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Convergence Strategy and role of IMS

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Convergence Strategy Content

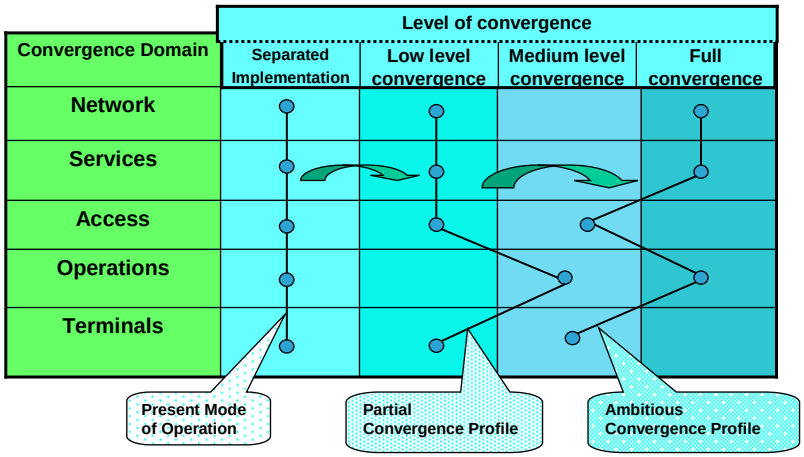
- Convergence Dimensions
  - Role of IMS
- Convergence drivers
  - Economies of scale
  - Competition Level
- A stair case strategy and evolution trends
  - Business trends per category
  - Migration steps towards universal operation

Convergence Strategy
Convergence dimensions

Convergence is taking place at several domains

- At **Network** domain
  - One network for all service types: NGN, IMS
- At **Service** domain
  - Fixed, Nomadic, Mobile, Interactive and Broadcasting, etc.
- At radio **Access** domain
  - DECT, WiMax, 3G, etc.
- At **Operational and Business** domain
  - OSS, Billing, etc, for all customer classes
- At **Terminal** domain
  - 2G, 3G, PDA, etc.

Convergence Strategy
Convergence profiles



Migration profile driven by: Initial status, Market development, Economy of scale and Operator Strategy

Convergence Strategy
Convergence dimensions

Convergence steps at network and services domains

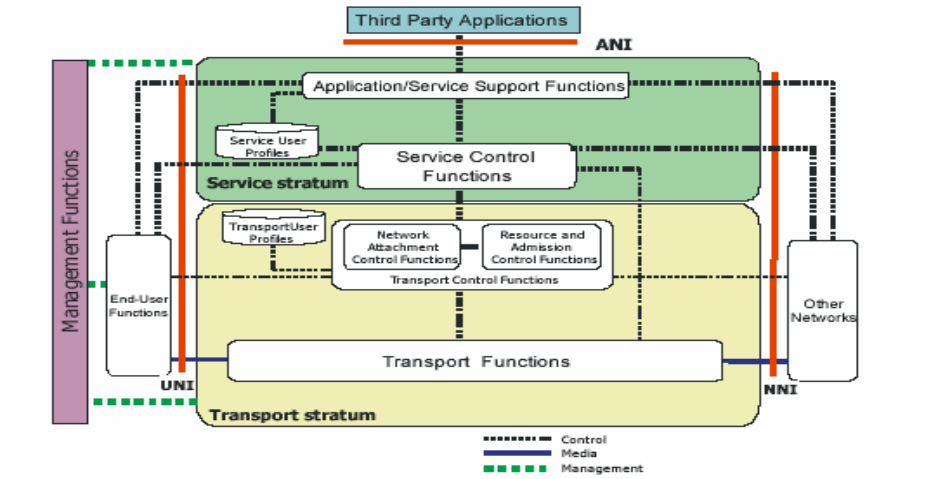
- Starting with the 5 current separated networks based on TDM (PSTN, IN, SS7, Mobile, Data ATM/IP)
- Migrating to single IP based NGN at core segment
- Migrating at IP based NGN at Edge and Access Segments
- Incorporating partial pre-IMS open service architecture
- Incorporating full end-to-end IP mode with IPv6
- Implementing full IMS functionality

Convergence Strategy
Unified IMS Model for Mobile and Fixed

Why IMS?

