

# Infrastrutture fisiche di rete BB

Servizi e tecnologie  
per la ICT convergence

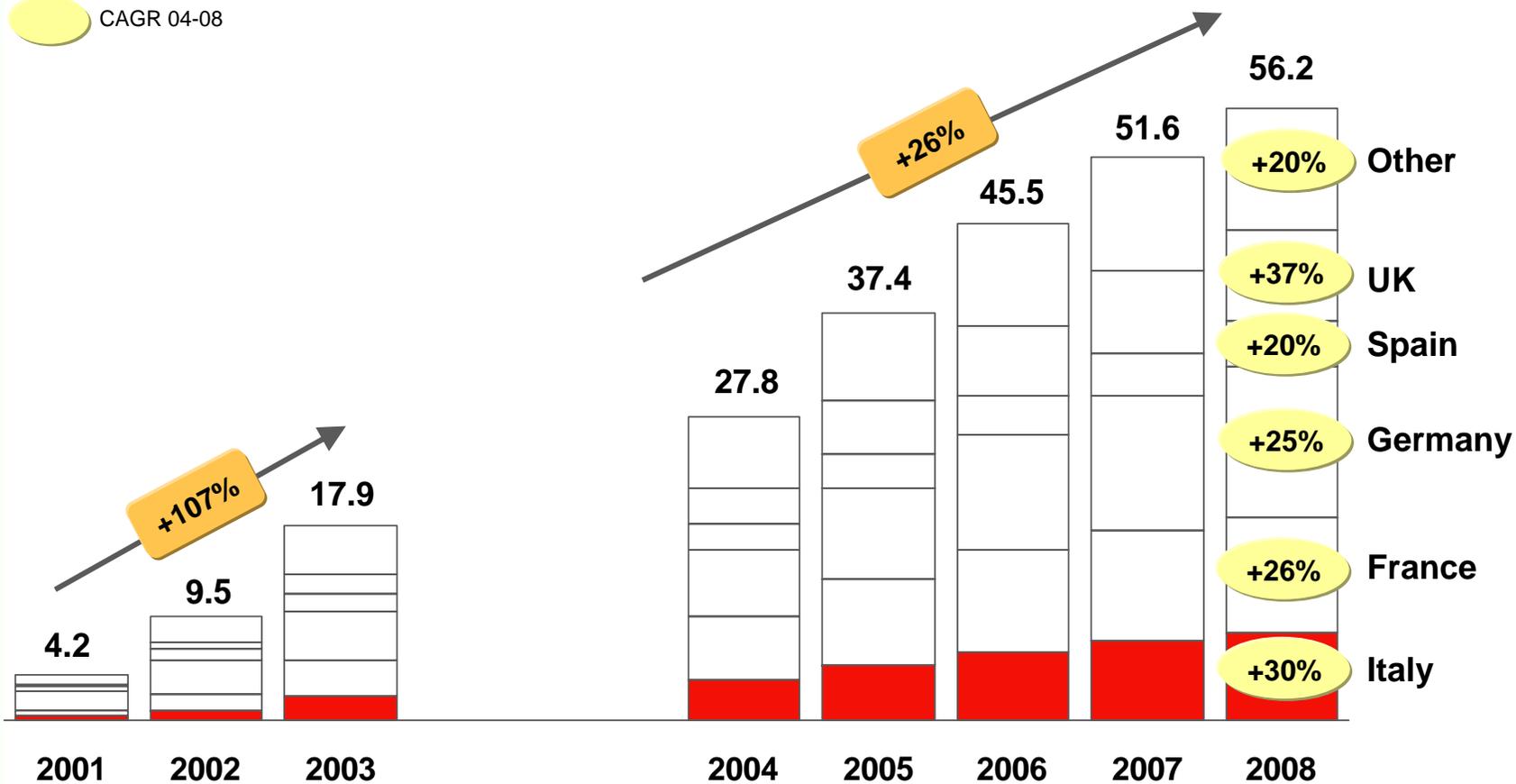
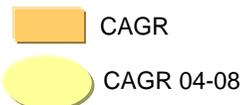
Evoluzione del mercato BB

Le strategie ed i servizi

Le architetture e le tecnologie

## DSL Trend in Western Europe: 2001 - 2008

# Access (mln)

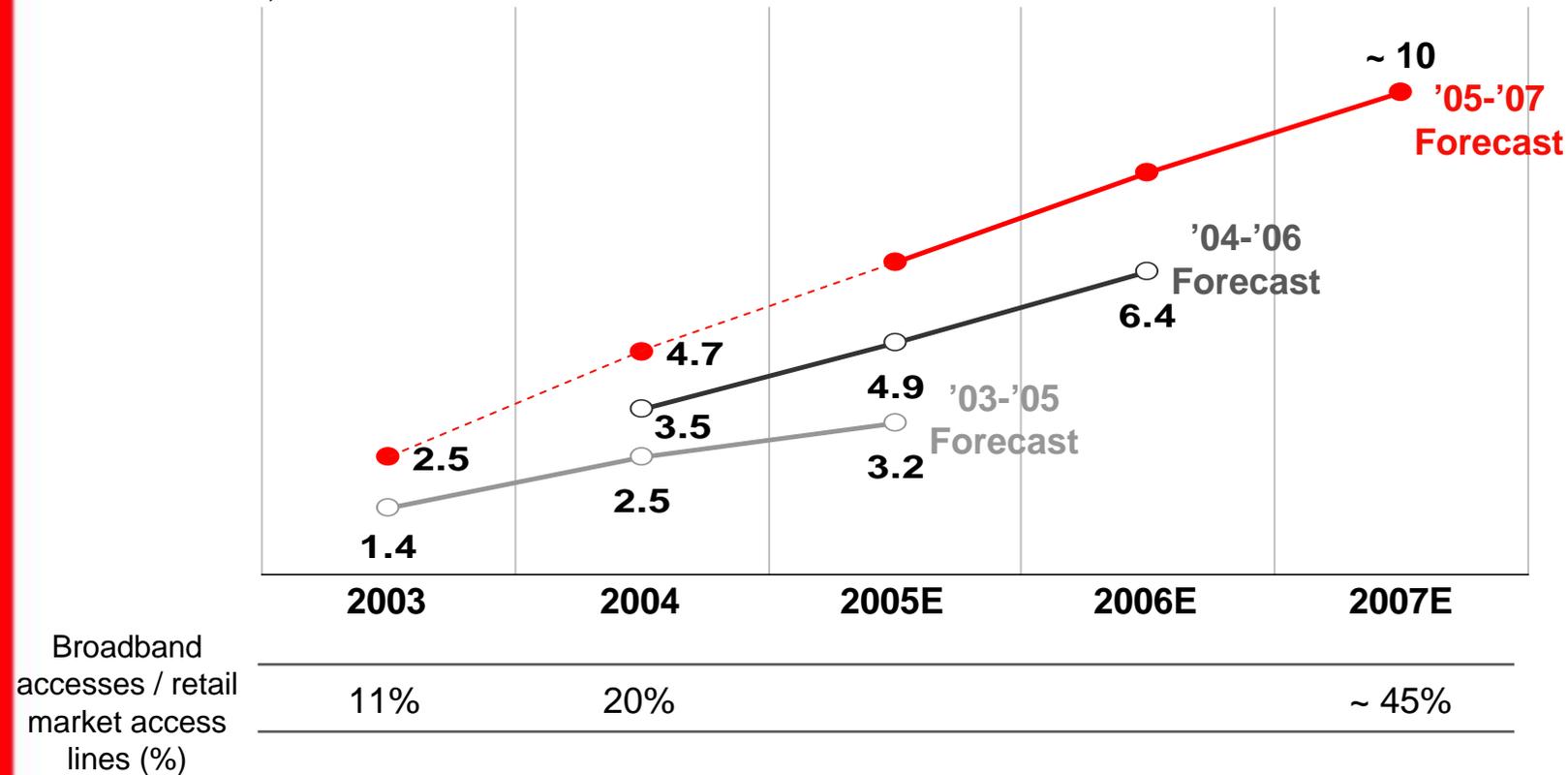


Source: IDC

# Italian Broadband Market: raising growth estimates

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BroadBand market, million access lines

