



IT & Network strategy and update

Jean-Philippe Vanot
Networks, Carriers & IT
Executive Vice President

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Agenda



- Recent developments
- IT&N mission and objectives within NExT
- Evolutions in technology
- 2008 vision and strategy
 - Network
 - IT
- Conclusion

Recent developments



→ Acceleration of NExT transformation

- Despite expected slowdown in 2006 revenues growth, IT&N objective is maintained, namely to achieve Network and IT OPEX savings representing up to 2pp of EBITDA margin by 2008

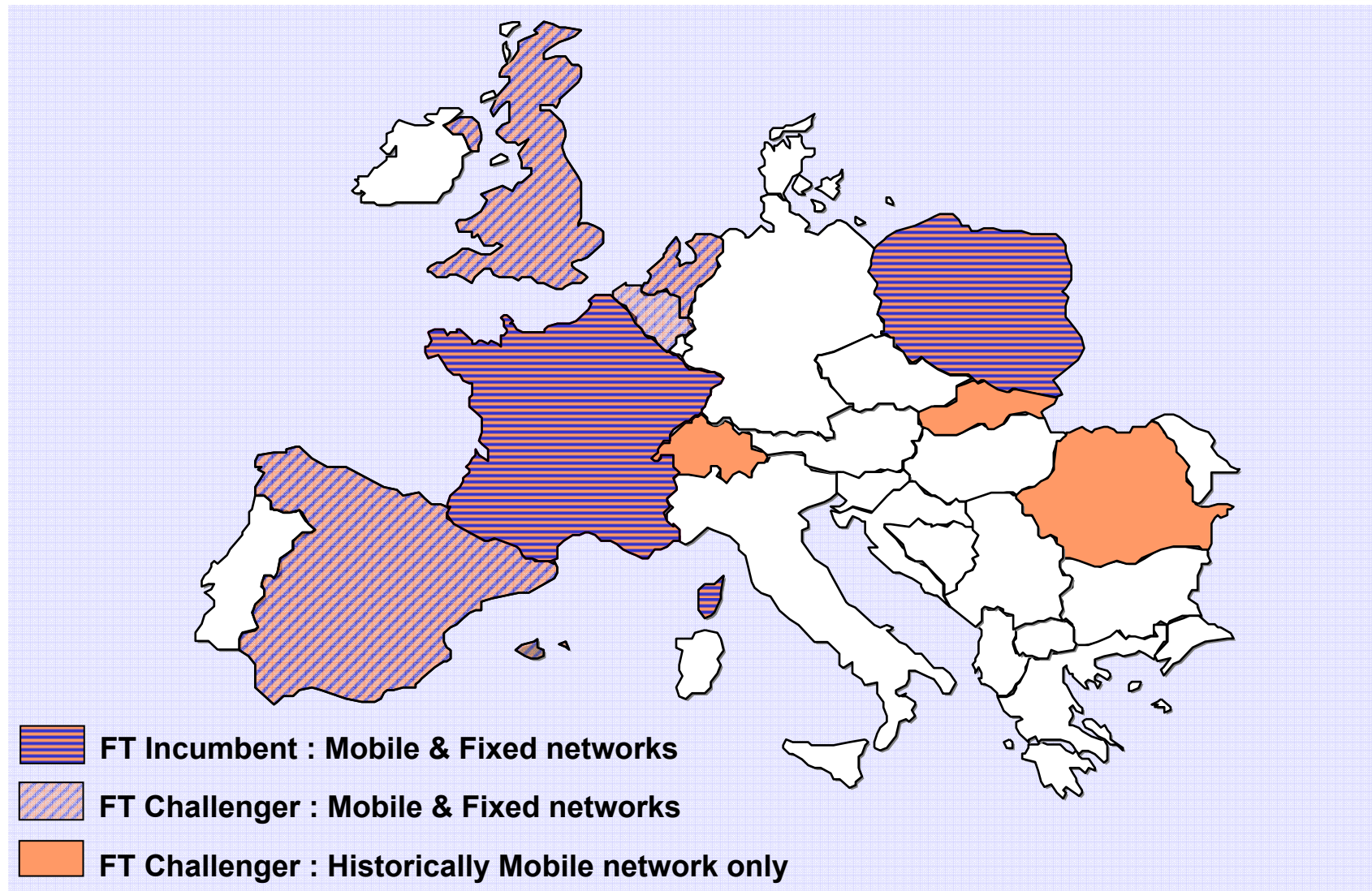
→ FTTH experimentation announced

- Improve FT readiness for very high broadband services on customer, operations and partnership dimensions
- Assess optimal timing for commercial launch
- First tests in greater Paris region before summer of 2006, possibly followed by other regions in France or abroad by 2007



