



Bridging the Gap: Taking Tomorrow's Network into Today

ITU-BDT Regional Seminar on Fixed Mobile Convergence and New Network Architectures for the Arab Region

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



Agenda

- **Today's and Tomorrow's Networks**
- **Taking Tomorrow's Network into Today**
- **Tomorrow's Network Today Workshop**
- **Case studies on Italy**
 - **Ubiquitous Network Societies**
 - **Bridging the Gap: Taking Tomorrow's Network into Today**
- **Conclusion**



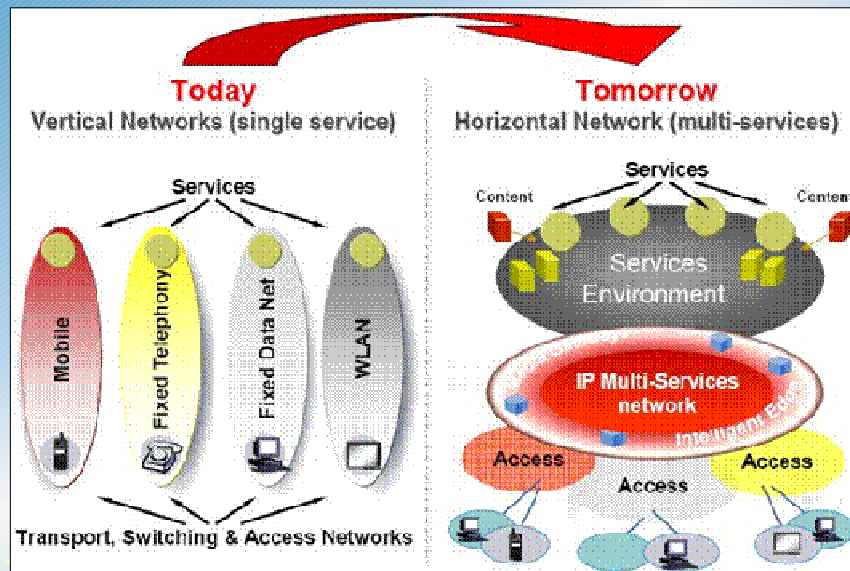
Today's and Tomorrow's Networks

Today's PSTN network	Next Generation Networks
<ul style="list-style-type: none">• Circuit-switched.• Limited mobility of end-user services.	<ul style="list-style-type: none">• Packet-based, based on Internet Protocol (IP).• Broad-based 'generalised mobility'.
<ul style="list-style-type: none">• Vertical integration of application and call control layers, with dedicated networks.	<ul style="list-style-type: none">• Horizontally-integrated control layers, with simultaneous delivery of applications. Service-related functions independent of transport-related technologies.
<ul style="list-style-type: none">• Non-responsive network.	<ul style="list-style-type: none">• NGN will be able to identify and adapt to user needs in real-time.

Source: ITU Internet Reports 2005: The Internet of Things



Technology Evolution





Taking Tomorrow's Network into Today

- **Ubiquitous Networks:** "anytime, anywhere, by anything and anyone"
- **Next Generation Networks:** "packet-based network able to provide telecommunication services and make use of multiple broadband [...] transport technologies in which service-related functions are independent from underlying transport-related technologies"

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Tomorrow's Network Today Workshop



To encourage further the development of Tomorrow's Networks, the International Telecommunication Union, the Italian Ministry of Communications, the Ugo Bordonni Foundation and the Aosta Valley co-organized the "Tomorrow's Network Today" Workshop.

Event website at www.itu.int/tnt/ provides links to final agenda, country case studies, presentations, electronic contributions and complete audio archives of meeting.

Brochure and CD-ROM (coming soon)