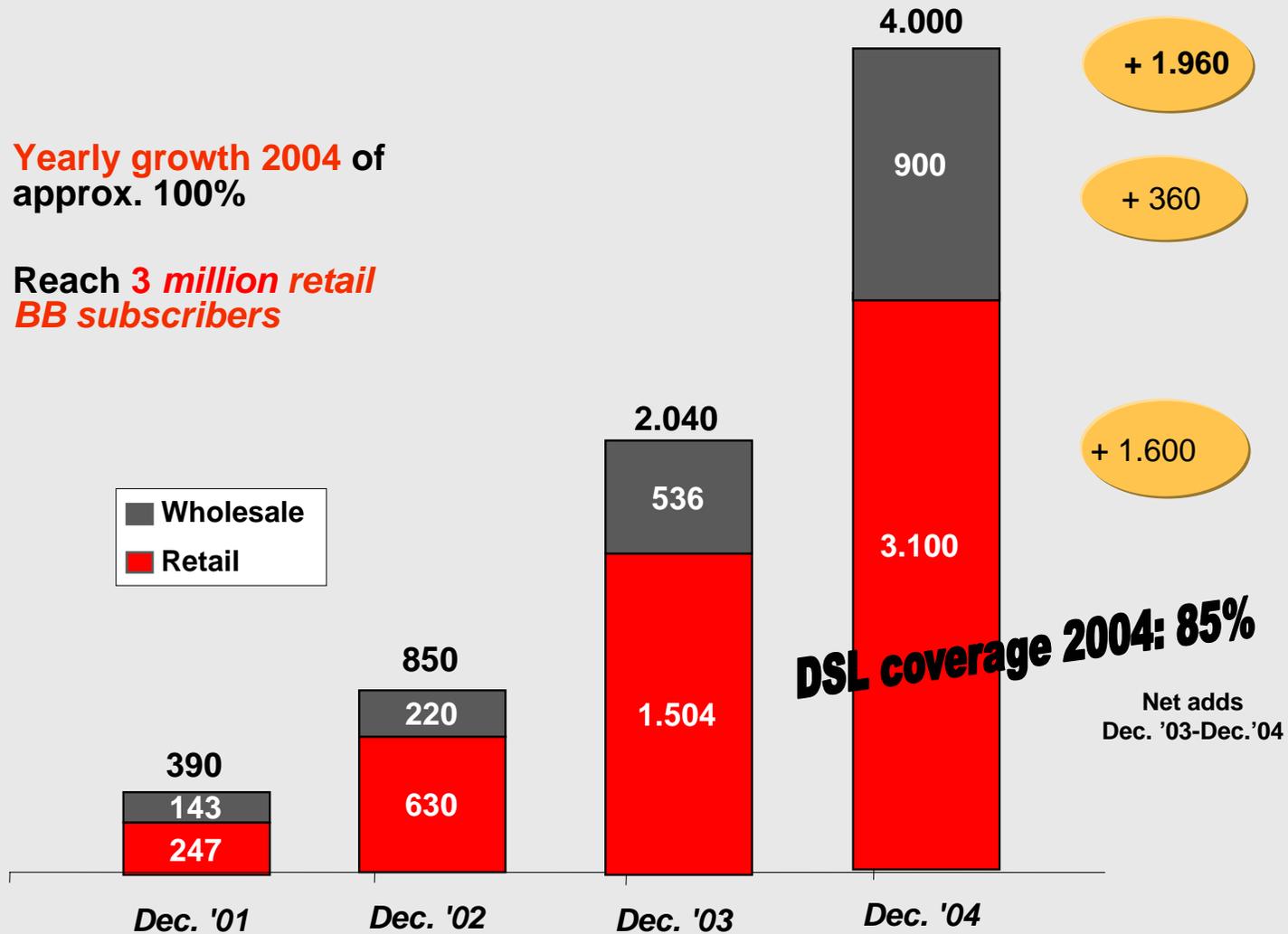


Source: Company Data, Sirmi, IDC, Jupiter, Gartner, Analysis

## Telecom Italia ADSL 2004 Results (Klines)

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- ▶ **Yearly growth 2004** of approx. 100%
- ▶ **Reach 3 million retail BB subscribers**

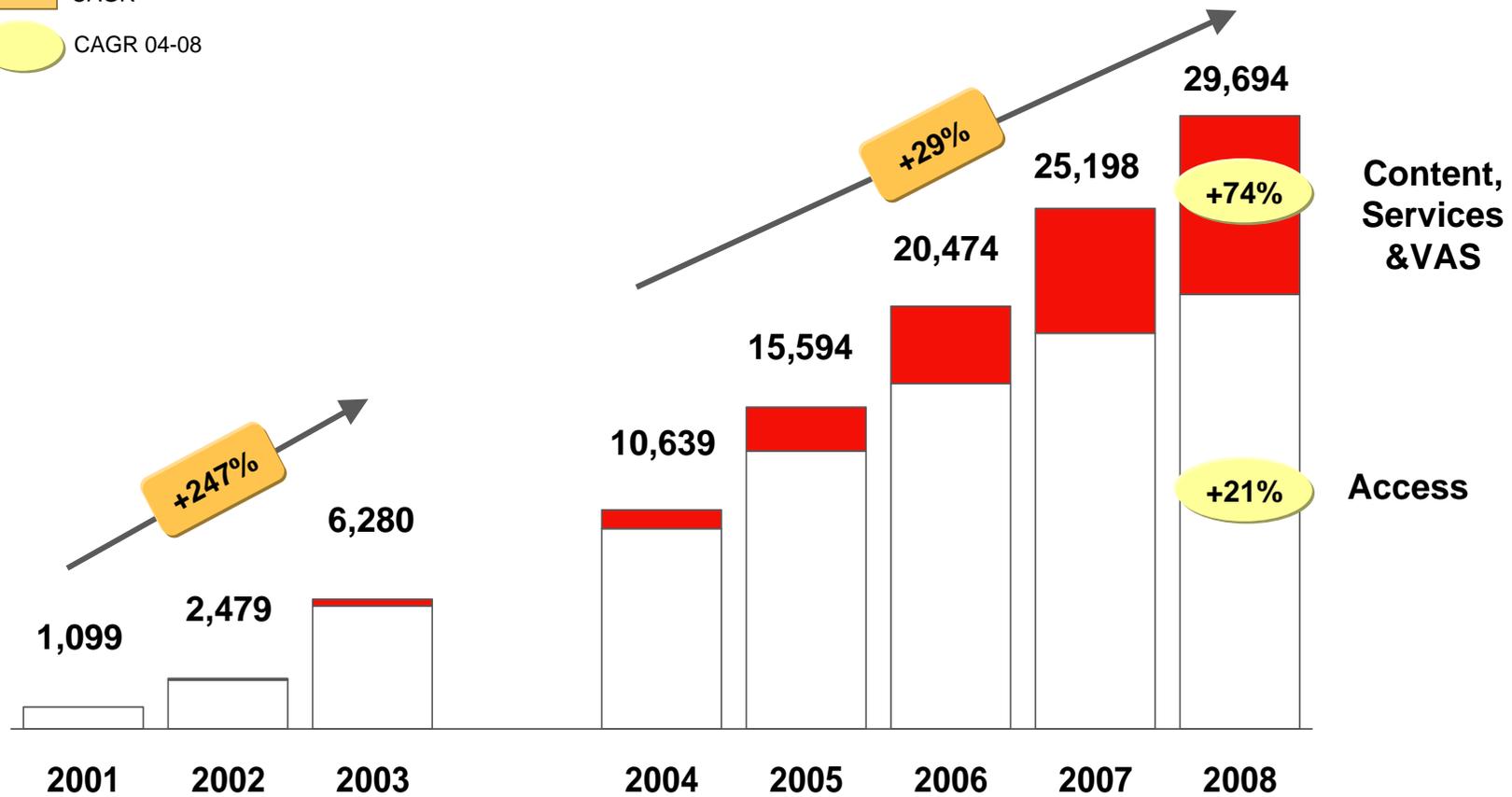


TI Wireline Broadband access ('000)