IT&N mission and objectives within NExT

Current FT Group Networks in Europe

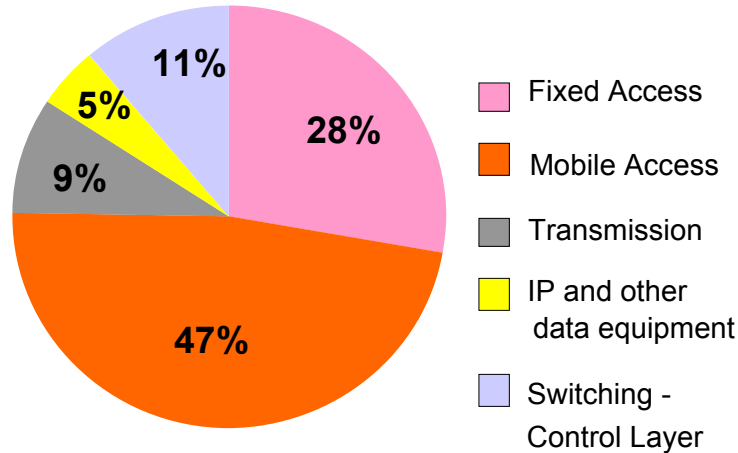


→ Delivering the integrated operator in Europe whether incumbent or challenger

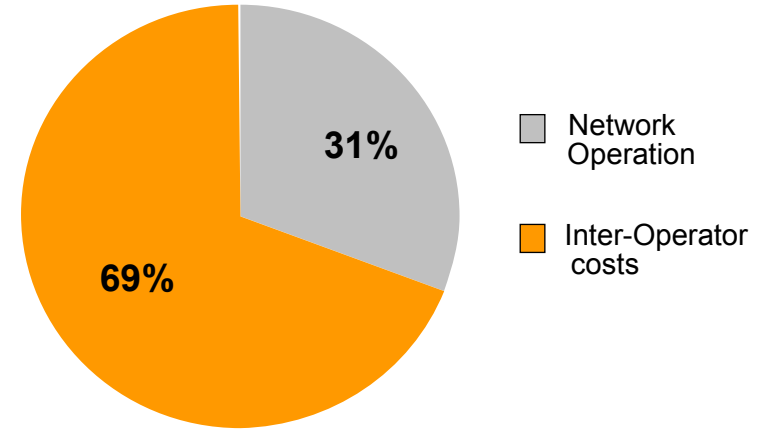
NExT starting point: 2005 estimated*



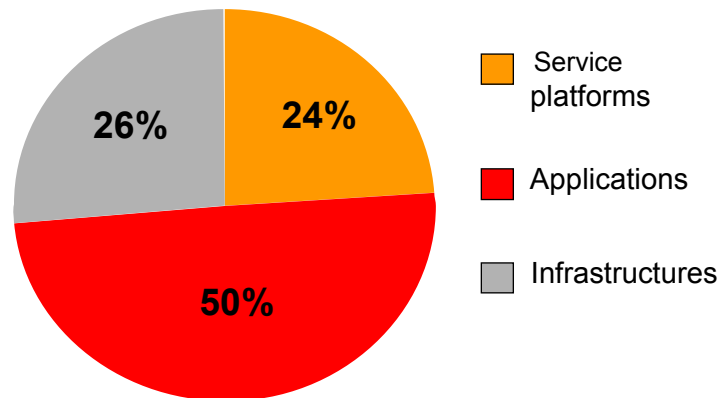
Network CAPEX ≈ 3.4 Bn €



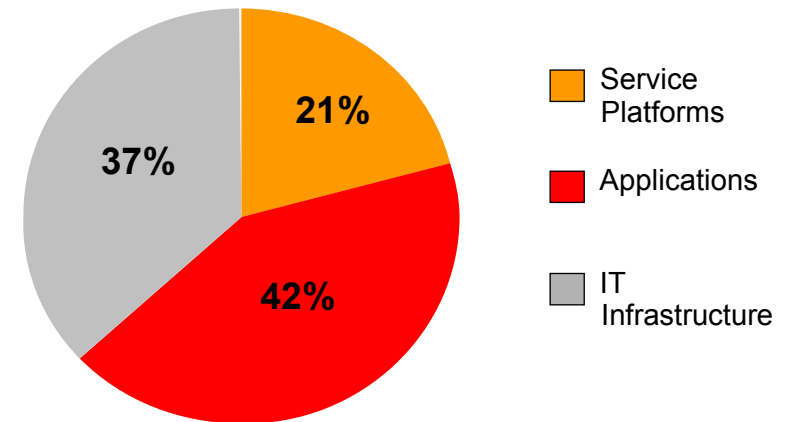
Network OPEX ≈ 10.6 Bn €



IT CAPEX ≈ 1.5 Bn €



IT OPEX ≈ 1.3 Bn €



➔ Total estimated IT&N spending for 2005 was ≈ 16.8 Bn €

* All figures excluding Amena

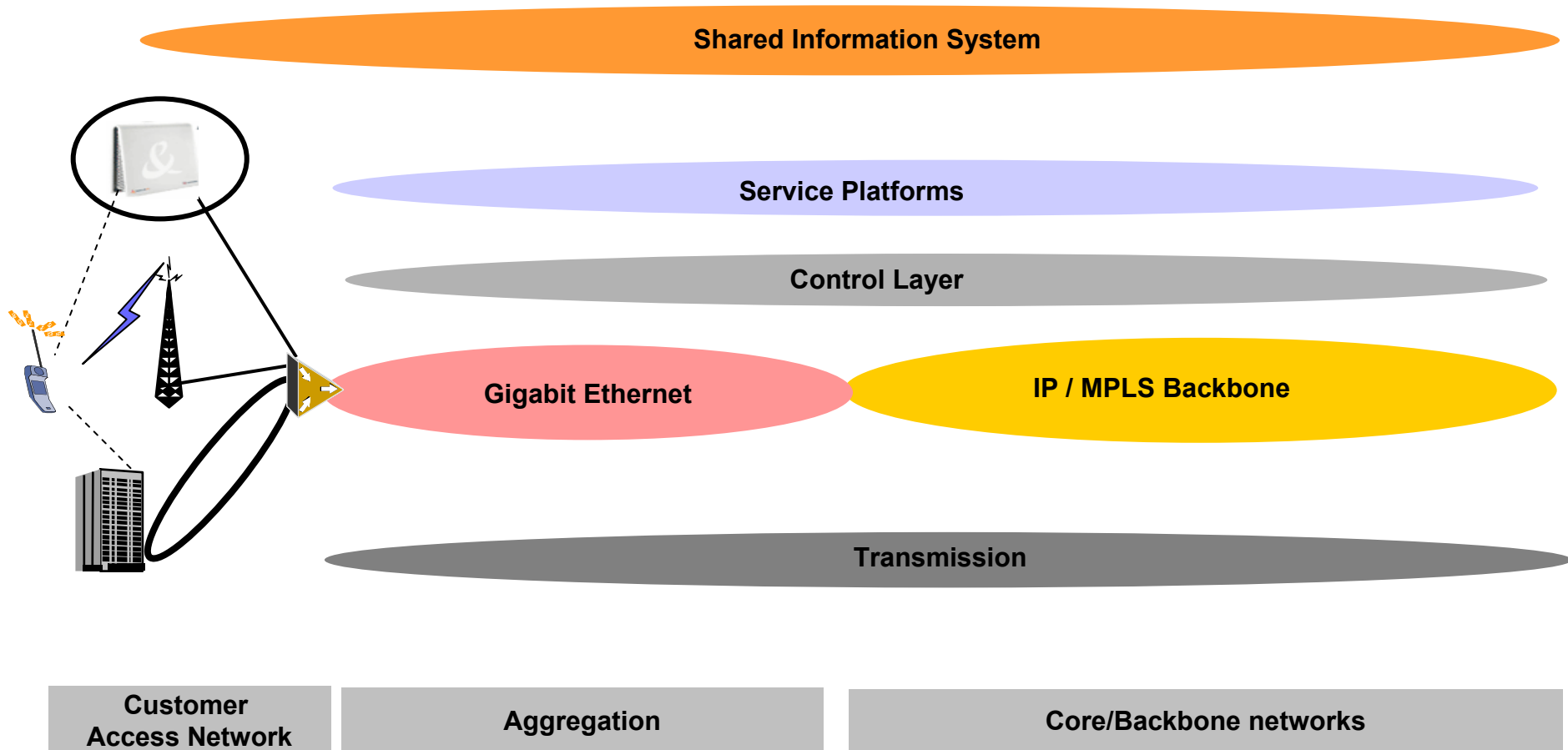
IT&N objectives for 2008



- Improve “Time-to-market” performance
- Achieve best-in-class end-to-end QoS
- Improve cost effectiveness
 - Network and IT OPEX savings representing up to 2pp of EBITDA margin
 - Group IT&N CAPEX to sales to remain between 10% and 11% over 2006-2008, consistent with NExT guidance of Group CAPEX to sales to remain at around 12%

- IT&N to support the integrated operator model and enable differentiated services

