



# **VoIP and Broadband Technologies**

**Southern Africa Development Community  
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## **Convergence Strategy for Universal Operators in Competition and Triple play**

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# Convergence Strategy in Competition Content

- **Key factors in Evolution**
  - **Cost structure and savings**
  - **Economies of scale**
  - **Competition Level**
- **A stair case strategy for a universal operator**
  - **Business trends per category**
  - **Migration steps towards universal operation**
- **Triple play solutions and business evaluations**



# Convergence Strategy in Competition

## Convergence domains

Convergence may follow many directions

- At **Service** level (Fixed and Mobile, Interactive and Broadcasting, etc.)
- At **Network** level (One network for all service types: NGN )
- At radio **Access** level (DECT, WiMax, 3G, etc.)
- At **Operational** level (OSS, Billing, etc, for all customer classes)
- At **Terminals** level (2G, 3G, PDA, etc.)

Which one will happen ? → **Driven by Market, Economy of scale and Competition**



# Convergence Strategy in Competition

## Key Factors: Cost structure and savings

- High cost impact of network infrastructure layer: **> 60%** in Greenfield areas of which **> 70%** in access segment.
- Dimensioning and cost evolving in 3 phases through time:
  - A) Accessibility due to **Geo coverage** either physical or radio
  - B) Equipment in **Ports/users** as customers grow
  - C) Capacity in **Traffic** due to increase of multiservice applications
- Significant savings by resources and equipment sharing within an operator due to convergence at network layers : i.e.: **30%**
- Additional savings inter-operators due to cost sharing of non-core equipment (buildings, towers, etc.) **> 20%**



# Convergence Strategy in Competition

## 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:

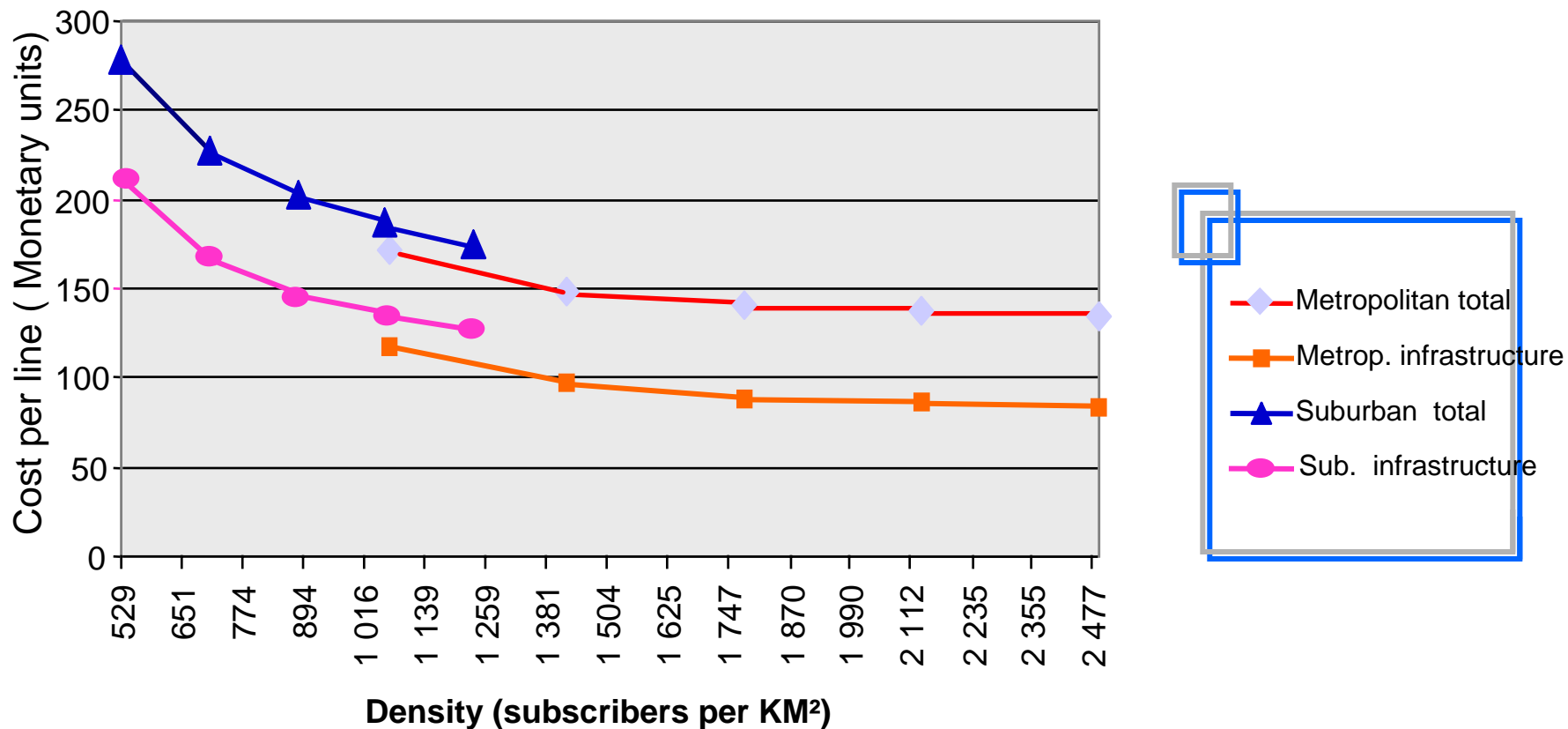
- By **Size** of the systems → Larger systems cheaper per unit
- By **Technology** capabilities → New technologies with higher capacity
- By **Traffic efficiency** with the occupancy → Higher utilization for a given GoS when more servers
- By customers **Density** → Quadratic increase with coverage radio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