# DSL Market Value in Western Europe

Million €

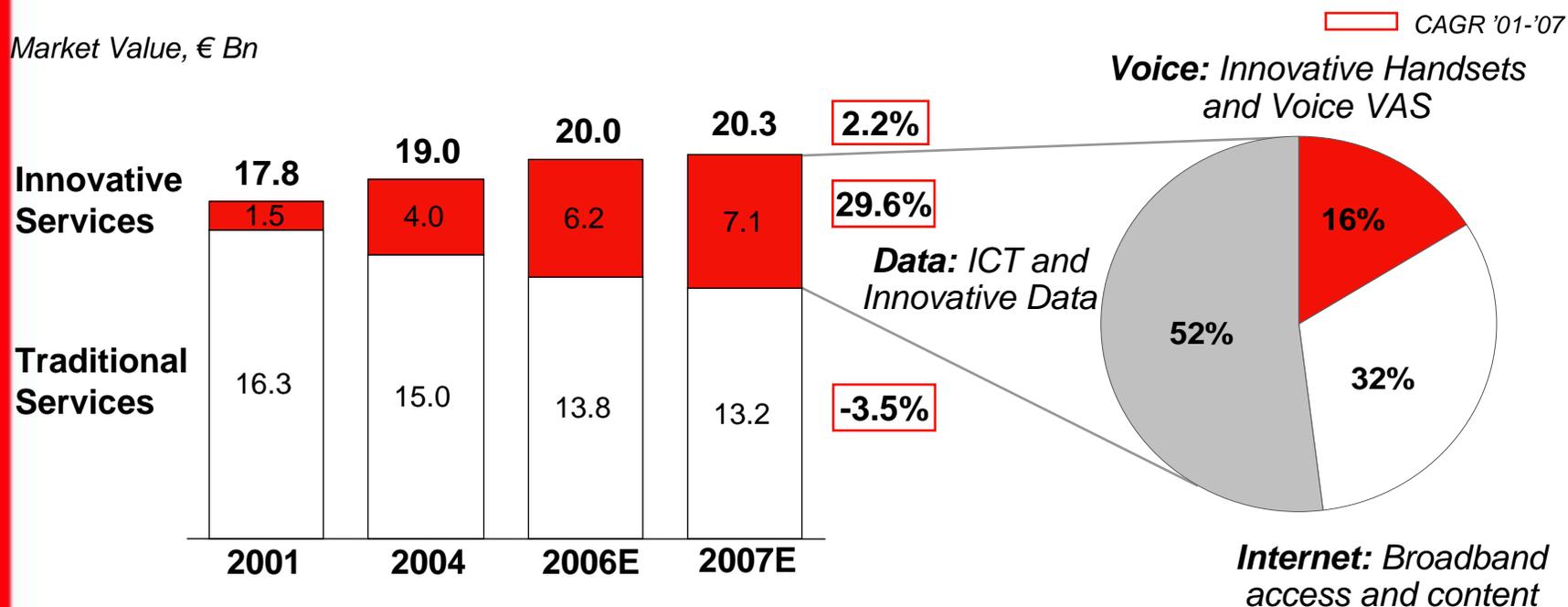
 CAGR  
 CAGR 04-08



Source: IDC, OVUM

## Italian Market change in service mix

Market Value, € Bn

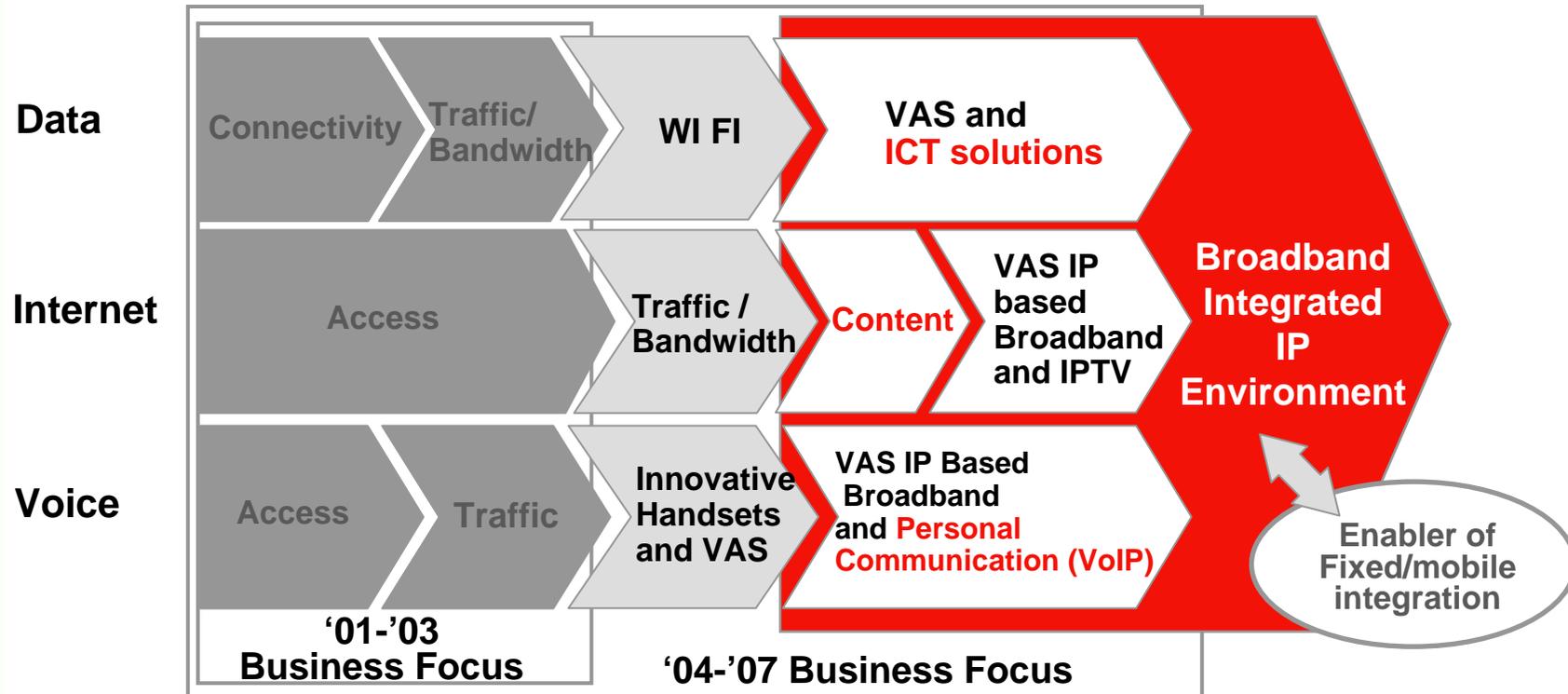


Innovative services share (%)	'04-'06 Forecast			'05-'07 Forecast
	2001	2004	2006E	2007E
	8%	18%	27%	35%

The Revenue mix is changing more rapidly than expected

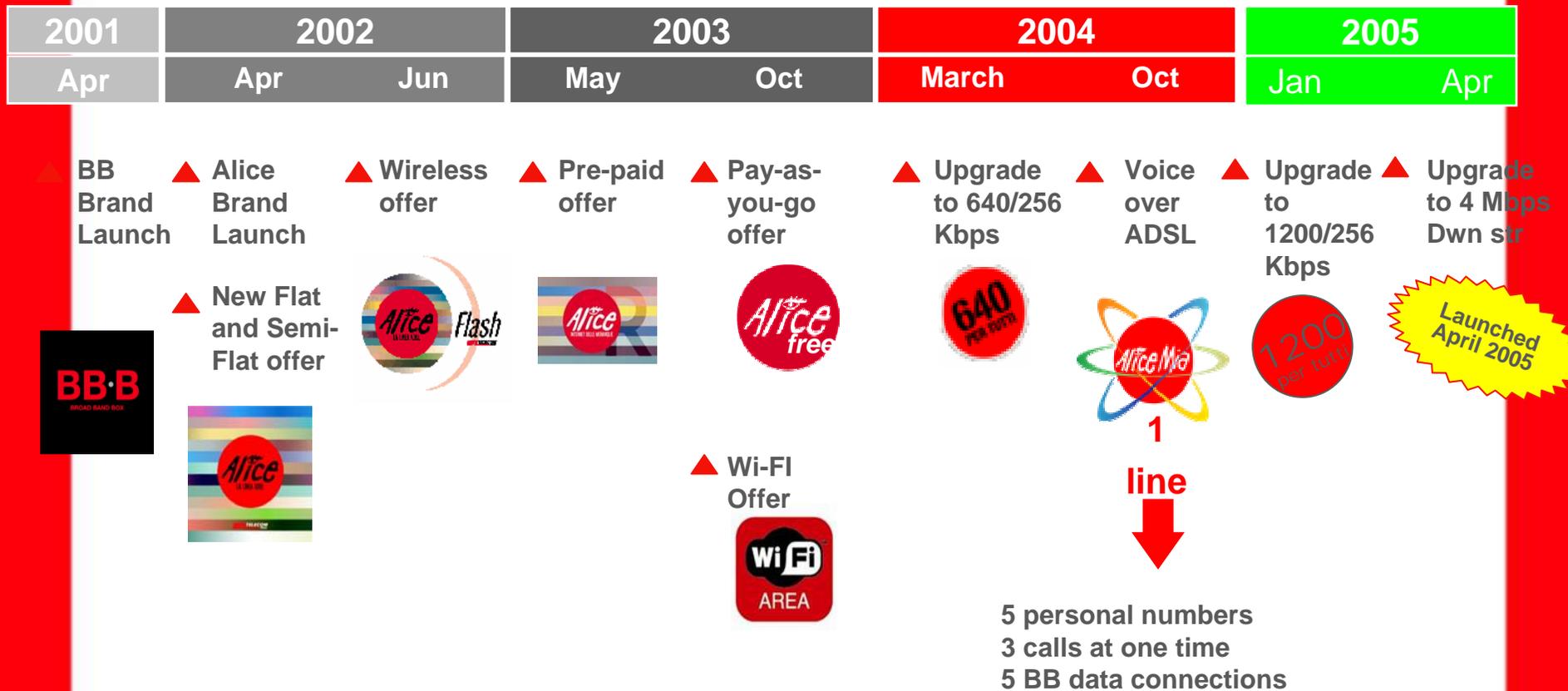
Source: Company Data, Sirmi, IDC, Jupiter, Gartner, Analysis

## Telecom Italia increasing focus on the value chain



- ▶ Business growth driven by the introduction of **innovative handsets, VAS and Content** on top of the traditional services
- ▶ Residential growth driven by **innovative handsets and content** enriching user experience

# Leadership in ADSL Mass Market Offer Innovation



# New Handset and Value Added Services Roadmap

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Oct '03

Dic '03

Feb '04

May '04

Jun '04

Oct '04

Value  
Added  
Services



Aladino  
Cordless  
Family  
Evolution



ALADINO  
CLASSIC



ALADINO  
SLIM



ALADINO  
YOUNG



ALADINO  
MICRO



ALADINO  
FLIP



ALADINO  
Wi-Fi

Video-  
communication  
on PSTN

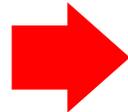
CORDED  
MULTIFUNCTION  
VIDEO PHONE



## Alice Mia and Aladino Wi-Fi: **VoIP enables Personal Communication services**



1  
line



up to 5 personal telephone numbers  
up to 3 calls at one time  
up to 5 broadband data connections at one time

Launched  
30th September  
2004



**Alice Mia gives every member of the family the opportunity to have a:**

- **personal number** (up to 5) linked to a **personal phone**
- **fully personalised innovative handset** (agenda, ringtones, user interface,..)
- **private VAS** (SMS, MMS, voicemail, ..)