Our vision: One IT & Network

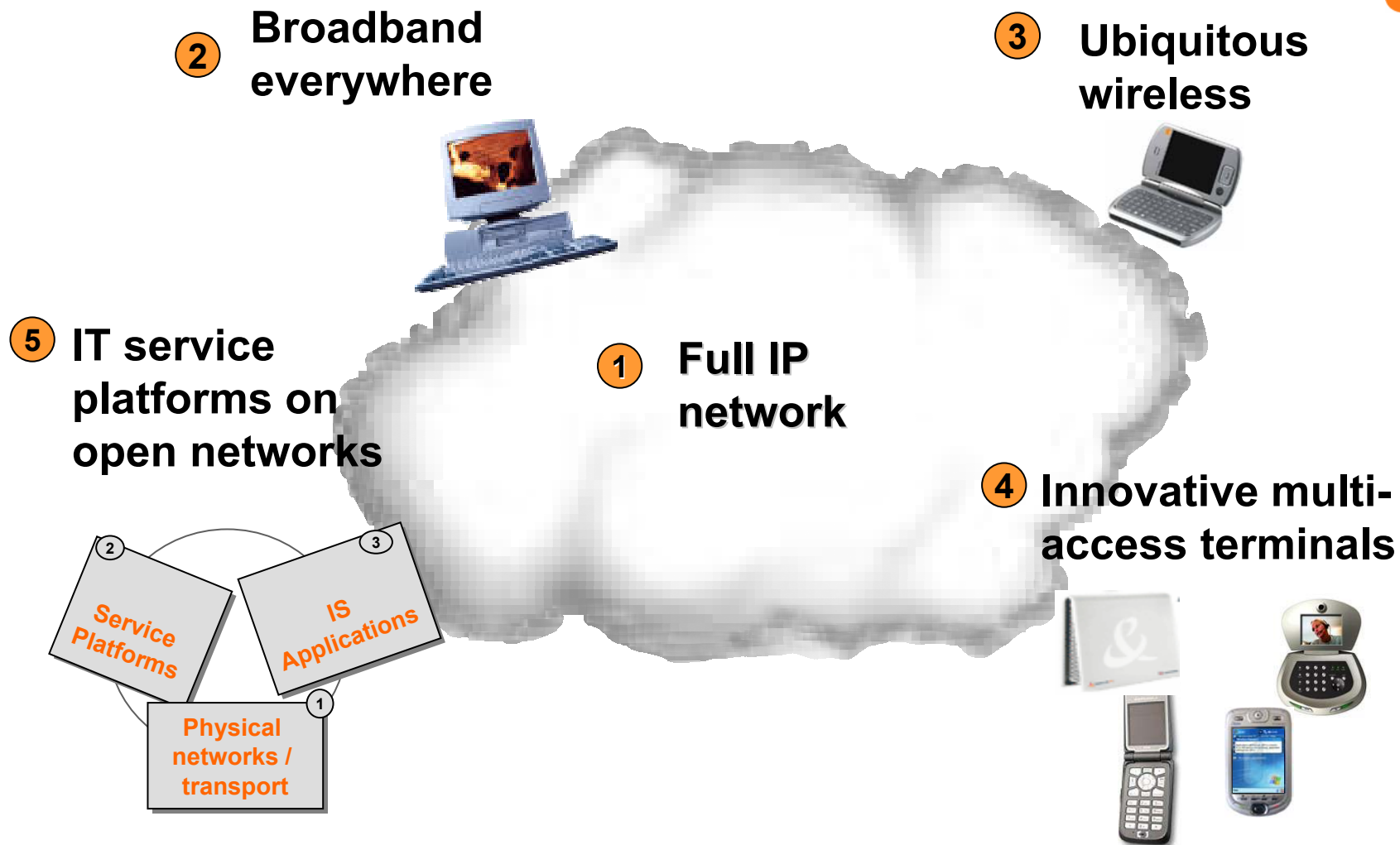


→ One IT& Network is our strategy toward NExT objectives



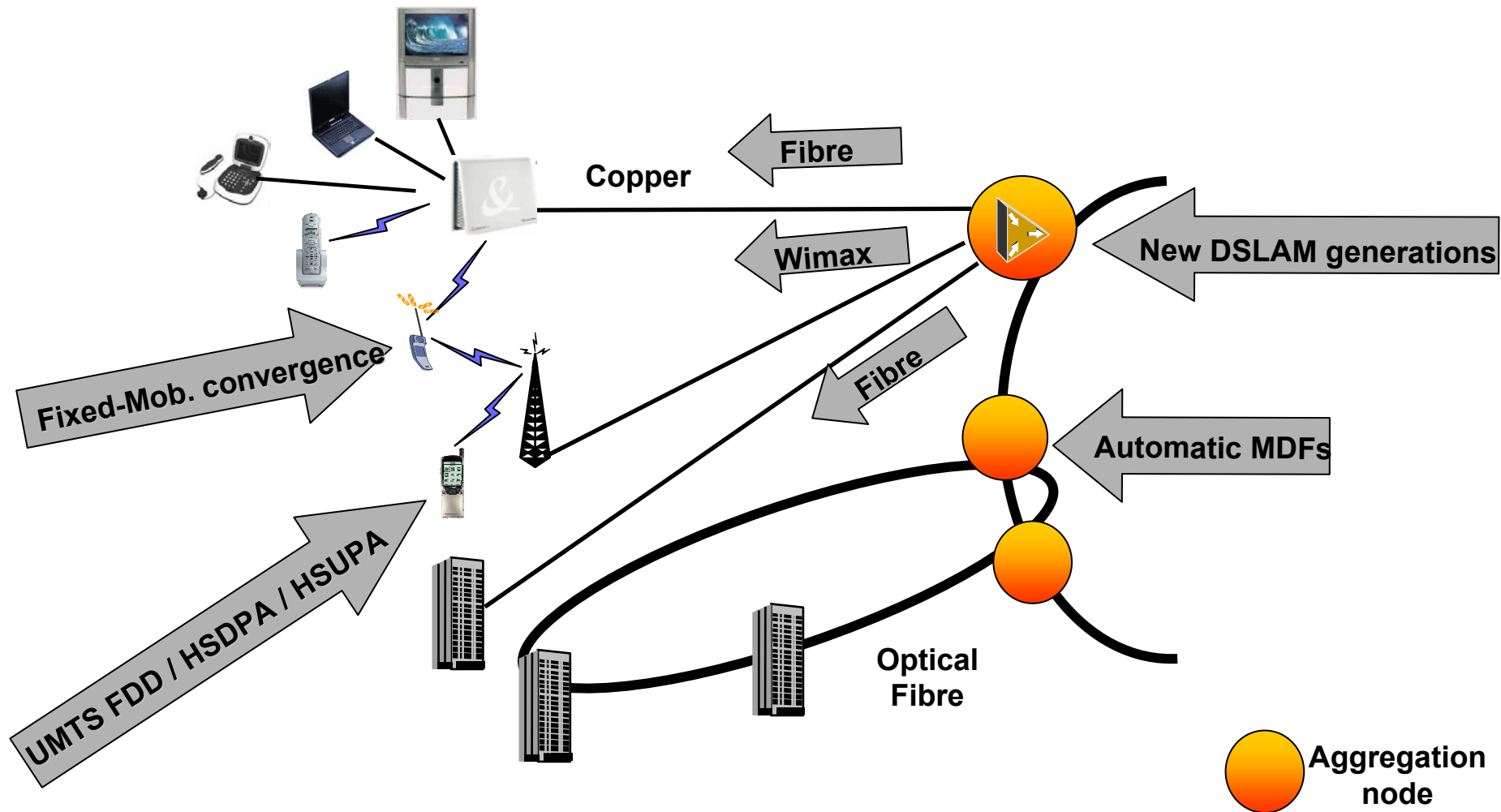
Evolutions in technology

5 majors evolutions in technology



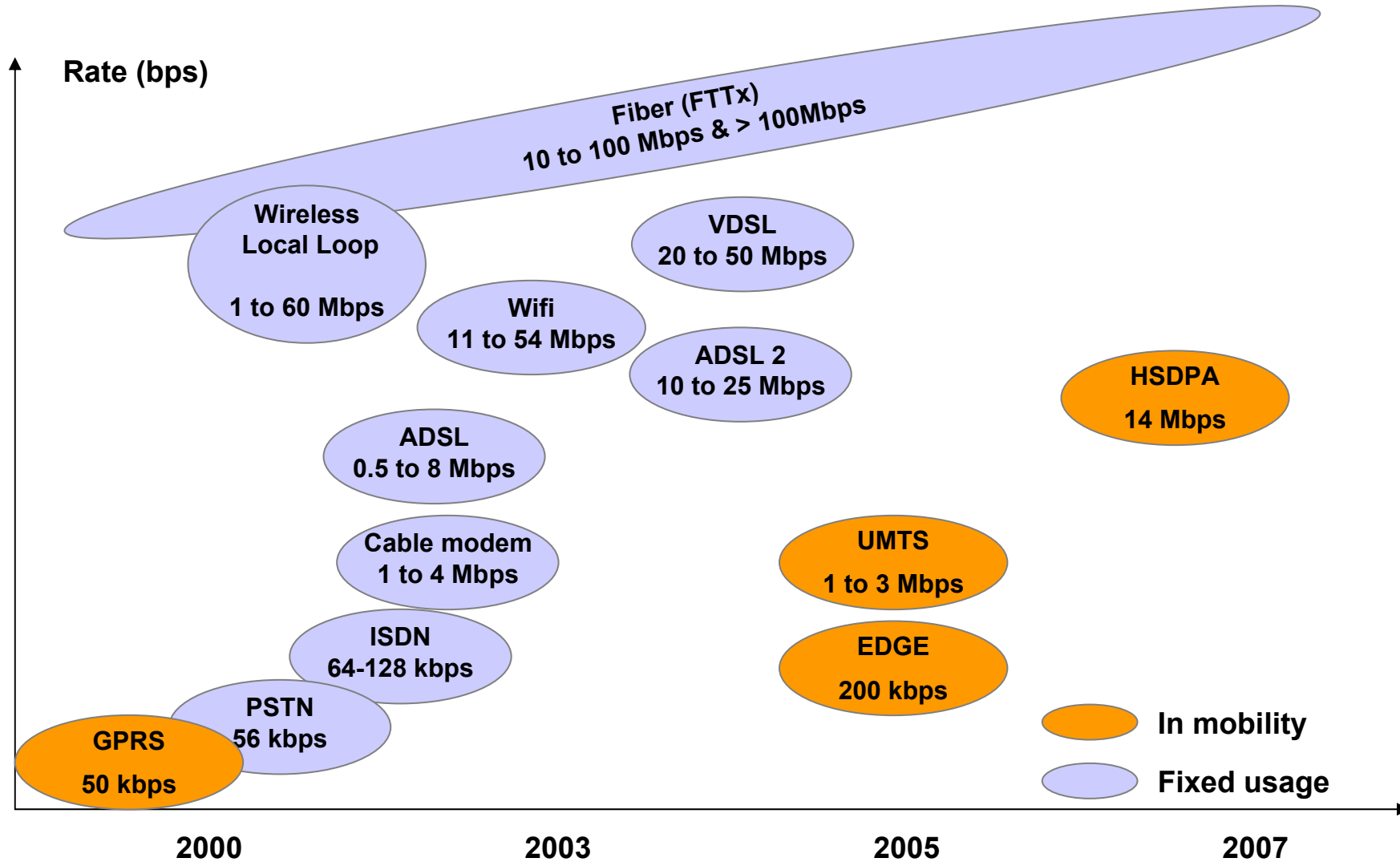
→ Control and inter-working of all 5 evolutions is the foundation of our competitive edge: time-to-market, end-to-end QoS and costs

Evolution in access networks



➔ New Fixed and Mobile technologies enable increased bit rates, better cost efficiency, better quality and convergent services

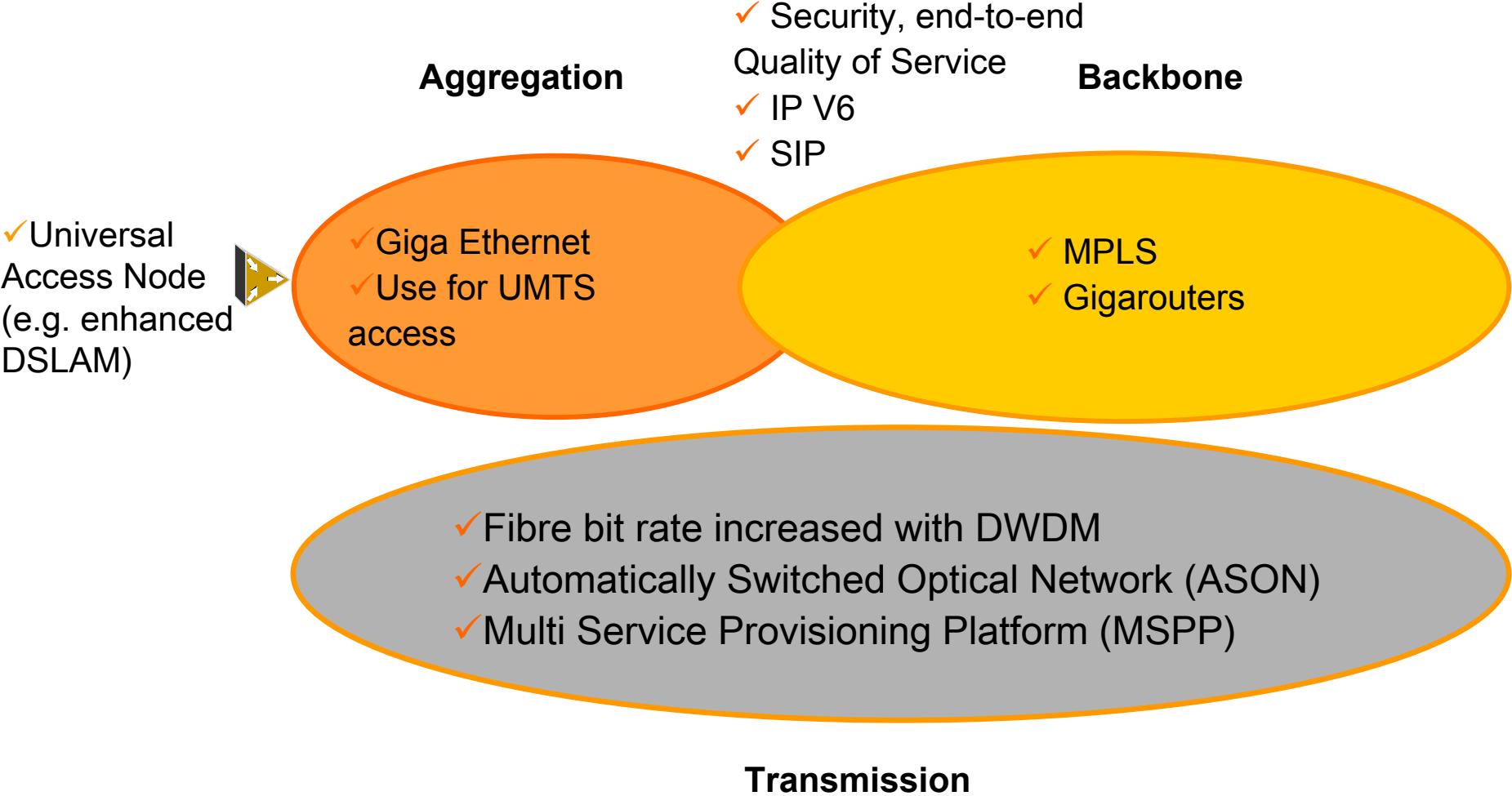
Broadband everywhere



→ Technological options proliferating

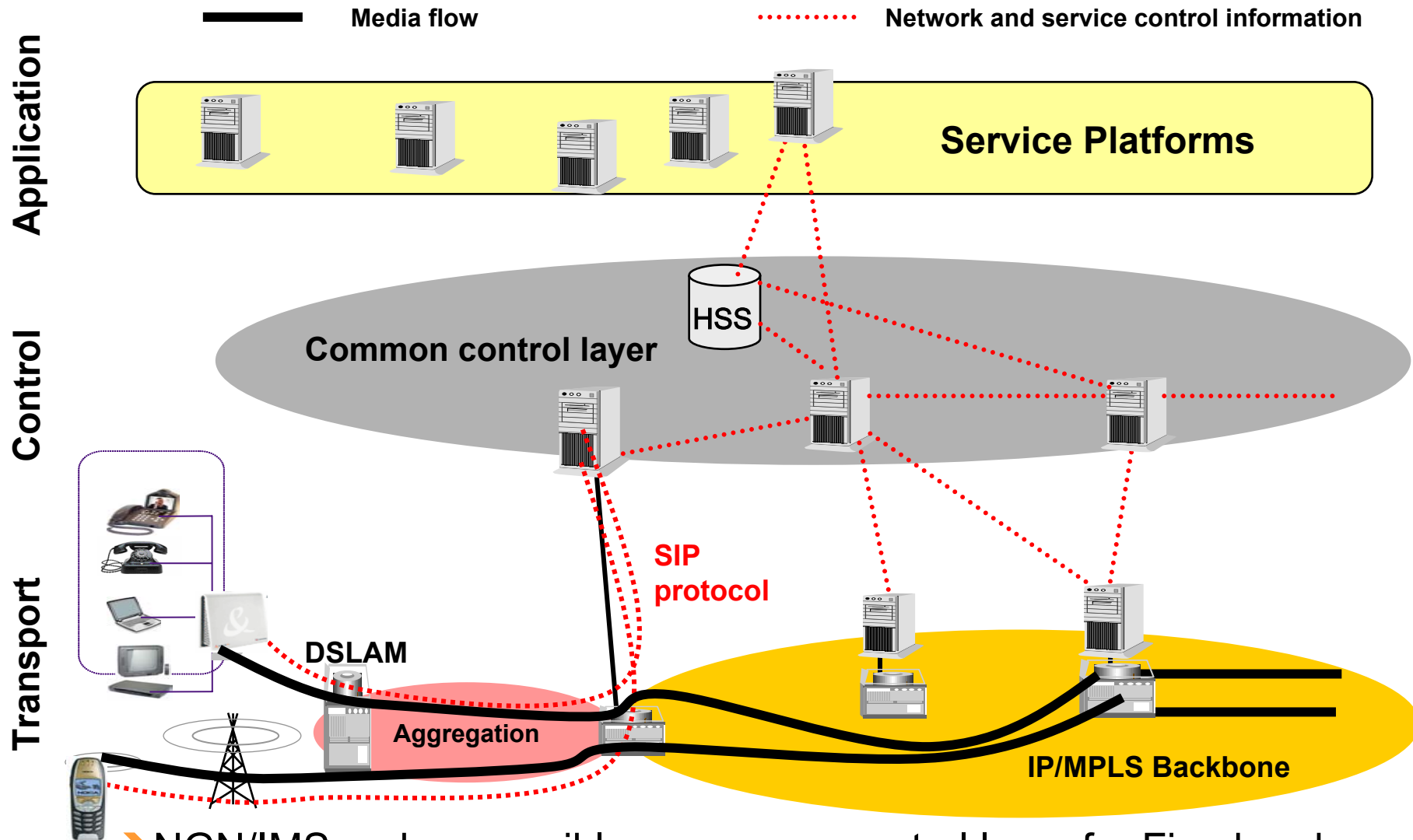
Source: Idate, mid-2005

Evolution in aggregation and backbone networks



➔ A formidable array of technology opportunities

Evolution in network and service architecture



→ NGN/IMS makes possible a common control layer for Fixed and Mobile network and multimedia services and paves the way towards a new generation of convergent fixed-mobiles services