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Case Studies on Italy

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

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

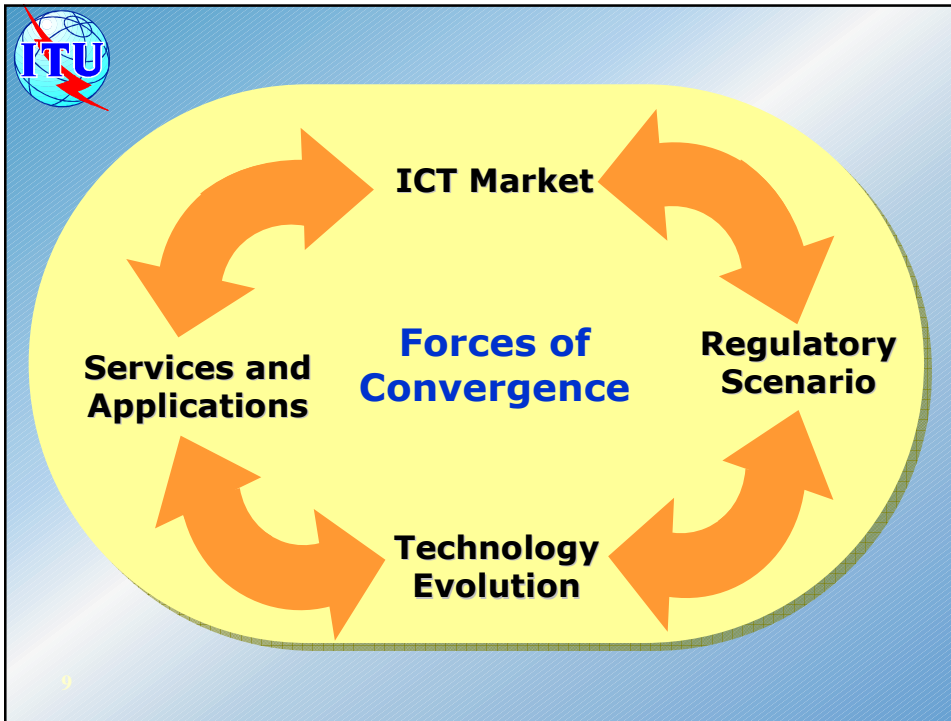
Provide a state of the art review of the Italian telecommunication system and investigate on a possible evolution towards Tomorrow's Network

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Is Italy ready to accept the challenge of full convergence ?

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ICT Market

The real change toward Ubiquitous

Three driving forces...

- High penetration and technological leadership in mobile telephony
- Accelerated growth and increased penetration of broadband wireline access
- The final planned phasing-in of digital terrestrial TV, which will completely replace analogue TV by end-2006

Year	IT (White)	TLC (Red)	Total	IT Change (%)	TLC Change (%)
2002	20'036	40'170	60'206	-	-
2003	19'396	40'885	60'281	-3.2%	+1.8%
2004	19'320	41'860	61'180	-0.4%	+2.4%

Legend: □ IT ■ TLC

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The Italian Government supports the evolution towards Tomorrow's Networks

The Italian Government is committed to making Italy a leader of the digital age

- Modernizing the country through the widespread use of new information and communication technologies
- Boosting the country's competitiveness by accelerating the spread of the online economy and developing a model of the information society

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Policy and Regulations

Italian Government's steps towards Tomorrow's Network

- Italian Code for electronic communications
- WIFI Decree
- E-Government Code
- Broadcasting Code
- 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?)

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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.

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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

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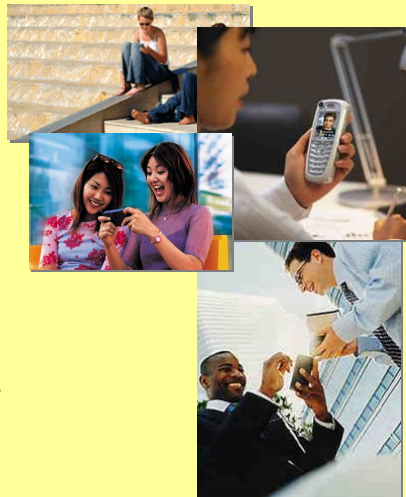
Towards Tomorrow's Network Services: where we are now?

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Customer Needs Evolution

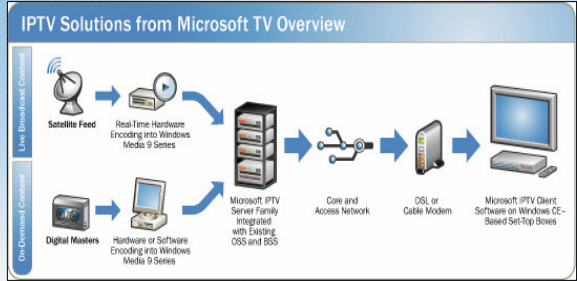
- Customers want access to their communications and entertainment services from anywhere...
 - **Home, office, on-the-go**
- ...using several different devices and multiple access...
 - **PC, telephone, mobile phone, PDA**
- ... having always the best connection and guaranteed QoS
- ... with an increased protection of their Privacy and Confidentiality
- ...with simplicity and reliability