# Convergence Strategy in Competition

Key Factors: Economies of scale by density

## Metropolitan and suburban scenarios



High impact of customer density in cost per line and  
higher impact on Rural (up to 20 to 1)



# Convergence Strategy in Competition

## 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

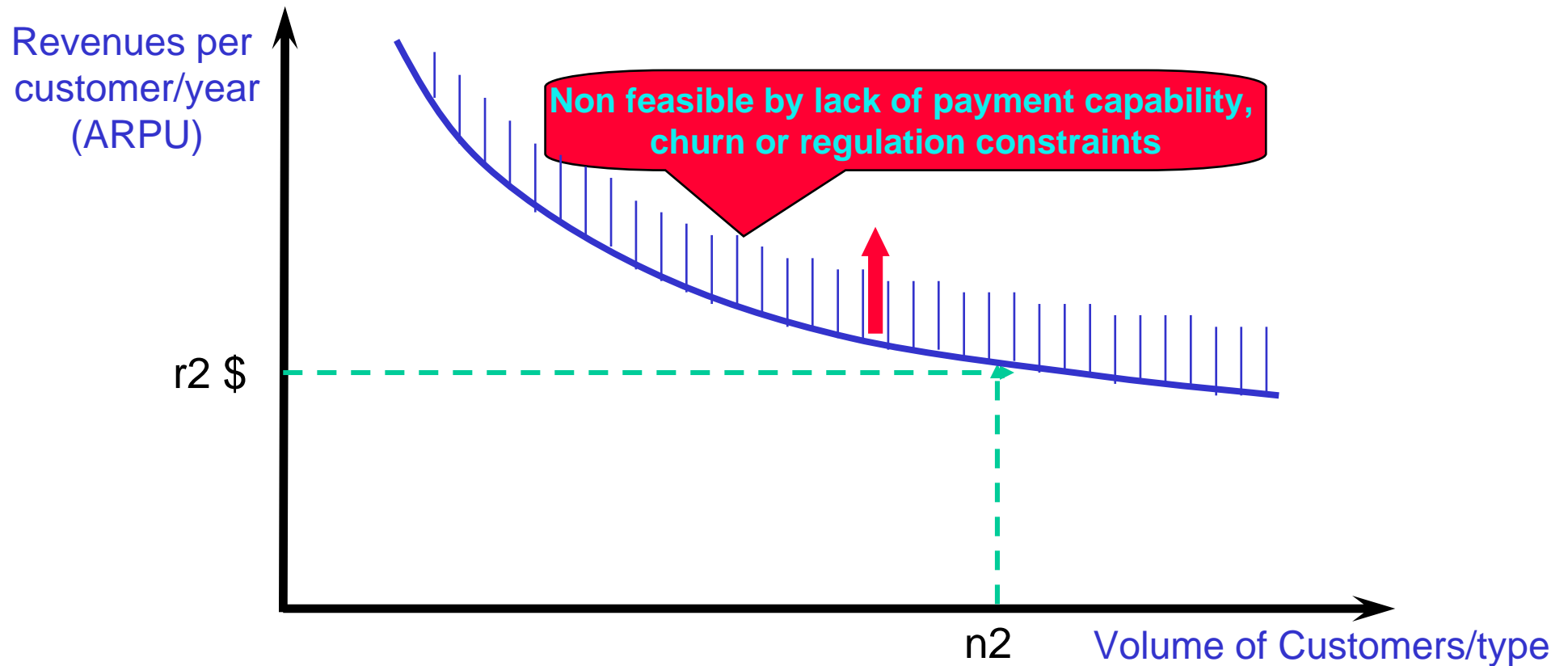
*“Efficient telecom implies different competition levels as a function of country size and development status”*