- Deliver person-to-person real-time IP-based multimedia communications
  - Person-to-person, person-to-machine
- Fully integrate real-time with non-real-time multimedia communications.
  - i.e., live streaming and chat
- Enable different services and applications to interact
  - i.e., combined use of presence and instant messaging
- Easy user setup of multiple services in a single session, or multiple synchronized sessions
- Operators have better control of service value chain
  - End-to-end QoS

Convergence Strategy
IMS Architecture



Convergence Strategy
Evolution to IMS: Benefits

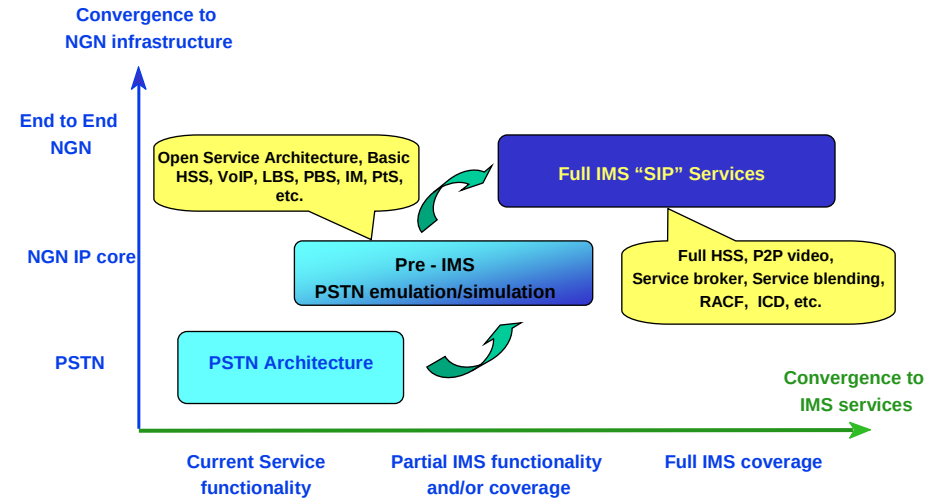
- **First advantage is the higher flexibility of the IMS functionality to adapt to the customer services**, irrespective of the technology they use and the access method to reach the network.

- **Saving in effort and time for the development and deployment** of a new service is considerably reduced once the architecture is ready at the network, implying economic savings and better Time to Market for a given service provider in a competitive market.

- **Efficient introduction on new services at a lower cost** will increase the service provider revenues and ARPU which is the major business driver for the healthy operation, market grow and financial results.

- **Higher utilization of services and better personalization** of functions to specific requirements from the end customers' point of view, a common use and feel for all services and applications

Convergence Strategy
Evolution to IMS: Phases



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Convergence Strategy
Key Factors: Economies of scale

Economies of scale are an inherent characteristic to the telecom technologies that impacts on solutions, evolution and also now survivability in competition

– **The five dimensions of the economy of scale:**

- **By Size of the systems → Larger systems cheaper per unit**
- **By Technology capabilities → New technologies with higher capacity**
- **By Traffic efficiency with the occupancy → Higher utilization for a given GoS when more servers**
- **By customers Density → Quadratic increase with coverage radio**
- **By Volume of purchasing → Discount per volume in log scale**

Convergence Strategy
Key Factors: Competition level

Different Levels of Competition

– **L1) Monopoly for all geographical areas, customer classes and service types**

– **L2) Limited monopoly per area and/or service types while free operation for niche operators**