Broadband Applications

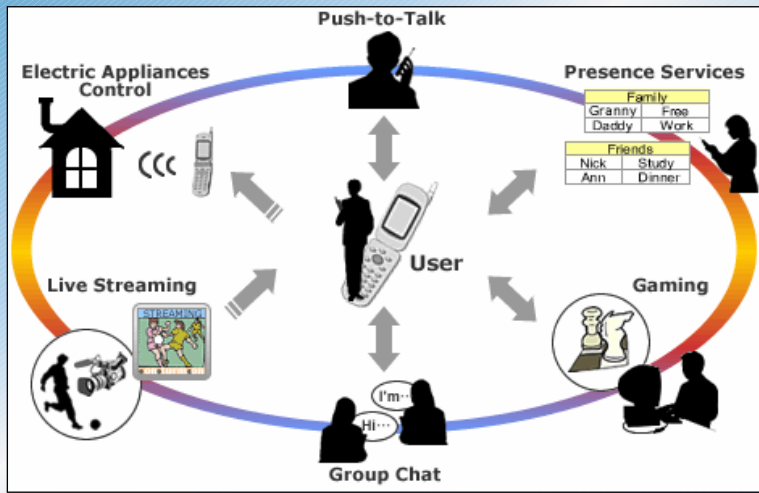
TV and Cinema over ADSL



Broadband on the train



Mobile Computing





Domotics and RFID

Home appliances used to provide services via different technologies and communication media



Four of the major companies in Italy AEM, Bticino, EuroMilano and Fastweb have joined forces to build the first domotic residential area, in Milan.

Merloni implements RFID on its home appliances as proof of concept

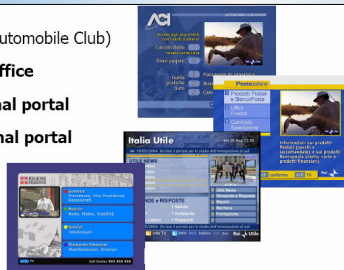


Digital TV

2004 has seen the take-off of digital TV in Italy



- ACI (Automobile Club)
- Post office
- National portal
- Regional portal



Planned switch over: end-2006?



Public Utility Services

Relevant investments (in particular by the Public Administration) in the area of integration and convergence

Experimental phase for t-government services

- Electronic Identity Card
- National Services Card



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Bridging the Digital Divide "Being Digital in Aosta Valley"

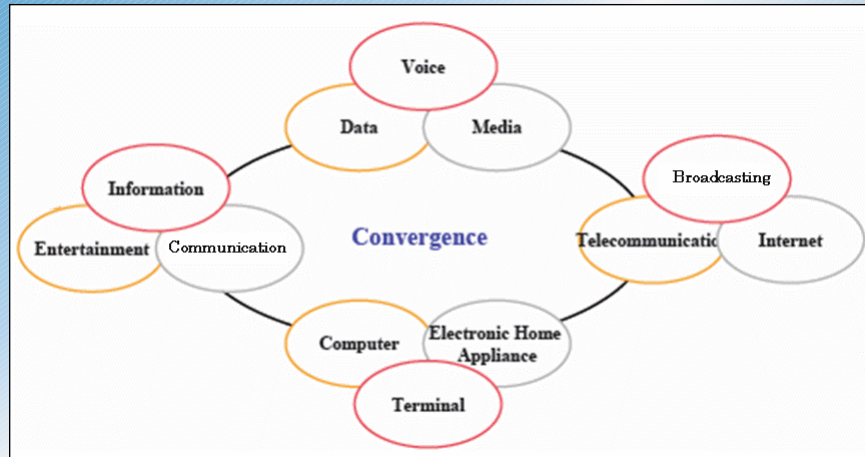
- Integrating DTT and Wireless technologies
- First clear example of technology and service convergence
- Three experimental areas
 - DTT and interactive services
 - Mobile television
 - Wimax, Hiperlan, Wi-Fi



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Convergence is the real challenge ...



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Thank you

The case studies are available at
<http://www.itu.int/tnt>

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