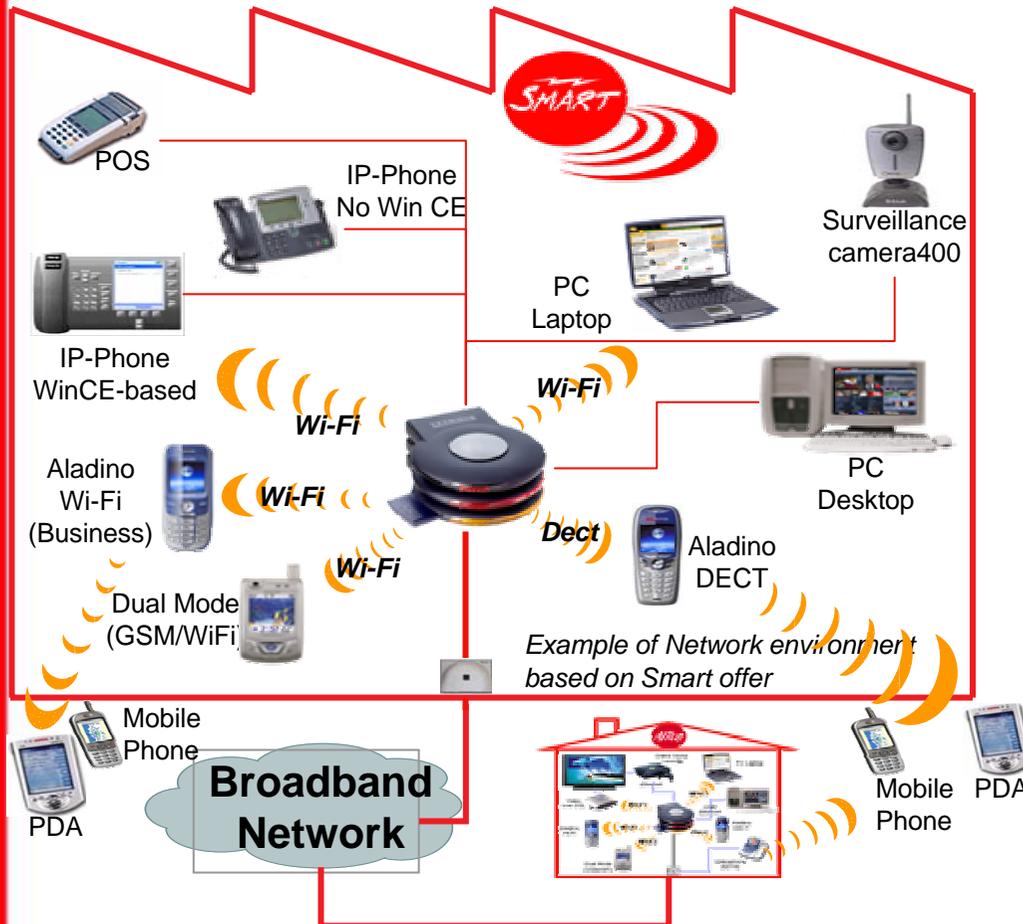


### **Aladino Wi-Fi**

- **Color screen** (65k colors)
- **Graphics, icons, animations, logos**
- **Multimedia messaging**
- **Games: possibility to download new games**
- **Integrated digital CCD camera**

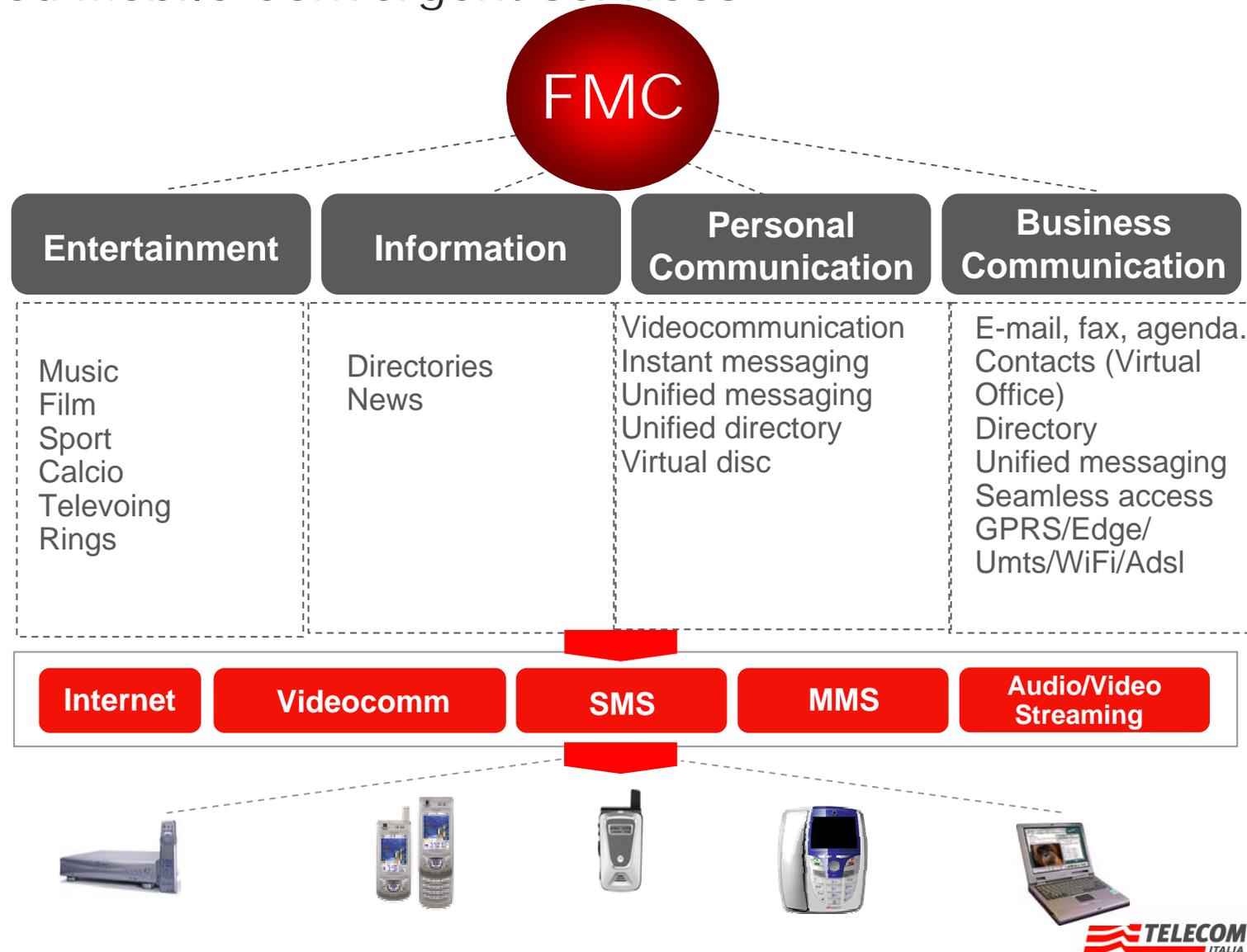
## Office Network Integrated Environment: new solutions for SMEs

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- ▶ **IP Centrex functionalities**
- ▶ **Customized Internet access with higher QoS**
- ▶ **Customized advanced VAS over fixed, mobile and wireless devices**
- ▶ **ICT solutions**