– **L3) Moderate competition for all network segments and services**

– **L4) High competition for high revenue customers and services**

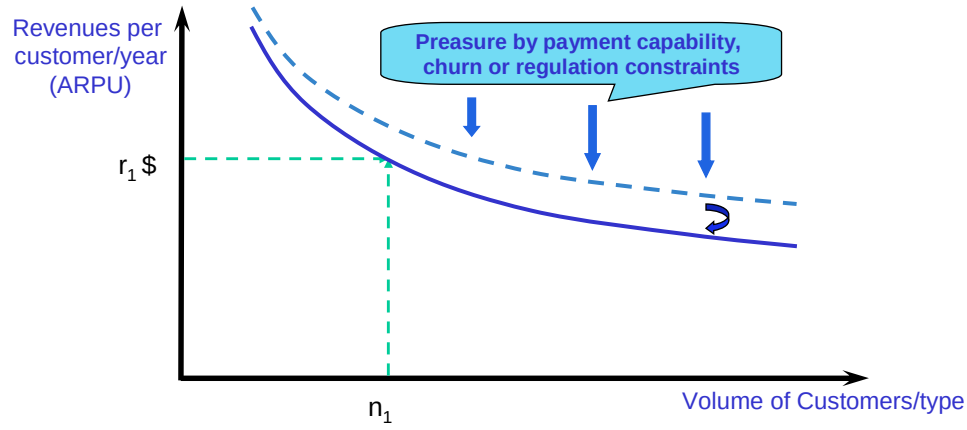
– **L5) Aggressive competition for all areas, customers and services**

"Efficient telecom implies different competition levels as a function of country size and development status"

Convergence Strategy

Key Factors: Competition level

Business feasibility space as a function of customer volume and ARPU

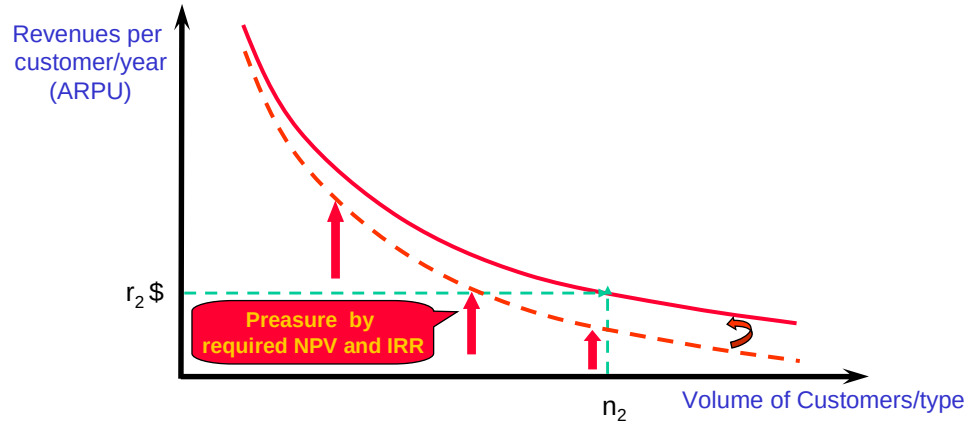


ARPU is up-limited by the economical development level and fixed costs

Convergence Strategy

Key Factors: Competition level

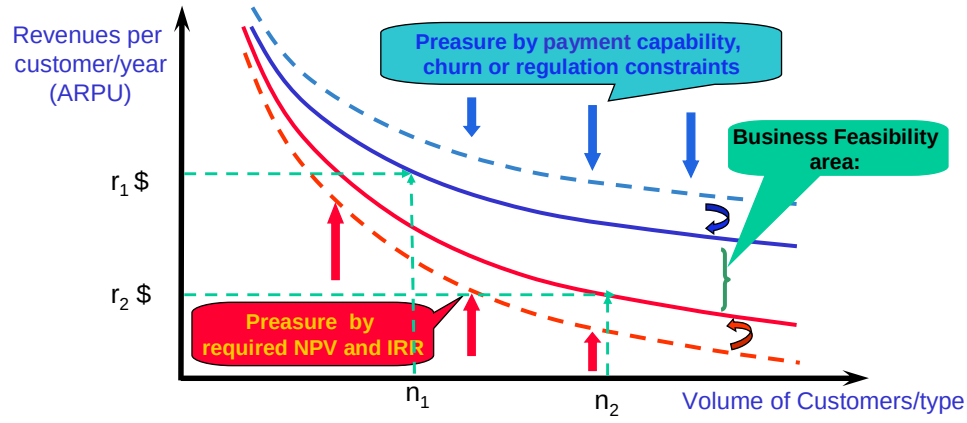
Business feasibility space as a function of customer volume and ARPU