2008 Vision and strategy

→ Network

- Network transformation
- Network and field operations
- Inter-operator costs

→ IT

Fixed broadband roadmap in Europe

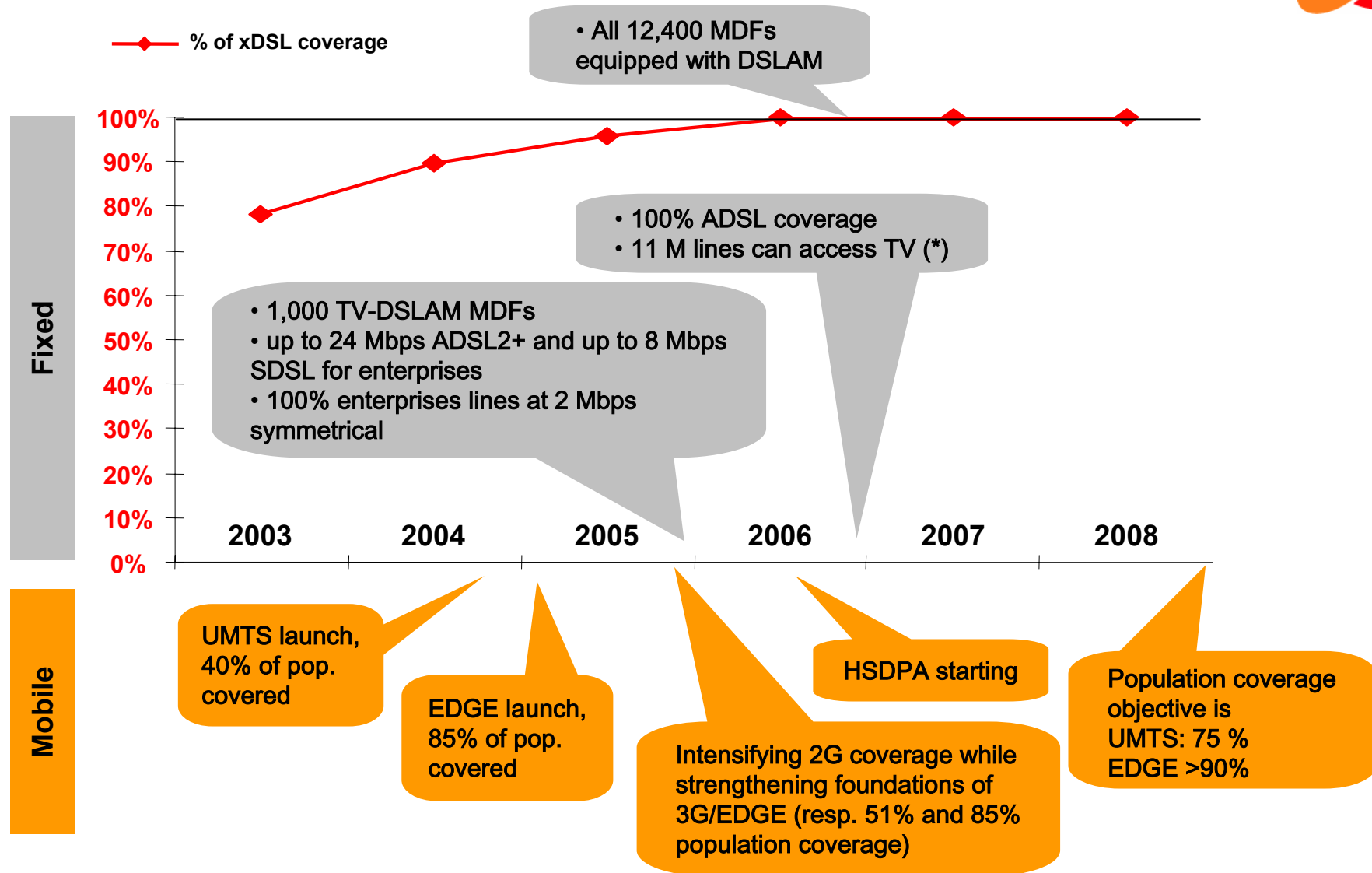


		France	Poland	UK	NL	Spain
Millions of DSL accesses	Sept. 2005	5,9 (on FT DSLAM)	1.0	0.8	0.3	0.5
DSLAM coverage	2008	100% (96 % EoY 2005)	100% (93 % EoY 2005)	Target is 50% - 65% ULL coverage within 2 - 3 years		
Multiple Play launches	VoIP	✓	1Q 2006	since 03/2005	since 11/2004	PSTN Voice + Internet bundle
	TV-VOD	✓	H1 2006	H2 2006	H2 2006	H1 2006

- ✓ Develop elementary building blocks common to all countries
- ✓ Rationale for ULL is network savings, flexibility, increased bit rates, innovative and converged services

➔ Build in each country the multiplay operator, while adapting to the local market environment and regulation

Broadband roadmap in France



(*) under current technical conditions

→ A rapid deployment of confirmed technologies

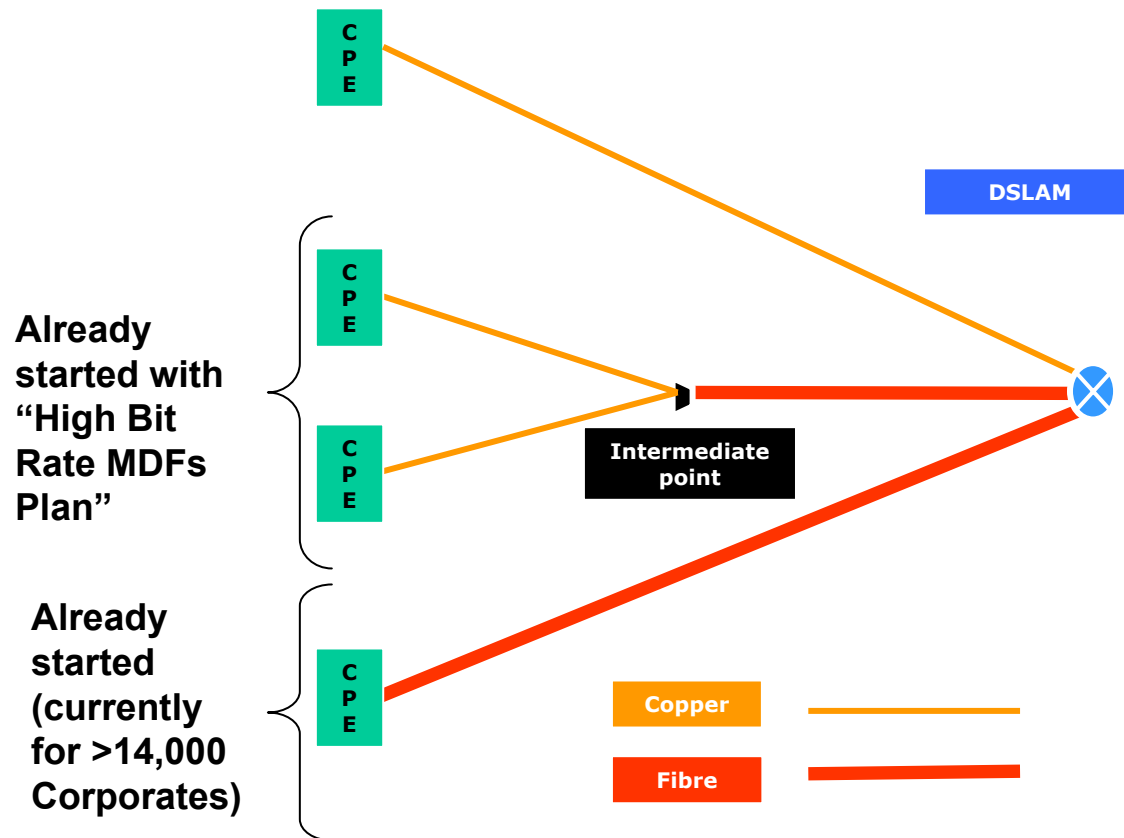
Wireless technologies in fixed access in France



- Combined with xDSL, they will allow 100% broadband coverage
- WiFi, combined with satellite, is already used in the most remote areas
- WiMax is expected to offer $n \times 10$ Mbps to be shared between users within a few kilometers

- Mix and match confirmed technologies to extend broadband coverage

Combining copper and fiber in fixed access in France



→ Shorter copper lines are required to deploy very high bandwidth

→ One solution is to bring the DSL equipment closer to customers and connect it to the Central Office using fibre

→ Another solution is to connect the customer directly to fiber

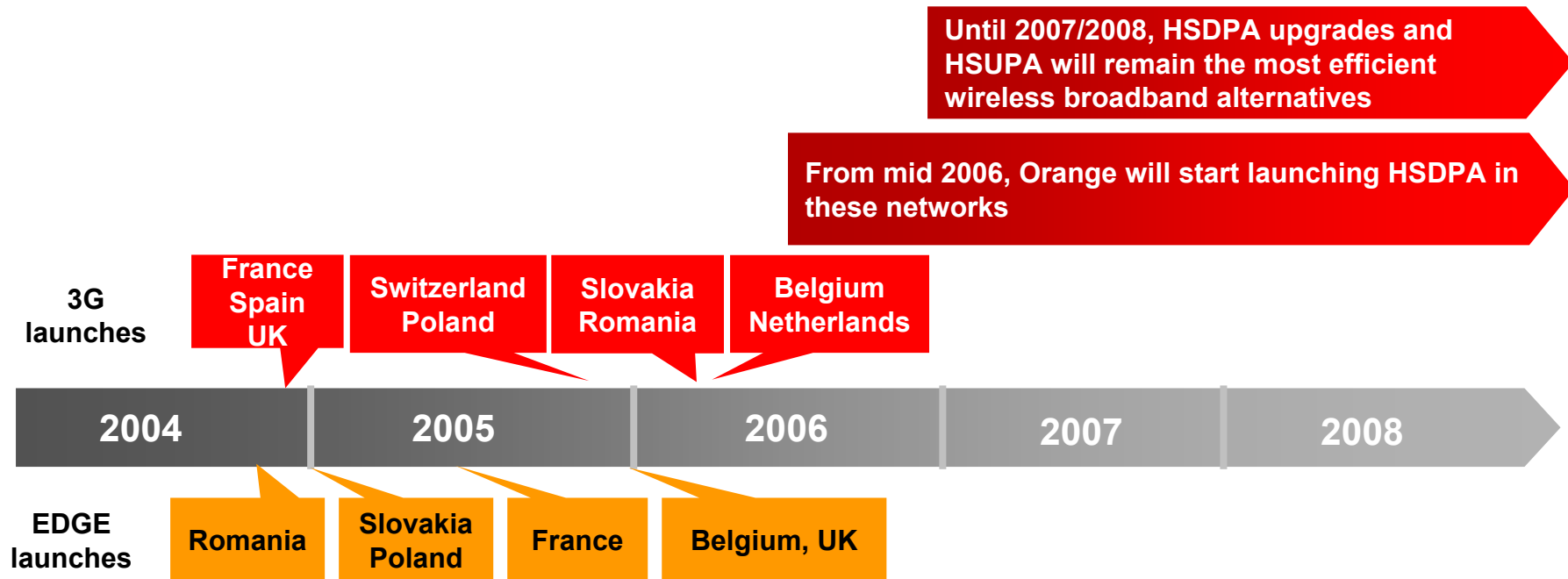
→ The appropriate technology choice will depend on service requirements and regulatory regime

Outlook for fiber in France



- Invest when required by changes in customer usage patterns
- In the short term, validate through pilot programs our control of technical, commercial and partnership skills
- Strategic choice is to move directly over to the most promising solutions in term of speed and upgradeability: Fiber To The Home (FTTH)
- Moving directly over to the highest-performance technology to meet customer needs as they arise