## Fixed Mobile Convergent services



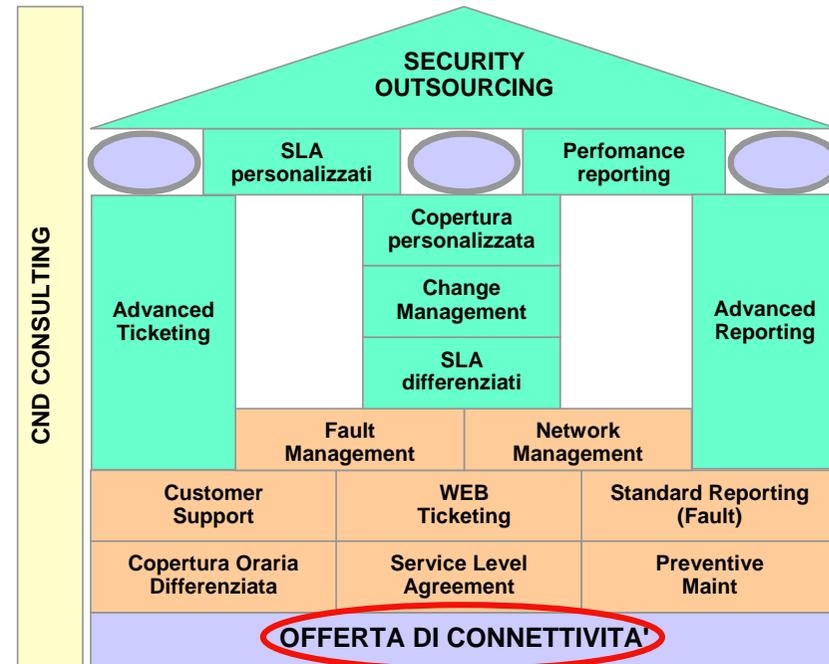
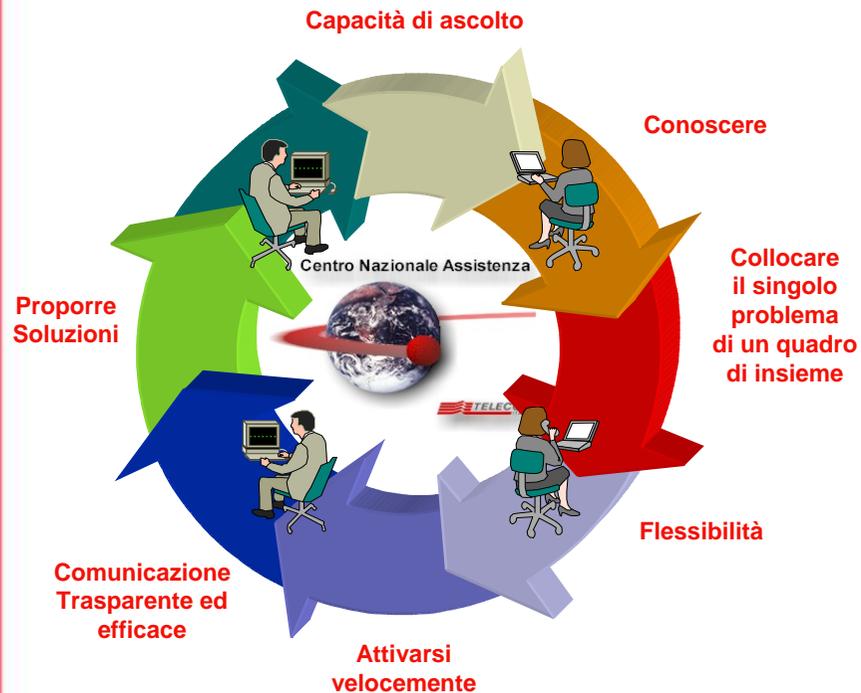
## ICT convergence

- **Web services and networking technologies are emerging as “de facto” standards for applications and systems interworking**
- **Business markets perceive IT applications as a way to generate competitive advantage**
- **Growing attention, in the business community, to contain/reduce costs and to accelerate ROI of IT investments**
- **Increasing outsourcing of IT application to reduce costs and increase service quality: the use of IT application located in remote IDC avoid/reduce IT investments**
- **ICT convergence combines the use of communication, networking and IT services/applications and allows:**
  - a flexible use of computational and storage resources
  - pay per use models that reduce total costs of service
  - Bundling of TLC and IT offers and services verticalisation



- **progressive convergence of IT & TLC markets**
- **new and wider portfolio of offer**
- **introduction of new outsourcing services**

# Telecom Italia ICT offer: "Data Symphony"



SLA = service level agreement

MODULO  
BASE

MODULI  
OPZIONALI



- ▶ Correct perception of the customer needs and operational structure
- ▶ Effective and precise feasibility study made by the project office, consulting and sales forces
- ▶ Personalized caring: single contact point, proactive maintenance

## Consulting

- On Demand Consulting: analysis of personalised solutions
- Security consulting: Vulnerability and Security Assessment
- Organisational consulting: company security (std BS 7799)
- Technical consulting: problem solving and infrastructure, networking and security certification
- Network Assessment: functional test execution in different operational conditions
- Crash Test: check of ISDN backup through fault simulation

# Data Symphony

Configuration & Mgm  
Policy in case of

main alert news

Preventive Maintenance of  
business continuity solutions

- Backup tests through ping and Web reports
- Control of the repetitive fault on the client network
- Network performance control via "network health" reports

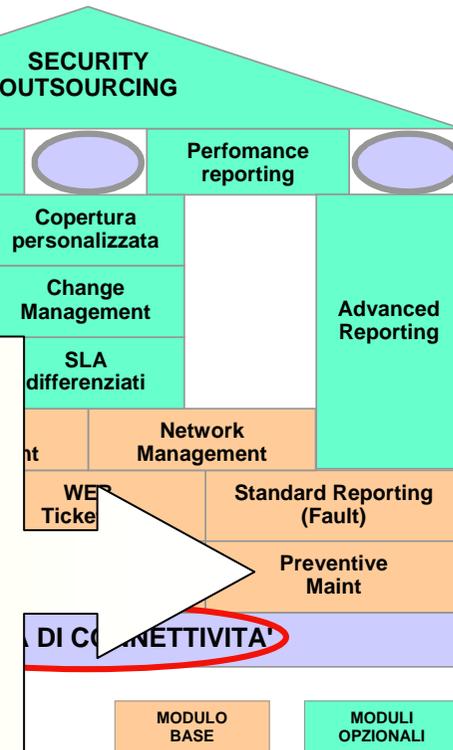
Comunicazione  
Trasparenza  
efficace

"TuconTI" caring centre  
• Personalized service and management

Attivarsi  
velocemente



- ▶ Correct perception of the customer needs and operational structure
- ▶ Effective and precise feasibility study made by the project office, consulting and sales forces
- ▶ Personalized caring: single contact point, proactive maintenance



# ICT Convergent services: evolution of the

## Infrastructure Management:

- IT Systems administration including HW, SW and Middleware

## Desktop Management:

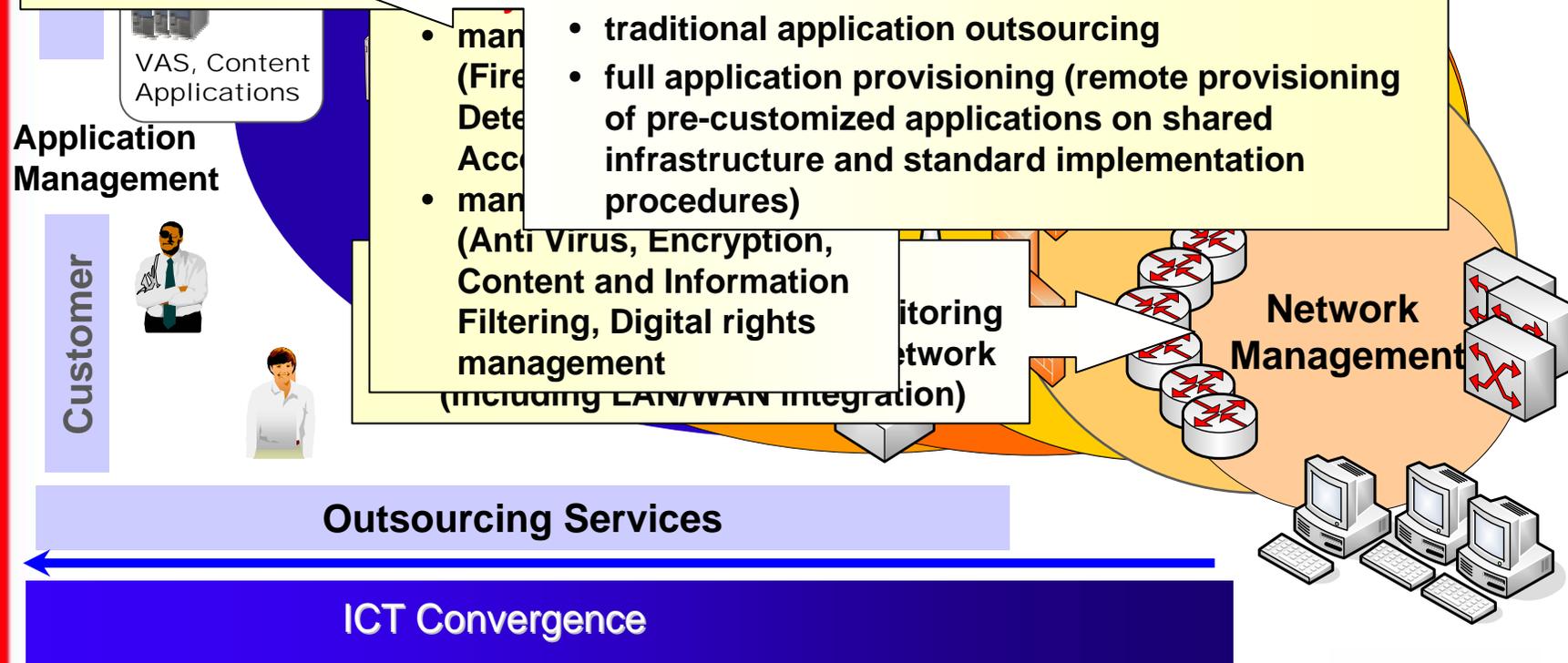
- Desk top administration
- Configuration Services, M Security and P