Business feasibility is down-limited by the need of a positive NPV

Convergence Strategy
Key Factors: Competition level

Feasibility space highly dependent on country size and economic level



Business feasibility area limited by positive NPV and payment willingness

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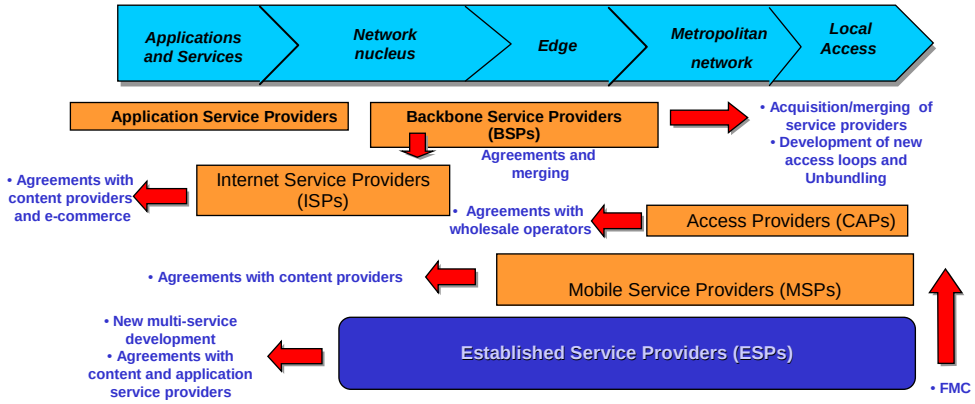
Convergence Strategy

Business domains and trends

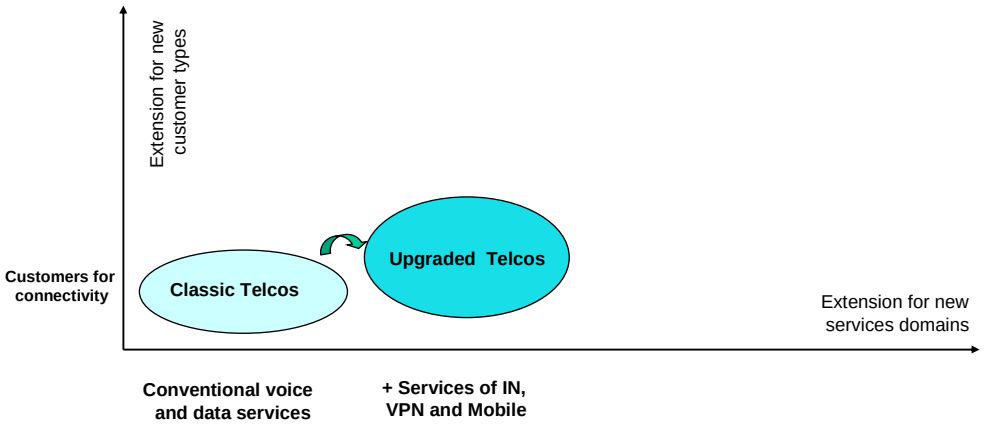
Example of Value Added chain and operators movements to gain economy of scale and market