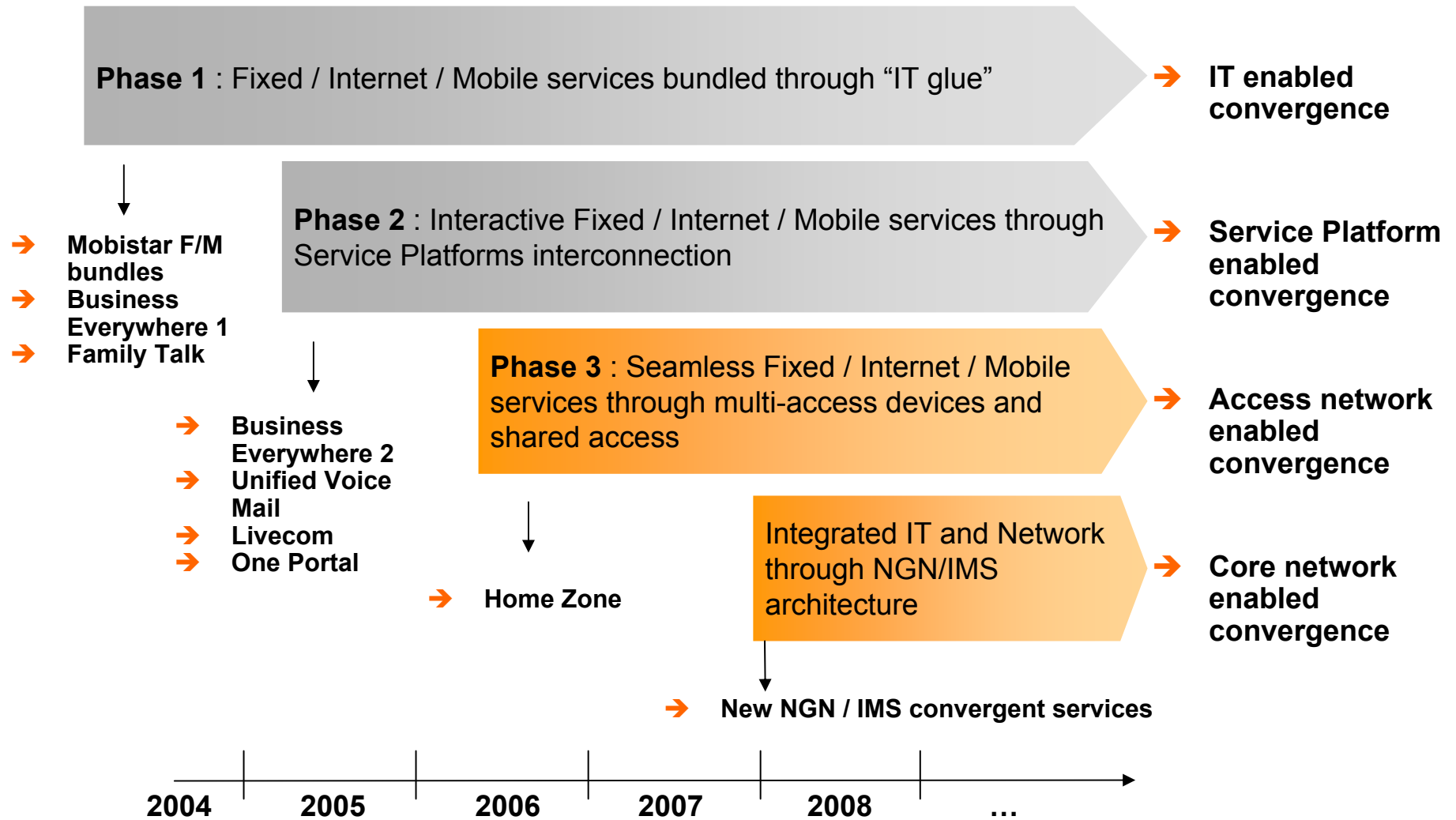
Mobile broadband roadmap in Europe (Mass Market)



- ✓ Depending on local situation: EDGE only, EDGE prioritised over UMTS, EDGE and UMTS in parallel or UMTS only
- ✓ With more than 10,000 hotspots (including “hot spot in a box”) in June 2005, Orange France is already one of the leading WiFi players in Europe
- ✓ Mobile WiMax equipment is not expected before 2008

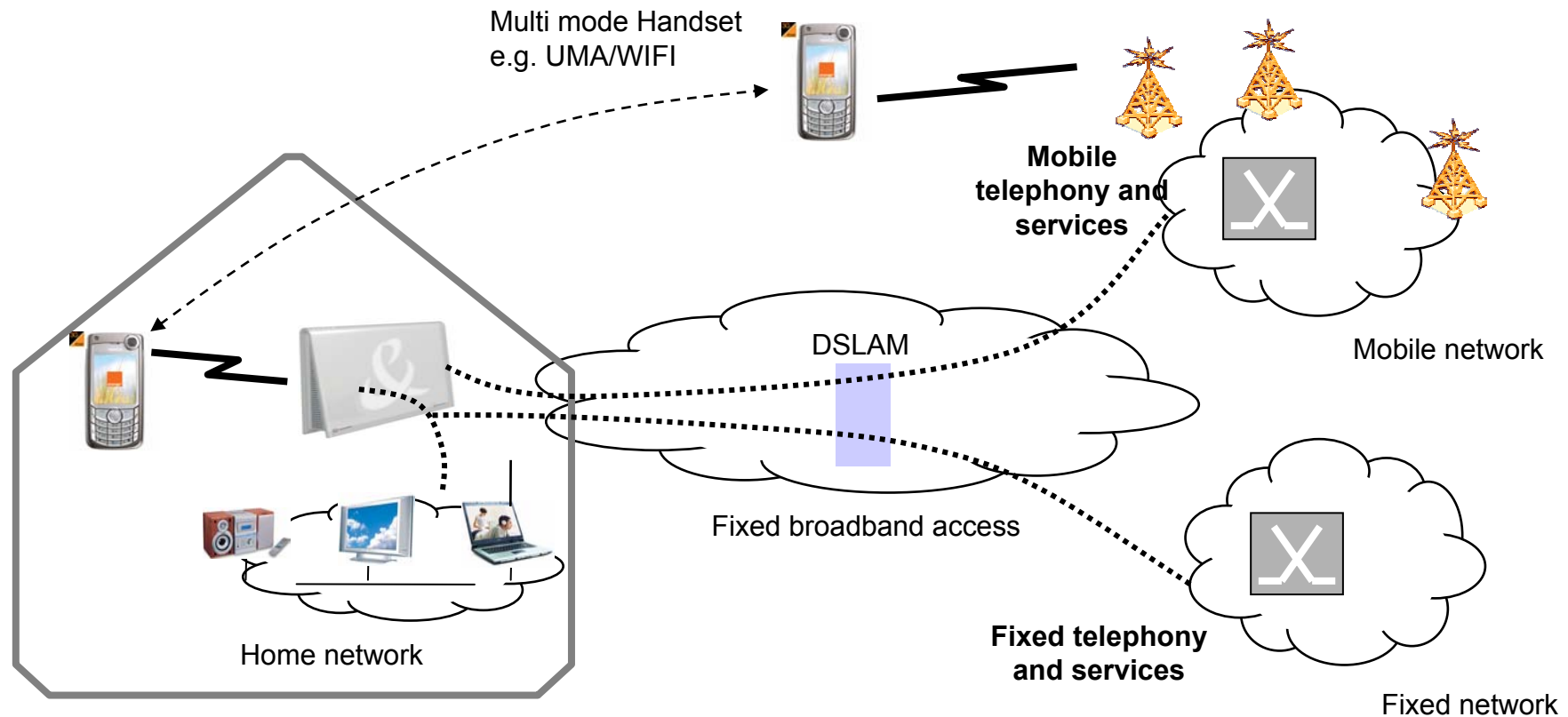
➔ Mobile access drivers are customer base growth, coverage, throughput, QoS and regulation

Major steps towards the “one IT and Network” supporting the “one integrated offer”



→ Phased and pragmatic approach toward full convergence

Home Zone illustrates access enabled convergence



- ➔ FT will launch convergent offers based on new access technologies in 2006
- ➔ These architectures aim to improve the indoor coverage and will allow to implement integrated services
- ➔ These offers are the first deliveries of the Home Zone program

NGN implementation has started in 2004



→ **Currently underway**

- ✓ FT currently operates a VoIP /ToIP and visiophony infrastructure for Residential and Enterprise markets in France
- ✓ Residential VoIP service opened in 2004
- ✓ ≈ 500,000 VoIP residential customers in September 2005
- ✓ IP-VPN for VoIP transport offered by Equant

→ **The benefit is cost reduction**

- ✓ Common IP backbone network, GigaEthernet and ATM aggregation networks and enhanced multiservices DSLAMs

→ **Access to Service Platforms is today through H323 protocol, and is planned by mid 2006 to migrate to Session Initiation Protocol (SIP)**

→ Complying with new industry standards in view of future multimedia services beyond pure voice

NGN with IMS implementation will start in 2007



→ What it is

- ✓ IMS (IP Multimedia Subsystem) will provide common control layer for fixed and mobile network and services
- ✓ Standardized by 3GPP, ITU and ETSI

→ Currently underway

- ✓ Specification
- ✓ Evaluation of « Application Servers » providing multimedia and Fixed/Mobile service continuity to Enterprises

→ The additional benefits

- ✓ Enabling the product factory for network-native convergent services
- ✓ Further cost reductions
 - Control and transport of media flows of any nature and origin, including conversational flows

→ FT's IMS enables fixed/mobile convergent networks and services

NGN facilitates legacy networks migration



→ By enabling shared network infrastructure, NGN provides the opportunity to phase out legacy networks

- ✓ 2nd generation PSTN Subscriber Units and MT25 exchanges to be phased out (over 4 years starting end 2007)
- ✓ 3rd generation PSTN Subscriber Units, E10B3 and AXE10 exchanges need not urgent replacement

→ Regarding other legacy equipment:

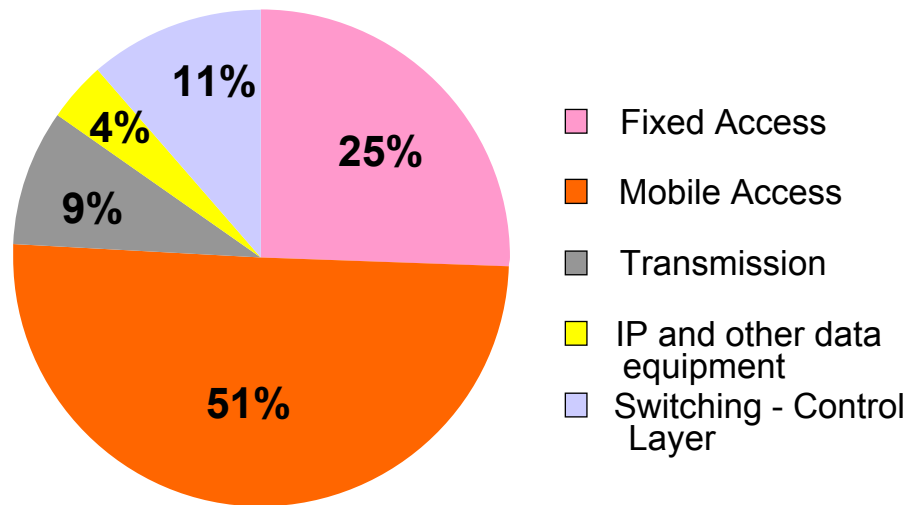
- ✓ Most of PDH transmission will be phased out by end 2006
 - ✓ All remaining transmission will be on SDH or wavelength
- ✓ Legacy leased lines migration to SDSL started in 2005
- ✓ Phasing out of X25 packet network has started

→ NGN facilitates the phasing-out of legacy networks with optimized migration paths over the NExT plan and beyond

Network CAPEX outlook



Cumulated 2006-2008 Network CAPEX breakdown (estimate)



Main drivers

- Broadband access across FT Group
- Optical Fiber for Corporates and selected consumers segments
- Local Loop Maintenance, Unbundling
- Gigabit Ethernet
- Beginning of PSTN migration, new convergent offers
- TV / Video On Demand and new services
- Centralized sourcing program

→ Local access will still capture the largest share of CAPEX



2008 Vision and strategy

→ Network

- Network transformation
- **Network and field operations**
- Network capacity and traffic costs

→ IT

Network & Field Operations transformation

2004 and 2005

- Fixed Network Units in France and Poland start implementing lean management
- New operating model for Networks, Service Platforms & IT infrastructure is defined, with implementation starting in France, Spain and in the UK