## Data Centre Services:

- IT location areas and services in the IDC, differentiated into Co-location, Housing, Hosting and complementary services like Storage, Back-up

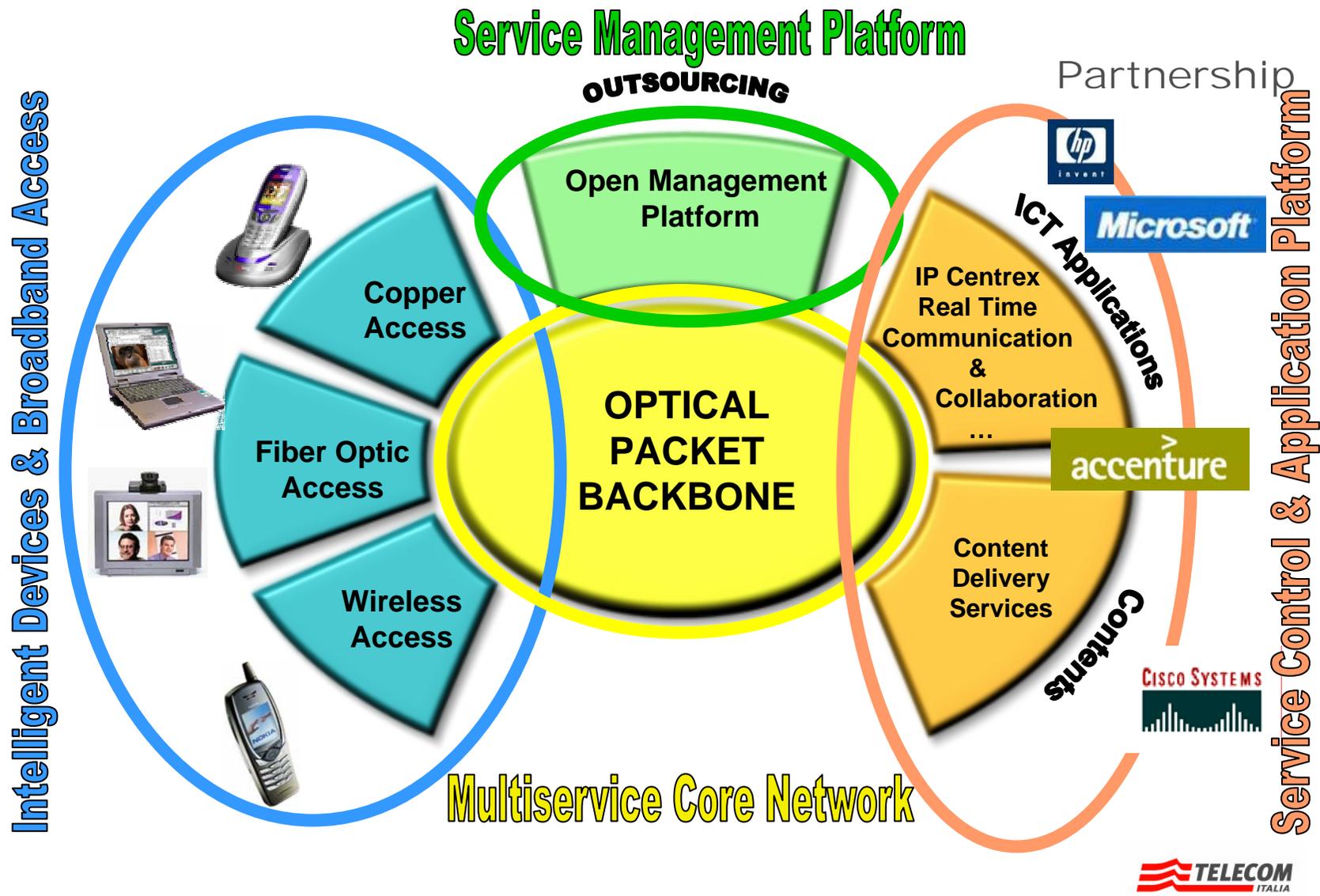
## Application Management:

- basic application management
- traditional application outsourcing
- full application provisioning (remote provisioning of pre-customized applications on shared infrastructure and standard implementation procedures)