Convergence Strategy

Migration steps

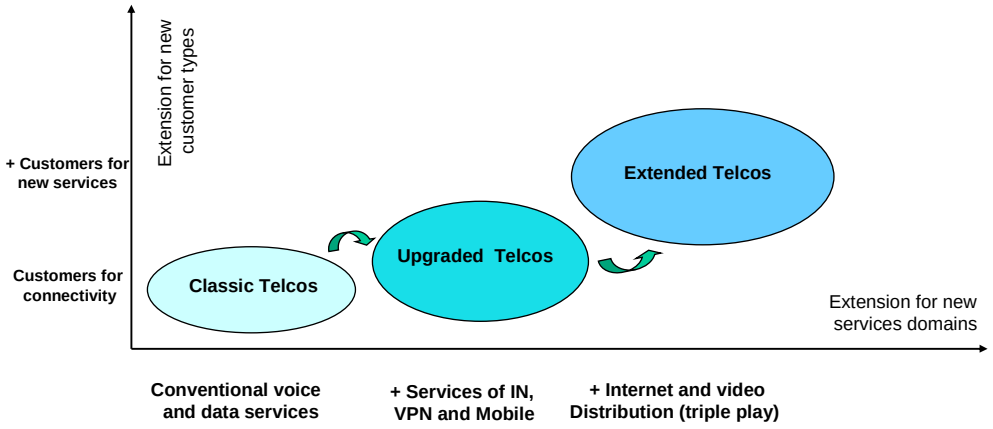
"staircase" for leading growing alternatives



Convergence Strategy

Migration steps

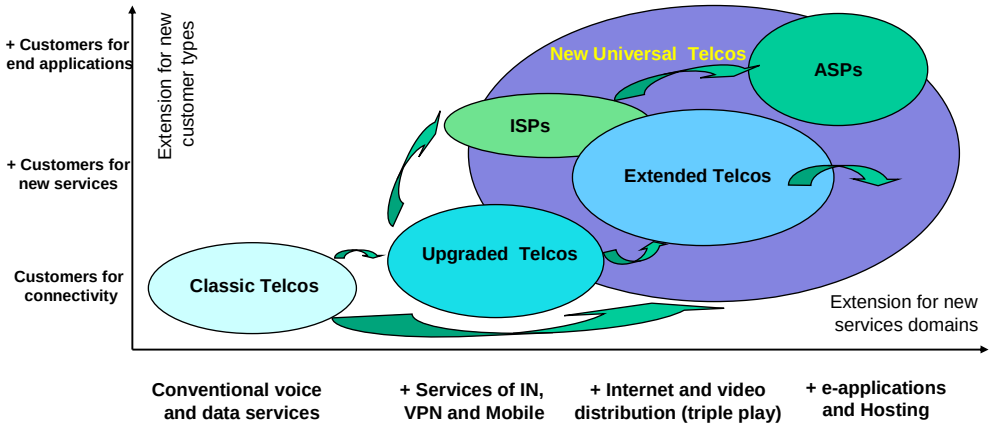
"staircase" for leading growing alternatives



Convergence Strategy

Migration steps

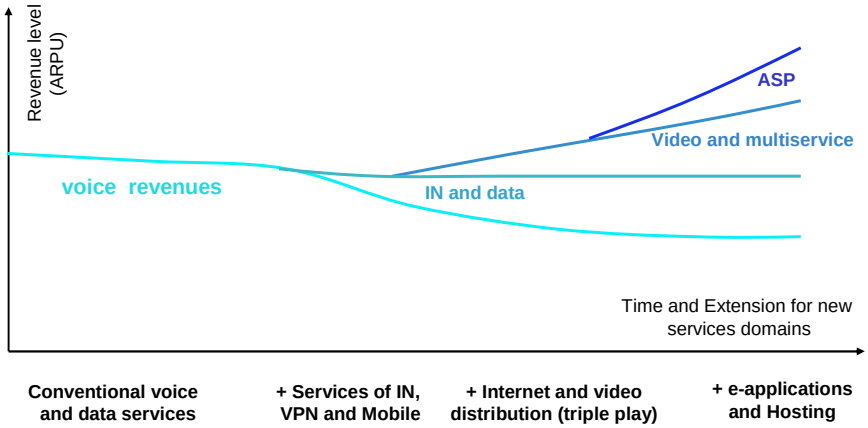
"staircase" for New Universal Telcos



Specific migration and timeframe to be optimized for the country context and regulatory conditions