Estimated OPEX base
is \approx € 3.3 Bn in 2005

2006-2008 ambitions

- One Service Management Center per country to support all convergent services by 2006
- Technical expertise and maintenance contracts managed at Group level by 2007
- Network, service platform and IT infrastructure management using common principles to support convergent network by 2006
- Lean Management implemented for field operations and provisioning everywhere by 2008
- All operational activities hosted in one organization per country by 2007

- Objective is to save Network Operation OPEX by \approx 0.5 pp of EBITDA margin by 2008, while improving QoS



2008 Vision and strategy

→ Network

- Network transformation
- Network and field operations
- **Network capacity and traffic costs**

→ IT

Network capacity & traffic costs



2004 and 2005

- Insourcing
 - ✓ Equant circuits
 - ✓ International voice traffic terminations routed via FT infrastructures
 - ✓ Internalisation of SS7 traffic
- Joint procurement approach/Sourcing strategy for the purchase of capacity
- Reduction of Equant access costs in coordination with Group entities in each country
- Cost assurance
- Common network planning/development where multiple FT activities in one country

2006-2008 ambitions

- Coordinate Operators management at Group level for buy and sell
- Control the interoperator costs in heterogenous and uncertain environments

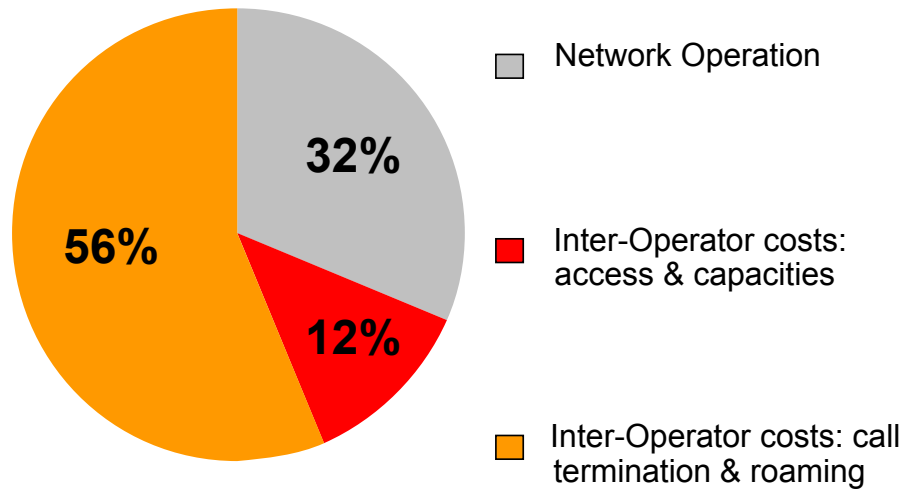
Estimated OPEX base
is \approx € 7.3 Bn in 2005

→ Objective is to save Network Capacity & Traffic OPEX by \approx 1.0 pp of EBITDA margin by 2008.

Network OPEX outlook



**Cumulated 2006-2008
Network OPEX
breakdown (estimate)**



Main drivers

- Volume increasing (e.g. customers, equipment)
- Lean Management
- Network Management transformation

- Make or buy strategy
- Insourcing
- Volume increasing (e.g. ULL)

- Volume increasing (e.g. Minutes)
- Termination costs decreasing
- VoIP take-up rate

→ Network OPEX savings up to ≈ 1.5 pp of EBITDA margin by 2008



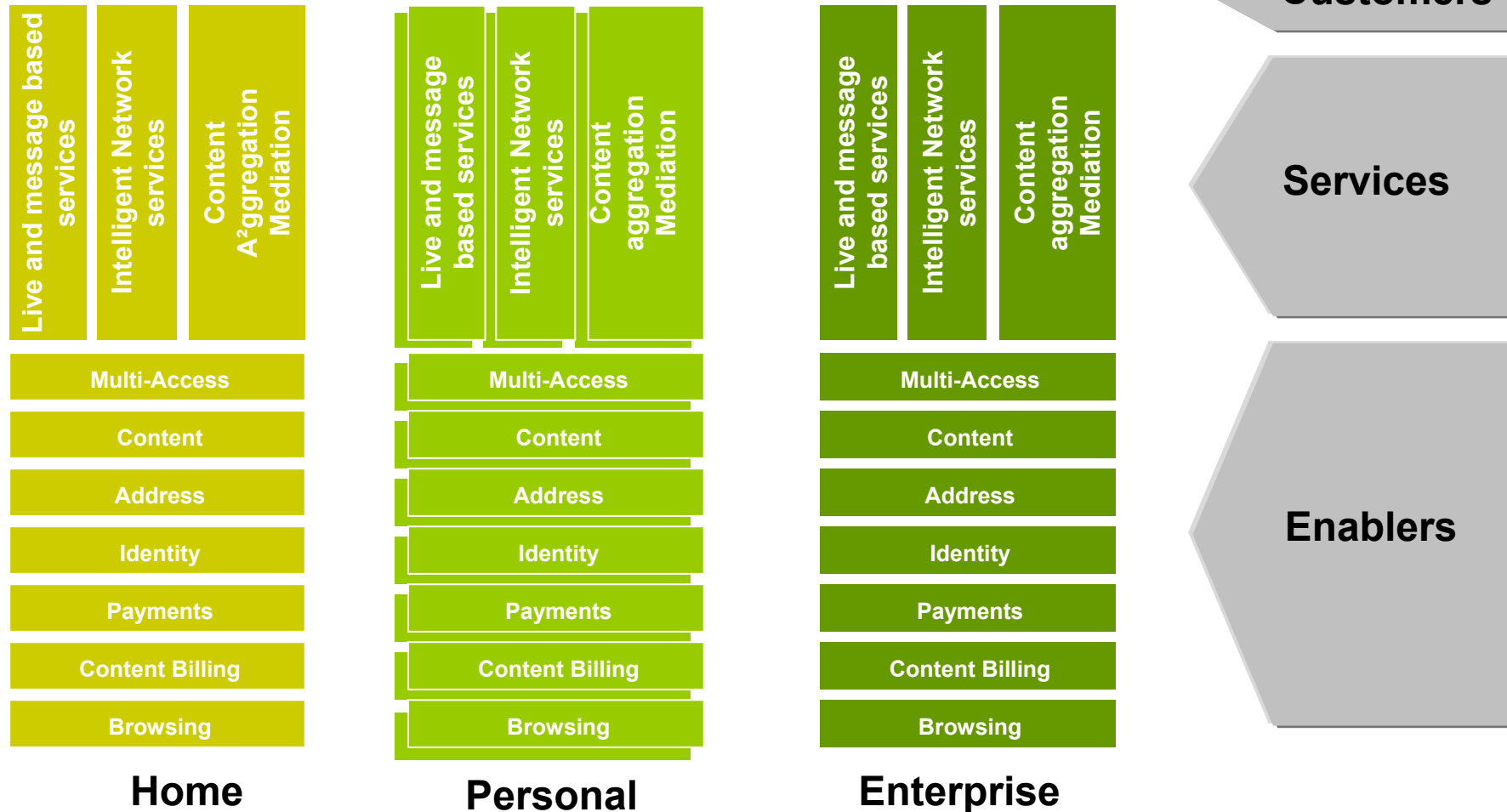
2008 Vision and strategy

→ Network

→ **IT**

- **Service platforms**
- IT applications
- IT infrastructure

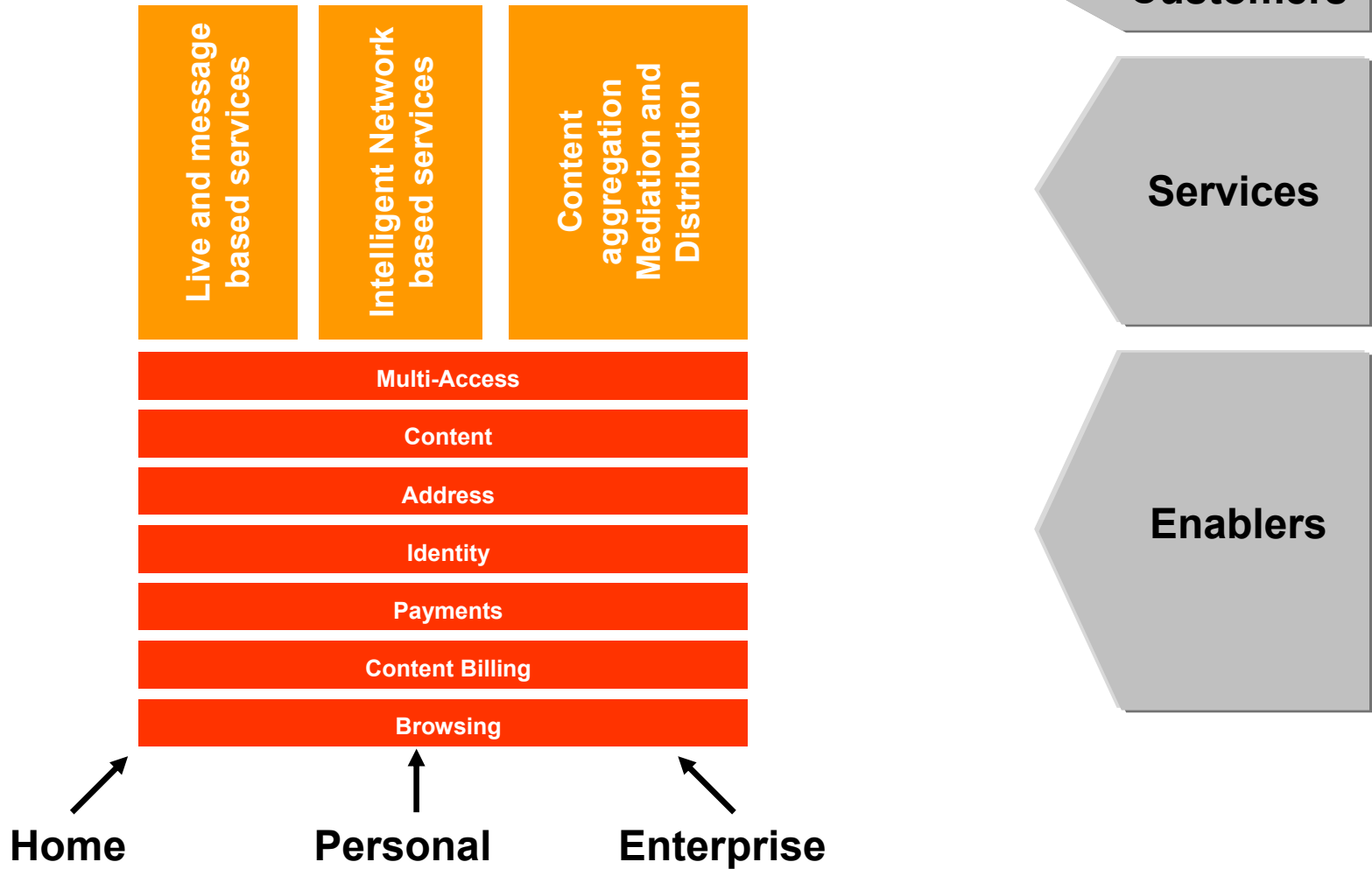
Service Platforms: situation early 2005



→ Local BUs were designing, building, delivering and maintaining systems and services in “silo” for local market requirements

Service Platforms: vision for 2008

End users access all services with a common “look and feel” and simplicity



➔ Common technology blocks allowing cost effective roll out of services across the BUs and convergent services

Service Platforms: transformation



2005

- Consistent urbanism and architecture guidelines for Service Platforms
- Consolidation of common Home and Personal services: Voicemail, Email
- Launch of group wide services with group core enablers or platforms: TV/ADSL, TV/Mobile, Music, Ring Back Tone, VoIP, Visiophone, etc.
- Launch of convergent services on Corporate market: Business talk, Business everywhere

2006-2008 ambitions

- Lay foundations of unified Portal: Identity, SSO, Look and feel, Suite of communication services by 2006
- Accelerate launch of new services on a group basis: SIP VoIP /ToIP, Home Zone, Unified messaging
- Accelerate consolidation of service platform across the group: Address book, Identity, etc.