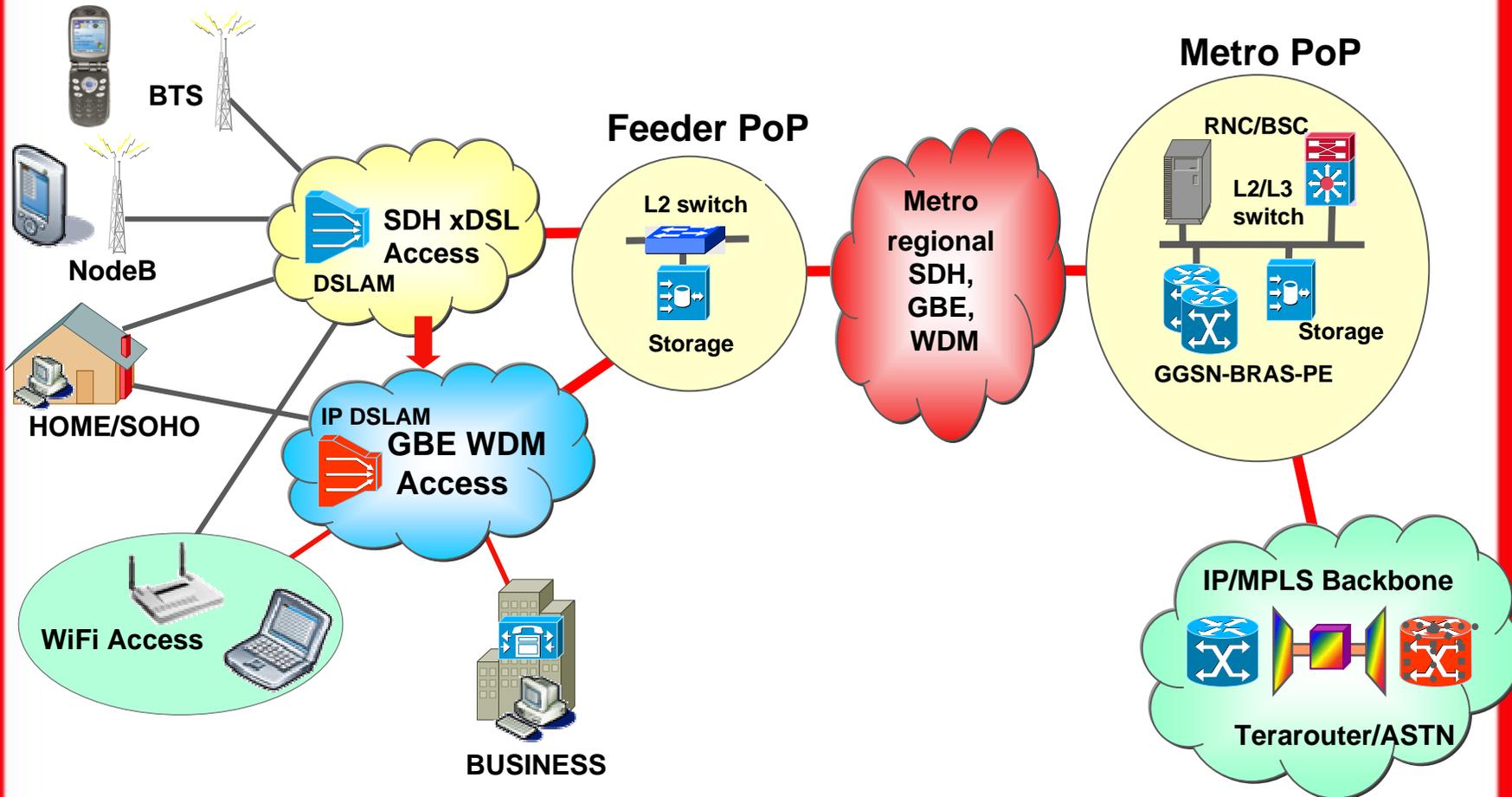


## Le architetture e le tecnologie

# Network Model

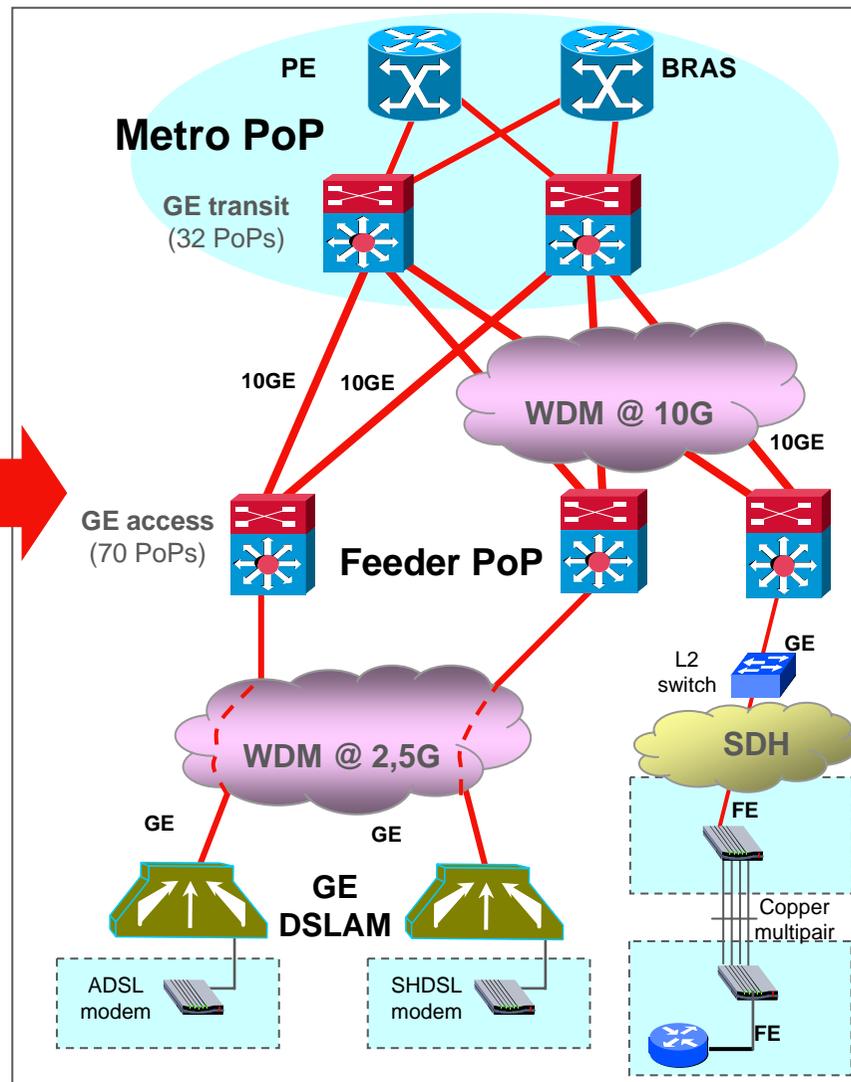
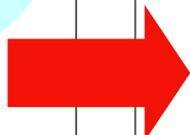
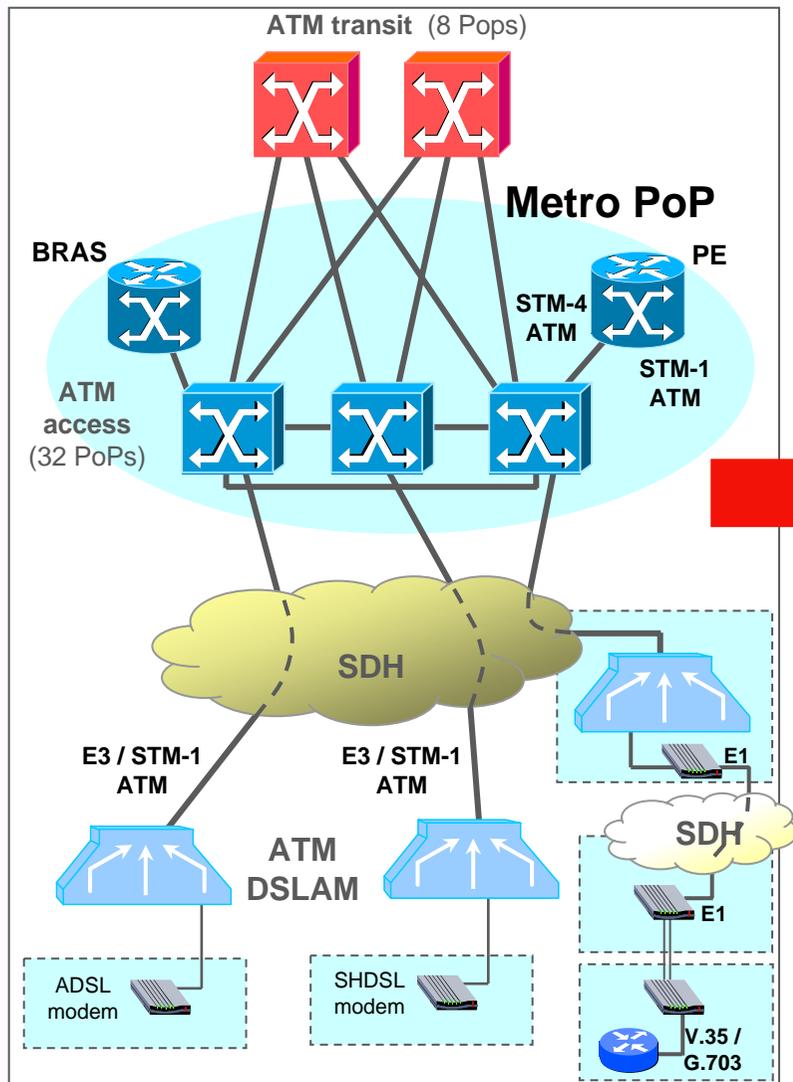


# Access, metro/regional and backbone evolution

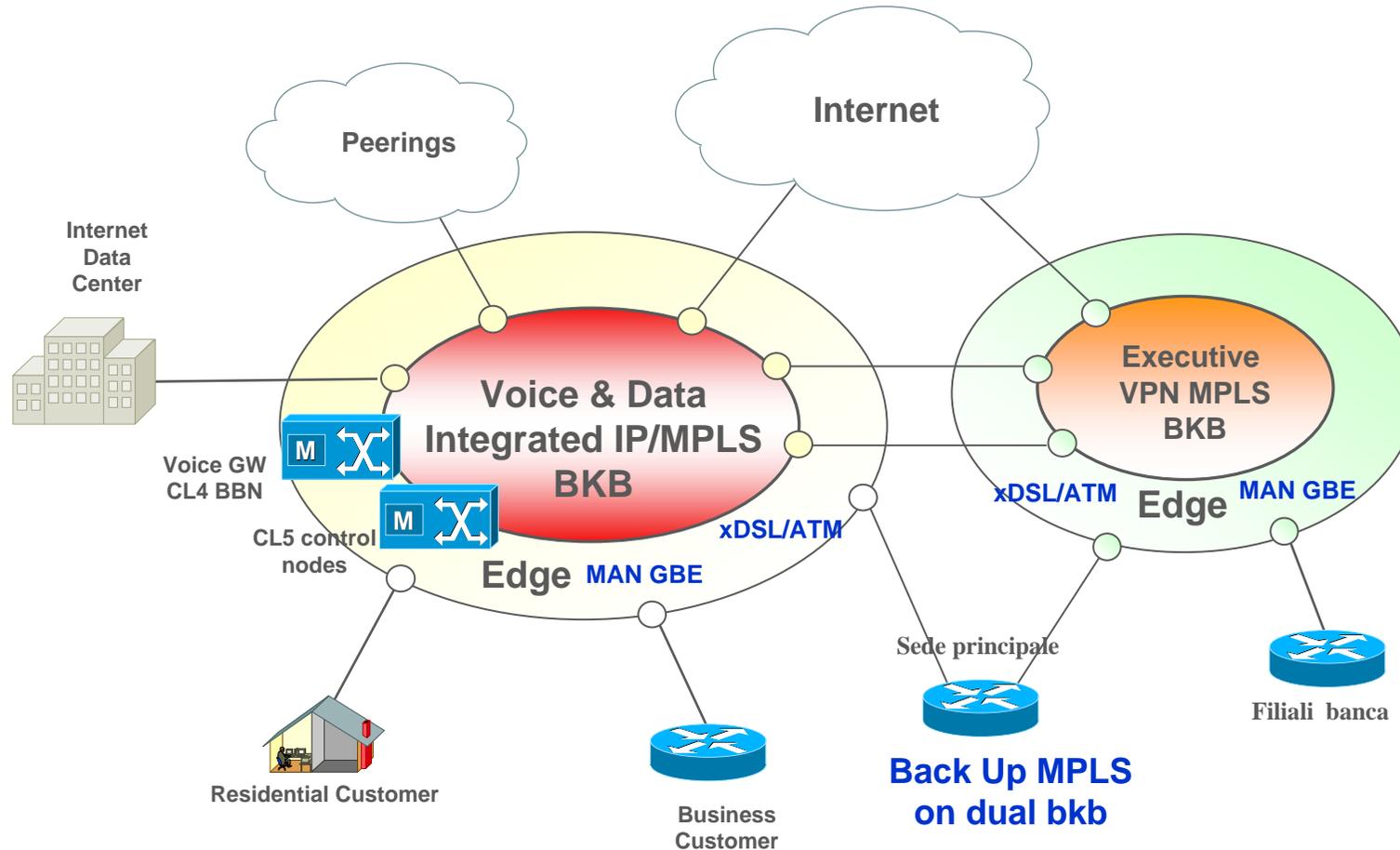


- ▶ Access networks evolving towards IP DSLAMs and FO
- ▶ Metro networks based on cost effective GBE, WDM and NG SDH
- ▶ Backbone network based on IP/MPLS and ASTN paradigm

# Evolution from ATM to Ethernet in metro areas



# Business continuity on separated BackBones



# Optical Transport & Packet Backbone paradigm

"only two Layers but many Services"