Convergence Strategy
Migration steps

Evolution of revenues with service domains



Convergence strategy is fundamental to grow in a competitive environment

Convergence Strategy
Business Planning case

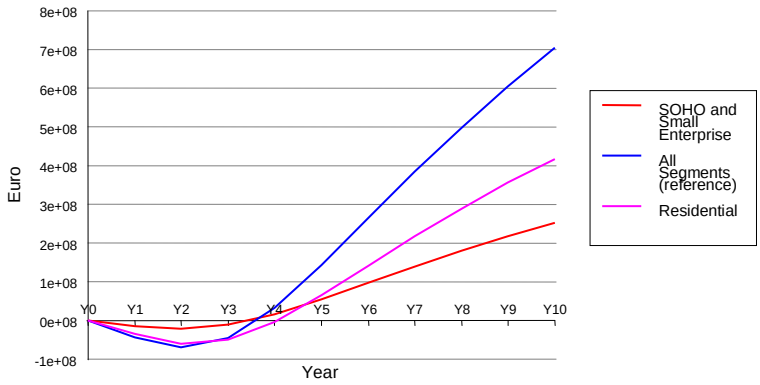
Evaluations to be based on robusts techno-economical tools due to high number of alternatives and complexity

Case study performed for medium size country with mixes of customer classes and services domains:

- Multiservice IP Network with integrated operation available
- Three service categories: Voice, Data/Internet, Video distribution
- Modeling demands, multiservice traffic flows, dimensioning, network resources, CAPEX, OPEX and financial results for different levels of competition
- Evaluate differential future Cash-flows, NPV, IRR, etc. for a 10 years period

Convergence Strategy
Role of Business Planning

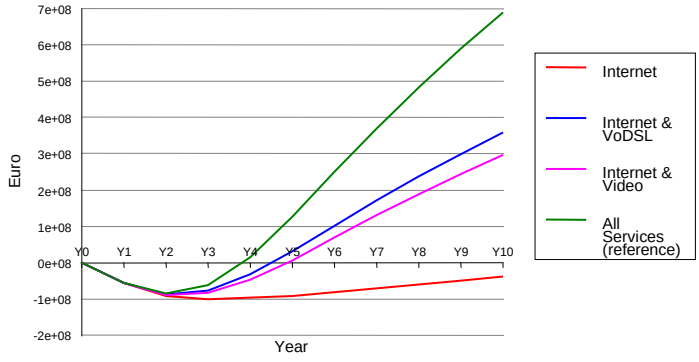
Effects of the mix of customers on Reference Scenario: Low competition level
Network NPV



- SME and SOHO with quicker recovery but less NPV and company value at medium term
- "All customer segments" case with much better behavior

Convergence Strategy
Role of Business Planning

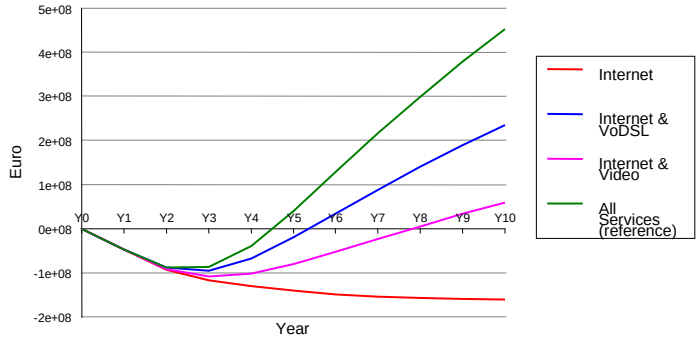
Effects of the mix of services on Reference Scenario: Low competition level
Network NPV



- Major impact of service classes on NPV and company survivability
- Single service classes without future
- High benefit of "all services" case

Convergence Strategy
Role of Business Planning

Effects of the mix of services on typical scenario: Medium competition level
Network NPV



- Increase of competition level amplifies the previous effects on feasibility: big differences between service mixes
- Data only or single service classes without feasibility at medium term
- Very robust behavior for the "all services" case

Convergence Strategy
Recommendations

• Perform proper modeling of key techno-economical factors for business evaluation of convergence alternatives

• Focus on multiple services domains and new services with IMS implementations

• Take benefit of all economies of scale

!! Which convergence will happen ?
Combination Driven by Market, Economy of scale and Competition !!