Estimated CAPEX + OPEX is \approx € 0.6 Bn in 2005
Services Platforms CAPEX/Sales ratio is expected to increase

- Service Platforms are key for the integrated operator convergent services offer



2008 Vision and strategy

→ Network

→ **IT**

- Service platforms
- **IT applications**
- IT infrastructure

IT applications transformation



2004 and 2005

- IS alignment committees for main processes
- Ownership for IS major blocks allocated among BUs Executives
- Common architecture principles
- Emphasize Group Core Components (GCCs) role
- All major IT CAPEX approved through Group and Divisional investment committees
- Group-wide Project Portfolio Management
- Single applications repository

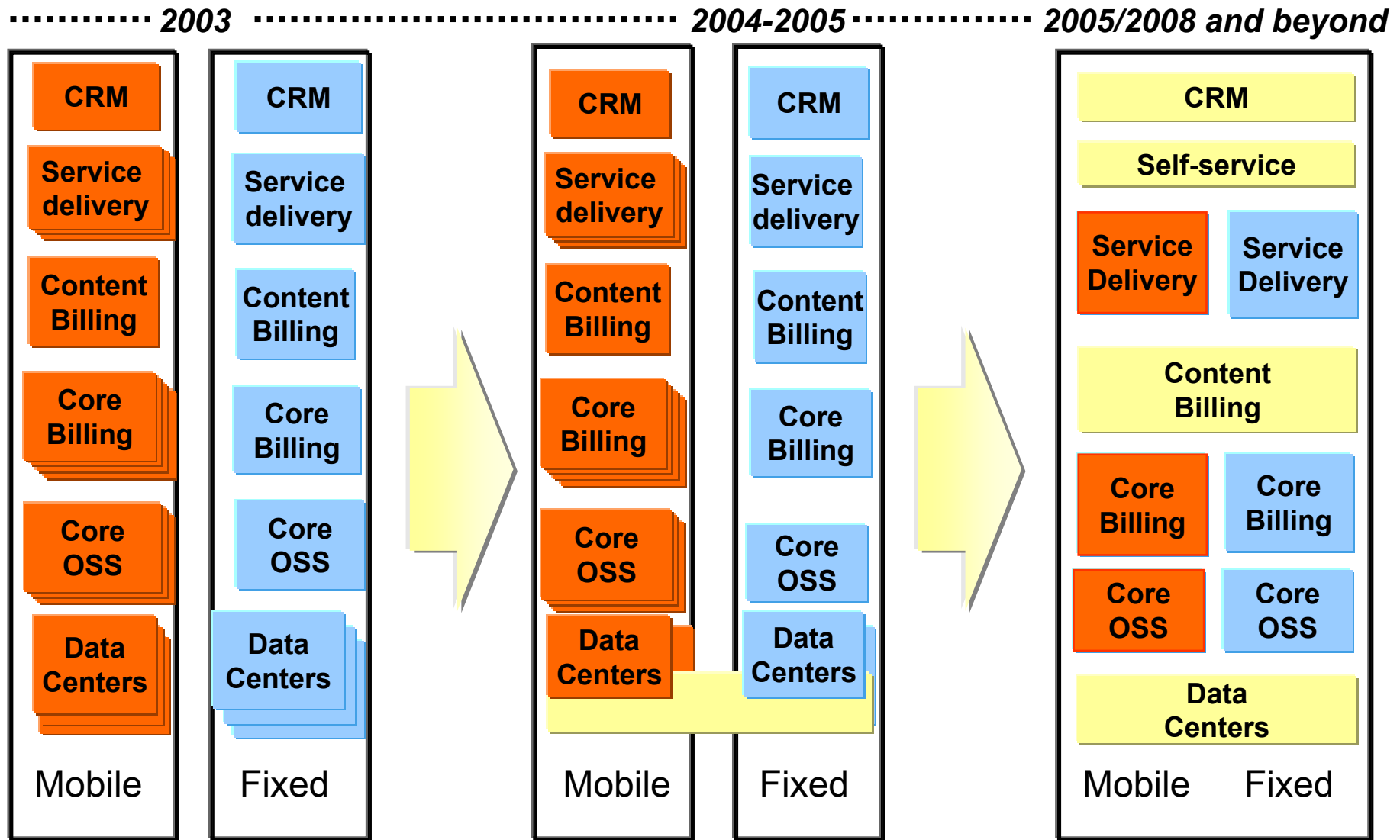
2006-2008 ambitions

- Build convergent services
- Re-architect Information system on customer centric model balancing global/local systems and on common repositories
- Accelerate reuse and convergence
- Deploy self-service (customer portal and self-care)
- Rationalise legacy IT and develop decommissioning plans
- Set-up Unified Development team in Europe

Estimated CAPEX + OPEX base
is \approx € 1.2 Bn in 2005

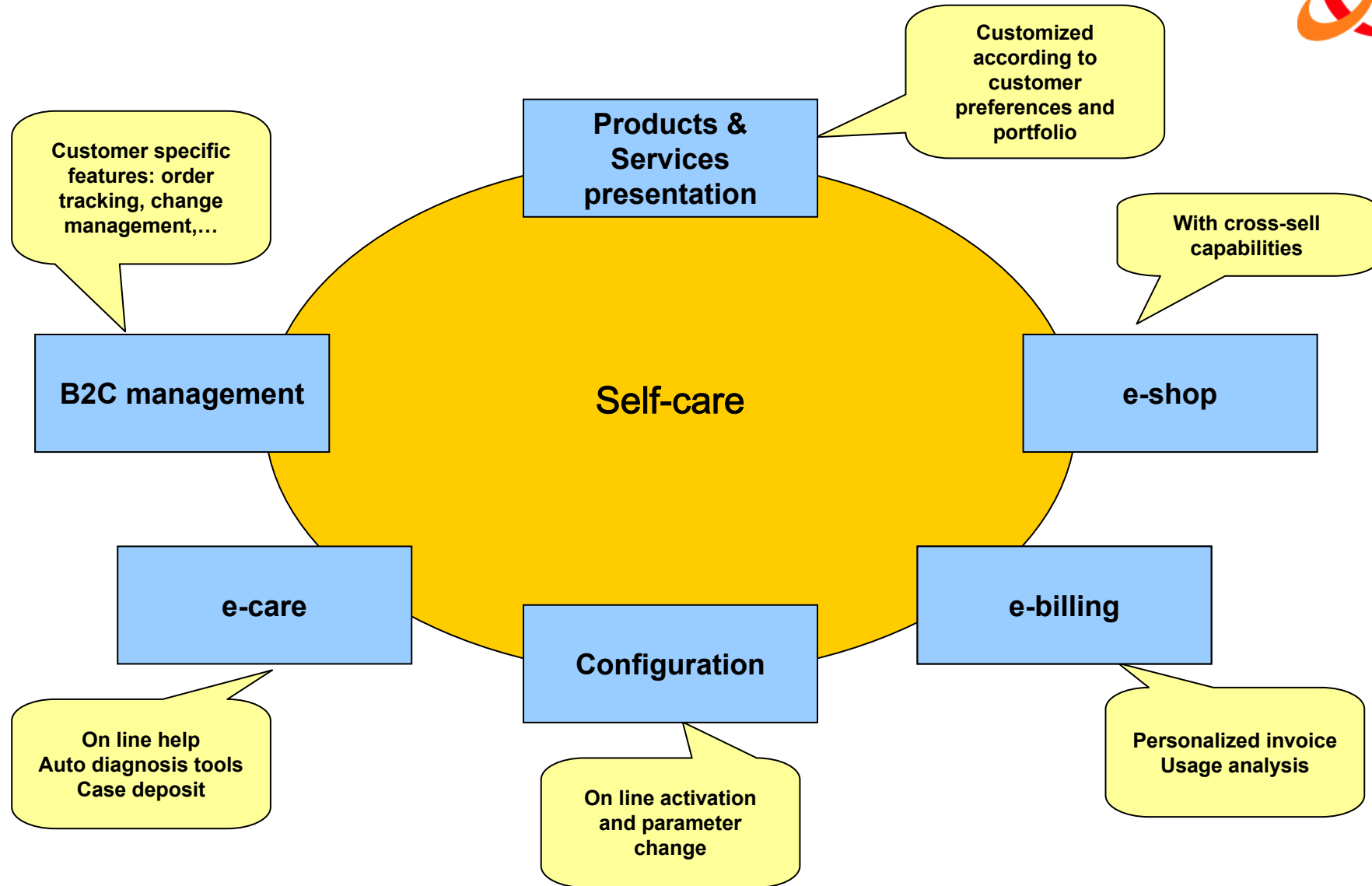
- Building the integrated carrier model faster and deeper

IT applications: convergence roadmap



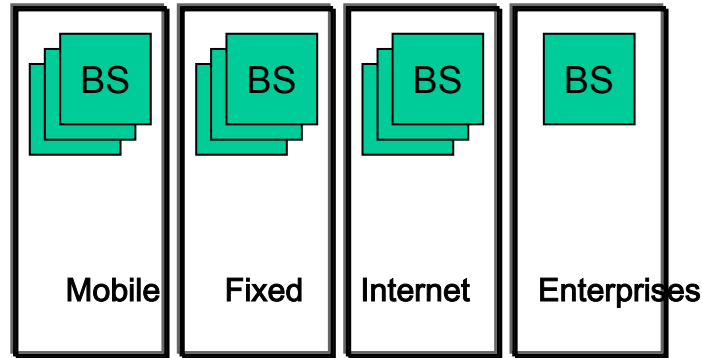
➔ Major trends are convergence and simplification of applications portfolio

Customer Self-care

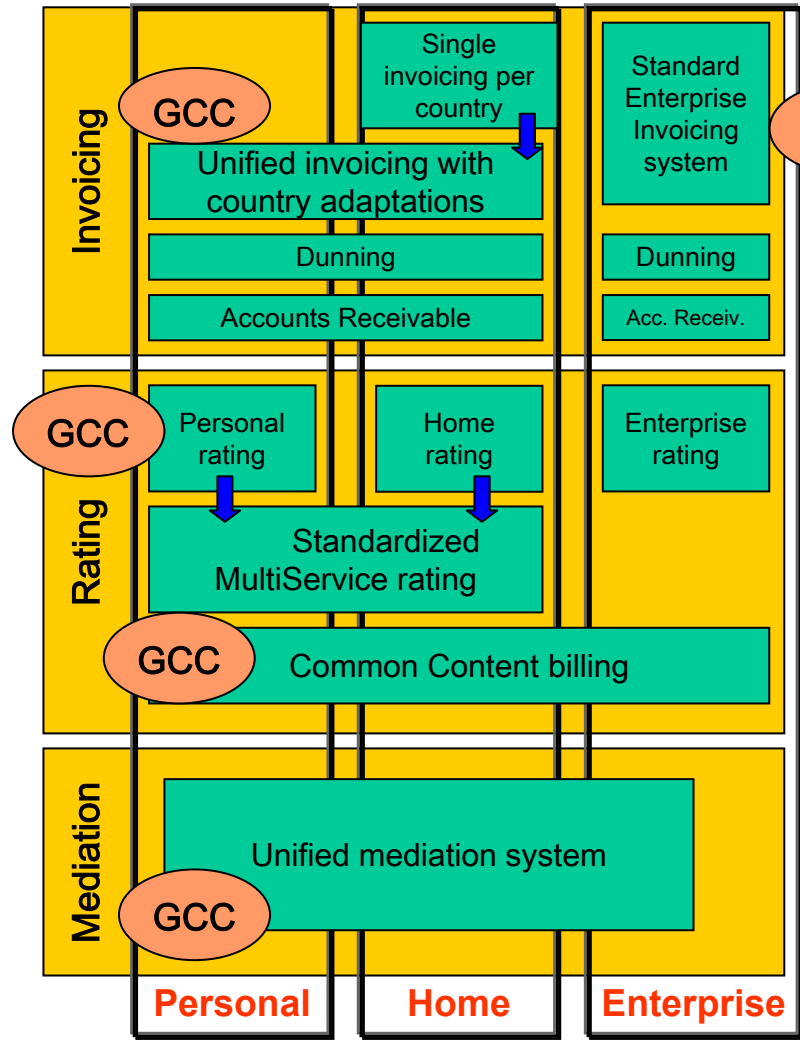
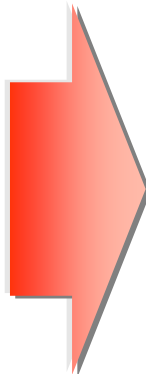