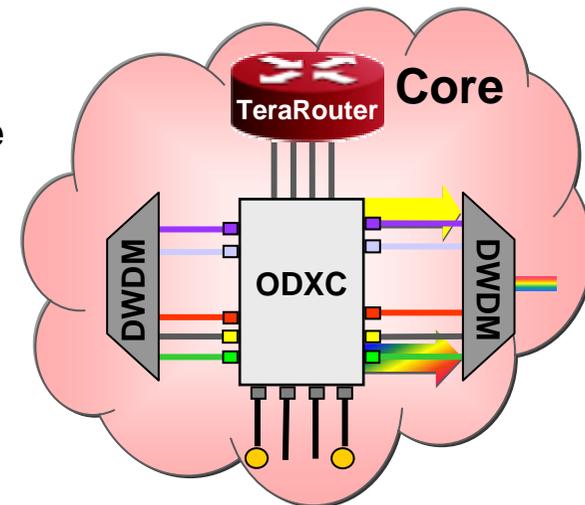
Voice, Data, Video for Business & Mass Market customers

**IP/MPLS**

the **IP/MPLS OPB Backbone** transports traffic for Executive and Mass Market Services, Internet Data Centers, Private and Public Peerings and Class4/Class5 voice traffic

**OTN  
ASTN**

the **Multiservices Optical Transport Network (OTN)** based on ASTN (Automatically Switched Transport Network) paradigm for SDH, IP and... the "Next Thing"



Convergence will be the goal: the L3 and L1 Integration

# ASTN Optical Transport Network advantages

## Economics:

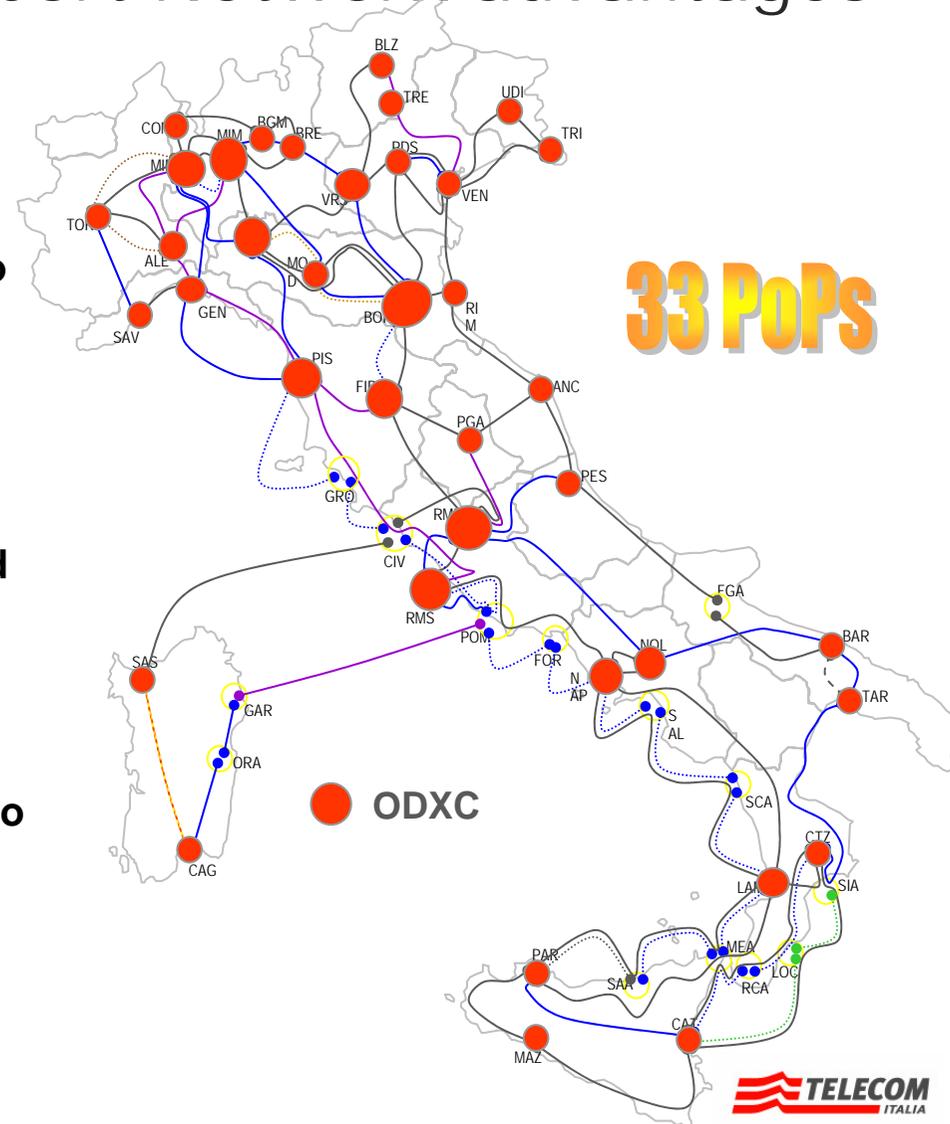
- fast restored mesh can save up to 20% in Capex for traditional services compared to SDH ring architecture

## New services:

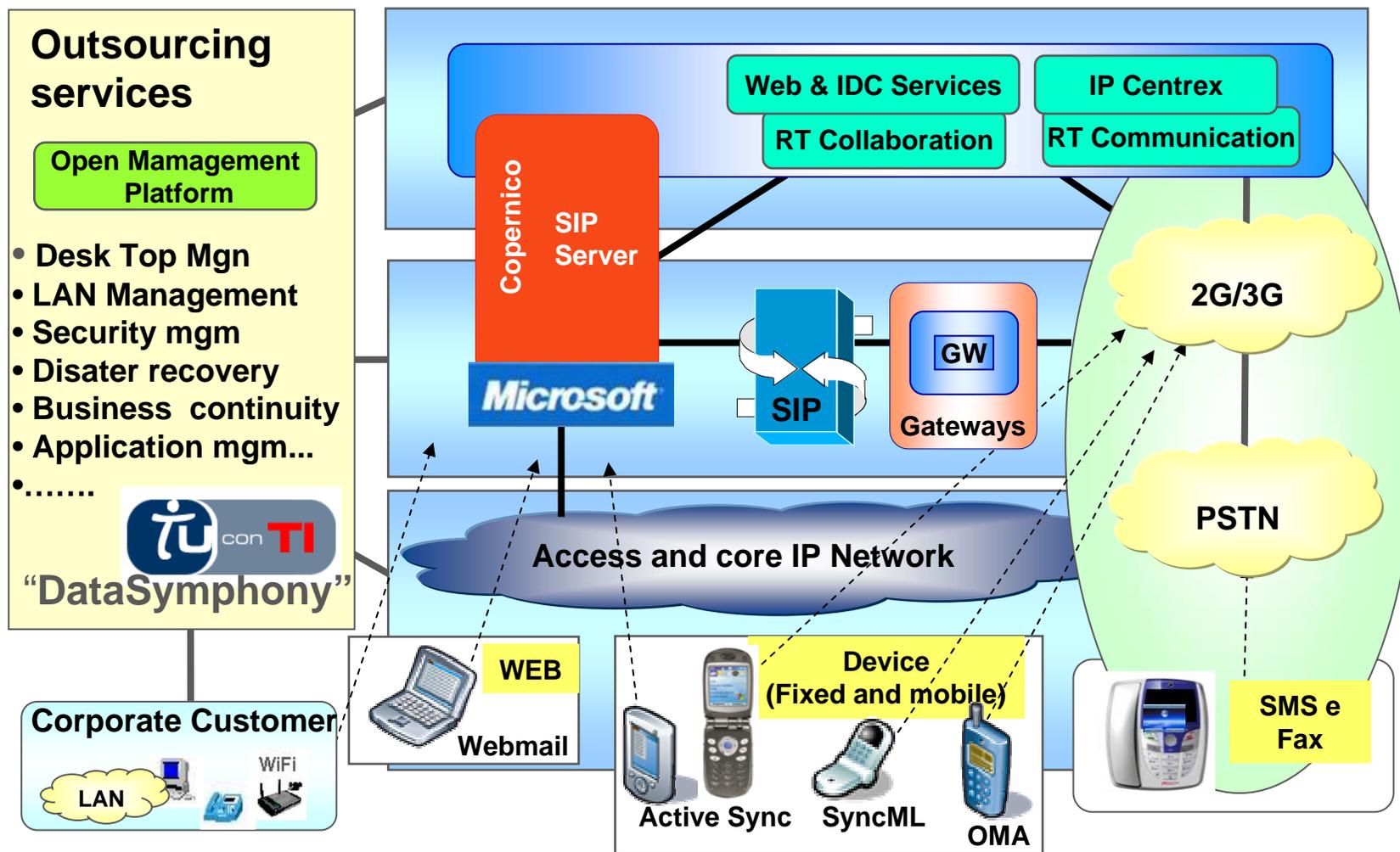
- 2.5Gb/s and 10 Gbit/s unprotected and protected services

## New class of availability:

- differentiated SLA over the same infrastructure (from unprotected to highly protected up to 99.999%)



# ICT services & application platforms



Thank you