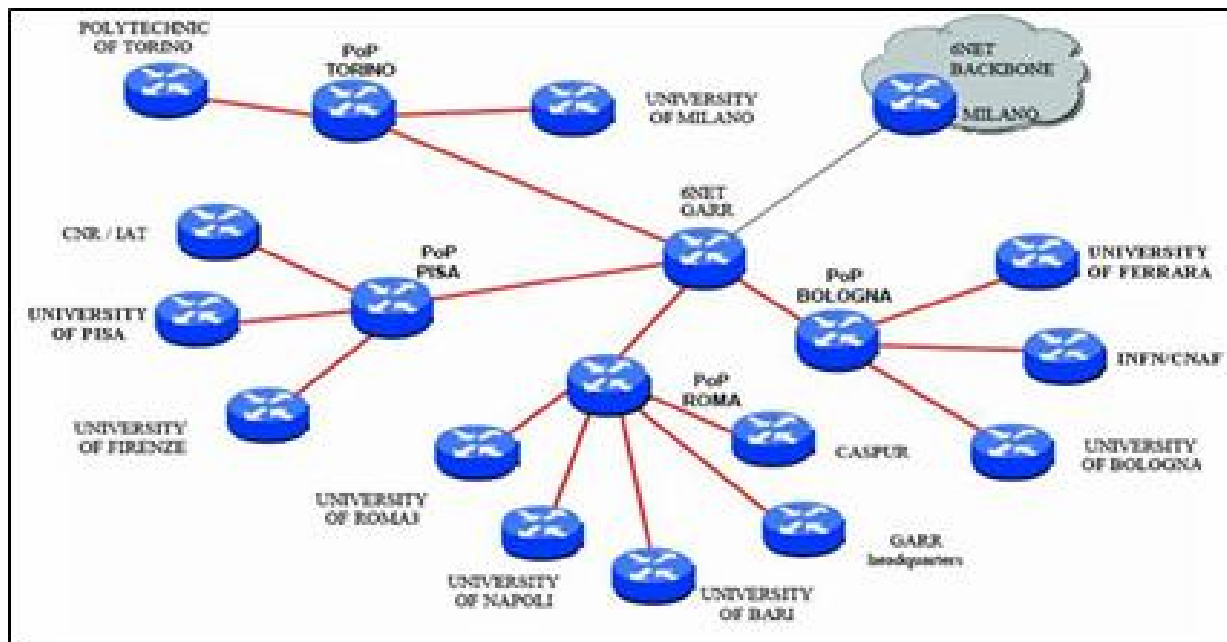
Nokia has demonstrated live IP multimedia applications based on its 3GPP2/3GPP-compliant IP multimedia subsystem (IMS) over a commercial CDMA 2000 network.

Recently, Nokia and Telecom Italia had announced their plan to target a mass-market launch of the video sharing service in Italy starting from the second quarter of 2005.



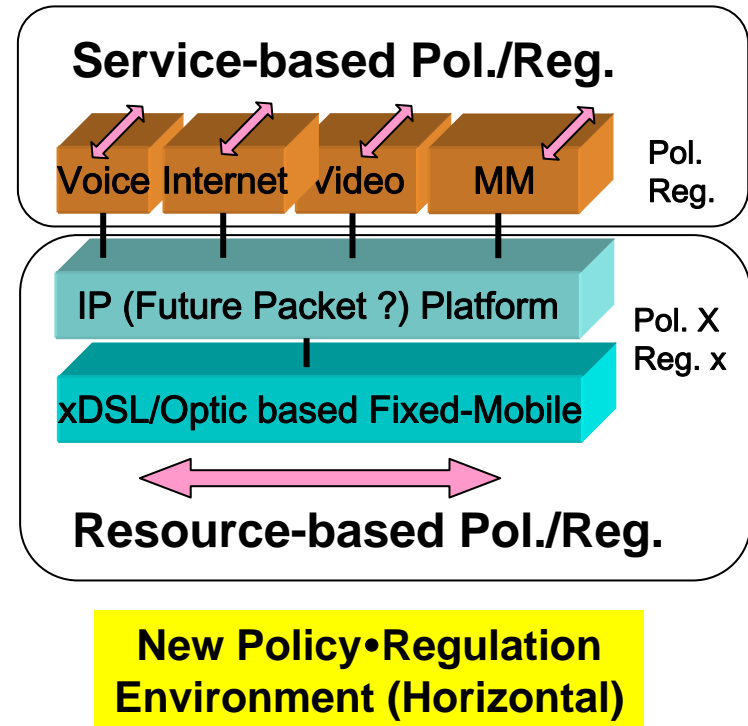
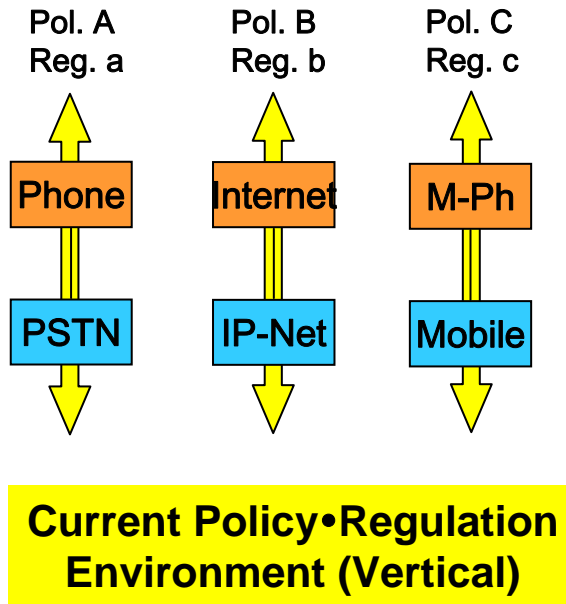
# IPv6: an important enabler..

- Strong focus on spreading and promoting the use of IPv6.
- Increasing use of cellular phones and other mobile devices and the growing expectations for ubiquitous networks
- Aggressive moves to support IPv6 in Europe: Germany, UK, France, Italy, Spain, Poland,
- European Union (EU) has set up a European IPv6 taskforce in 2001. Two large-scale network: Euro6IX, 6Net





# Next Generation Networks

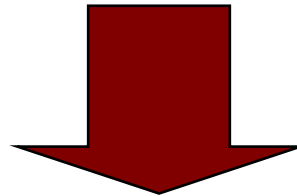




# Next Generation Networks

## Challenges

- Financial difficulties of telecom operators, due to likely heavy investment
- Difficult to identify concrete business models
- Creating new billing platforms
- Which new services will users demand
- Technical challenges



## Opportunities

- Capitalize on investments already made (Mobile, broadband)
- Fostering content development
- The new environment creates new entrance opportunities for operating companies as well as newcomers



# Italian Best Practice: Being digital in Aosta Valley

- Integrating DTT and Wireless technologies
- First clear example of technology and service convergence
- Three experimental areas
  - DTT and interactive services
  - Mobile television
  - Wimax, Hiperlan, Wi-Fi





## Conclusions

- Tomorrow's Network in Italy still a little more than a concept
  - Tomorrow's Network is an evolution and revolution in the same time
  - Tomorrow's Network change the traditional vision of ICT sector
- 
- Further R&D is required
  - Straighten the collaboration with the international bodies, specifically on standardization
  - Full convergence as the next step





# Thank you

The full case study (46pp) is available at  
<http://www.itu.int/tnt>

Marco Obiso  
[marco.obiso@itu.int](mailto:marco.obiso@itu.int)