→ 20% of contacts with self-care by 2008 — improving customer service quality and reducing costs

Billing strategy: customer centric and high rationalization



2003 - 2004
Country & product oriented systems
with few functions shared



2005-2008
Customer centric billing, with many
shared functions

BS Billing system

GCC Group Core Component

➔ Decreasing number of systems, unifying customer view, rationalization per layers



2008 Vision and strategy

→ Network

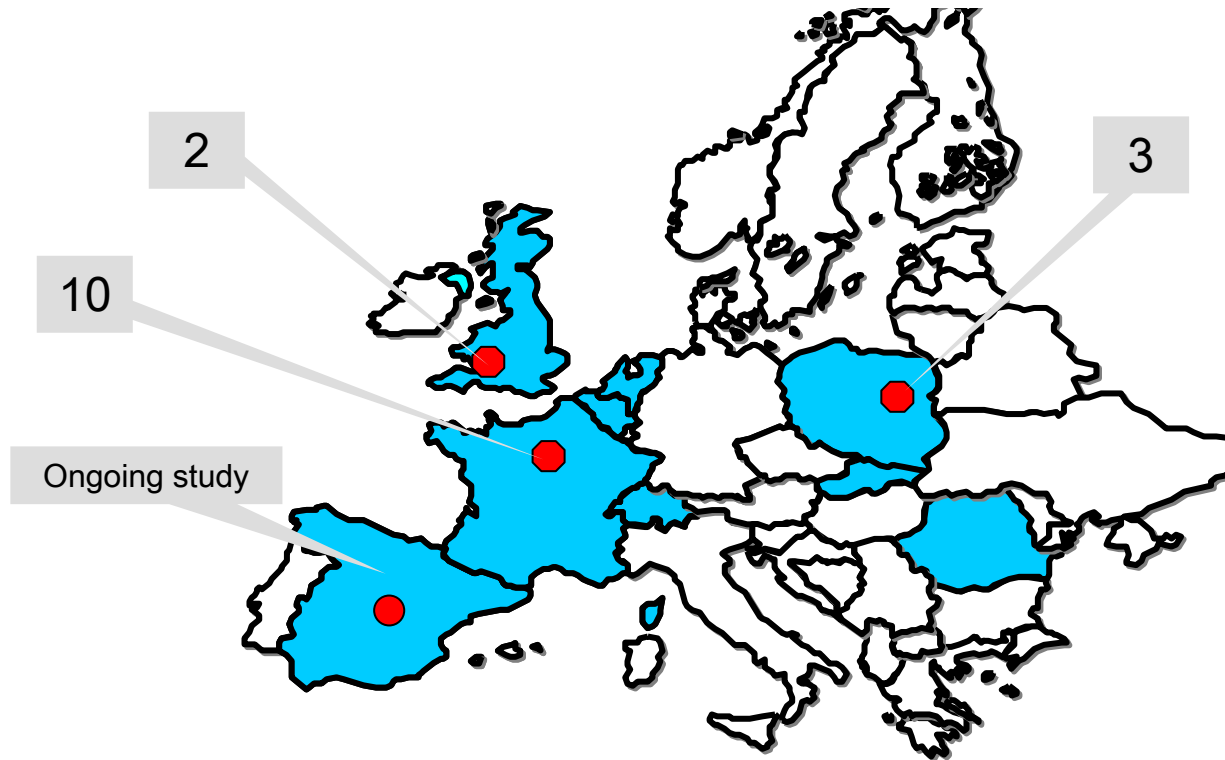
→ **IT**

- Service platforms
- IT applications
- **IT infrastructure**

IT infrastructure : Data center consolidation



- Reduce number of Data centers from >80 beginning 2004 to ≤18 end 2008 (excluding hosting customer data centers)
- Target : 4 country locations (France, UK, Poland and Spain)



→ Other infrastructure consolidation

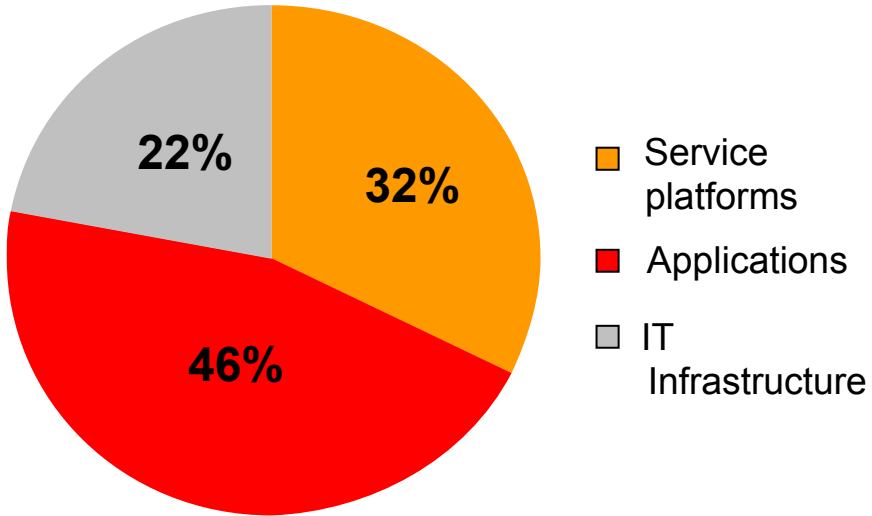
- ✓ Unique desktop standardization in all Europe
- ✓ Fully unified messaging system
- ✓ Group Internal Network rationalization

→ Estimated CAPEX + OPEX base is ≈ € 0.9 Bn in 2005

IT CAPEX outlook



Cumulated 2006-2008 IT CAPEX breakdown (estimate)



Main drivers

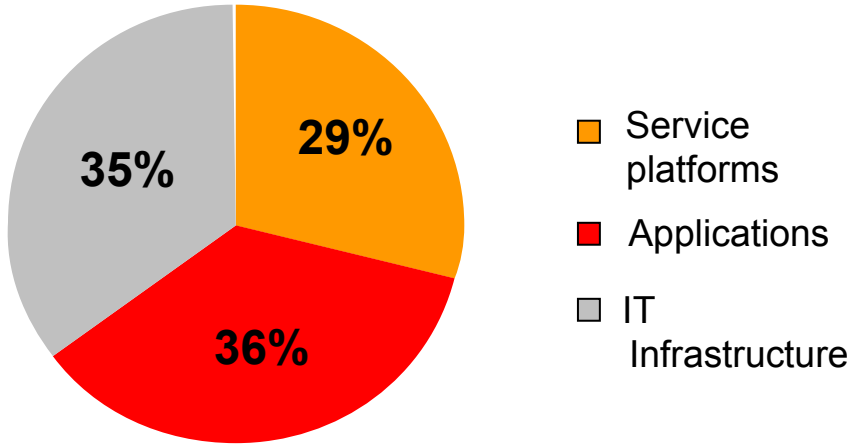
- Deployment of Service platform architecture, rationalized through group wide coordination
- Increasing role of Group Core Components
- Consolidation of infrastructure, including Data Centers

→ Applications will still capture the largest share of IT CAPEX, yet Service Platform will gain importance due to new convergent services

IT OPEX outlook



**Cumulated 2006-2008
IT OPEX breakdown
(estimate)**



Main drivers

→ Increasing role of Service platforms in business support
→ Rationalisation through group wide leaderships

→ Rationalisation of legacy IT

→ Consolidation and standardization of infrastructure, including Data Centers

→ IT OPEX savings up to ~ 0.5 pp of EBITDA margin by 2008



Conclusion

In summary



- We enter into a new phase for delivering the integrated operator model
 - ✓ One IT and Network offering network-native convergent and multimedia services
 - ✓ Improved “time-to-market” and best-in-class end-to-end QoS

- Clear choices for both *IT + Network* and *Fixed + Mobile* convergence, taking into account:
 - ✓ Customer demand for new services
 - ✓ Competing technology options
 - ✓ Regulatory environment
 - ✓ Excellent quality of existing networks, IT legacy systems

- Clear financial commitments for IT&N:
 - ✓ Network and IT CAPEX to sales to remain between 10% and 11% over 2006-2008
 - ✓ OPEX savings up to 2 pp of EBITDA margin in 2008 versus 2005

- Delivering the competitive edge and resilience of the integrated operator model



Glossary



3 GPP	Third Generation Partnership project
ADSL	Asymmetrical Digital Subscriber Line
ASOM	Automatically Switched Optical Network
BS	Billing System
BU	Business Unit
CPE	Customer Premises Equipment
CRM	Customer Relationship Management
CS	Customer System
DSLAM	Digital Subscriber Line Access Multiplexer
DWDM	Dense Wavelength Division Multiplexing
EDGE	Enhanced Data GSM Environment
ETSI	European Telecommunications Standards Institute
FDD	Frequency Division Duplex
FTTx	Fiber To The “x”, where “x” could be curb, building, cabinet, home, etc.
FTTP	Fiber To The Premise
GCC	Group Core Component
GPRS	General Packet Radio Service
GSM	Global System for Mobile communication
HSDPA	High Speed Downlink Packet Access
HSS	Home Subscriber Server
HSUPA	High Speed Uplink Packet Access
IMS	Internet Protocol Multimedia Subsystem
IP	Internet Protocol
IPv6	Internet Protocol version 6
IS	Information System
ISDN	Integrated Services Digital Network



IT	Information Technology
ITU	International Telecommunications Union
MDF	Main Distribution Frame
MSPP	Multi Service Provisioning Platform
MPLS	Multi-Protocol Label Switching
NGN	Next Generation Network
OSS	Operations Support Systems
PDH	Plesiochronous Digital Hierarchy
PSTN	Public Switched Telephone Network
QoS	Quality of Service
SDH	Synchronous Digital Hierarchy
SDSL	Symmetric Digital Subscriber Line
SIP	Session Initiation Protocol
SSO	Single Sign-On
SS7	Signaling System 7
ToIP	Telephony over Internet Protocol
UMTS	Universal Mobile Telecommunications System
ULL	Unbundling of the Local Loop
UMA	Unlicensed Mobile Access
VDSL	Very High Bit-Rate Digital Subscriber Line
VOD	Video on Demand
VoIP	Voice over Internet Protocol
WiFi	Wireless Fidelity
WiMAX	Worldwide Interoperability for Microwave Access
xDSL	Digital Subscriber Line technology