# Convergence Strategy in Competition

## Key Factors: Competition level

Business feasibility space as a function of volume and ARPU



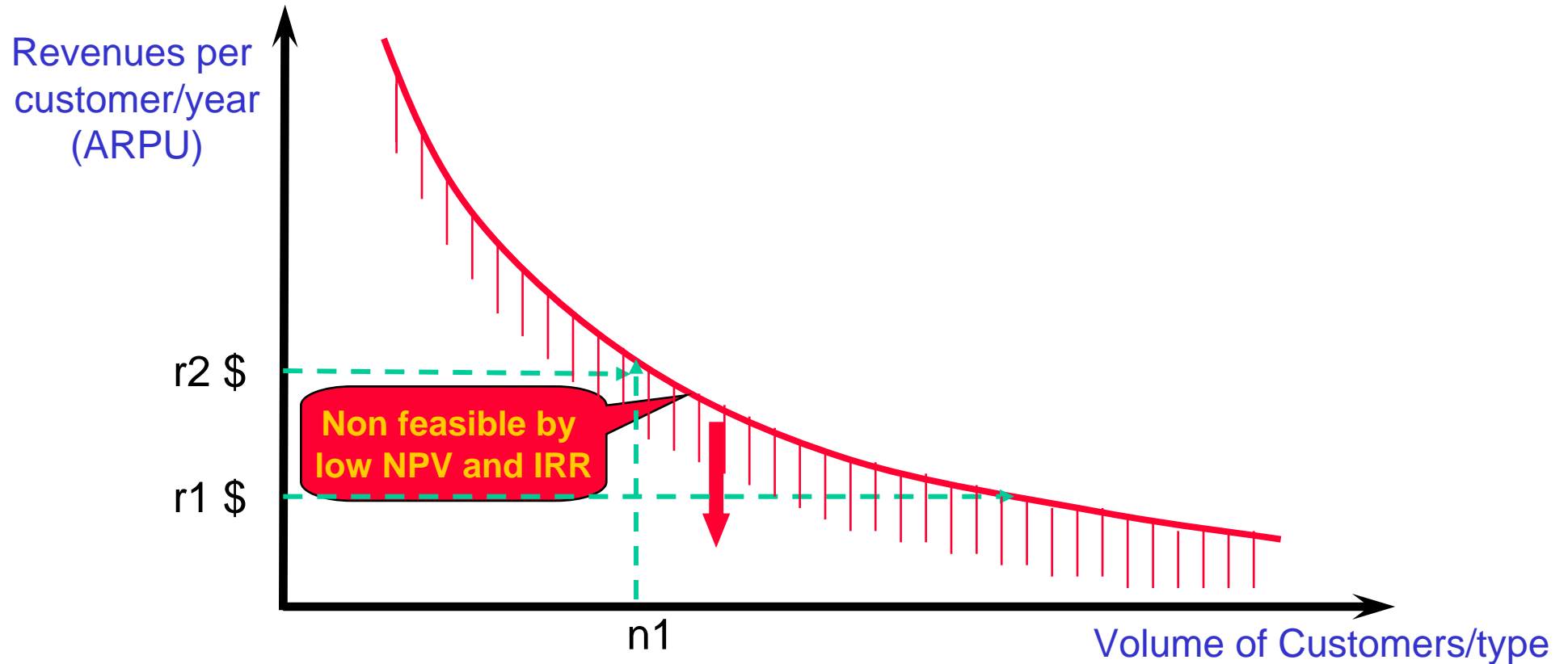
ARPU is limited by the economical development level and fixed costs



# Convergence Strategy in Competition

## Key Factors: Competition level

Business feasibility space as a function of volume and ARPU



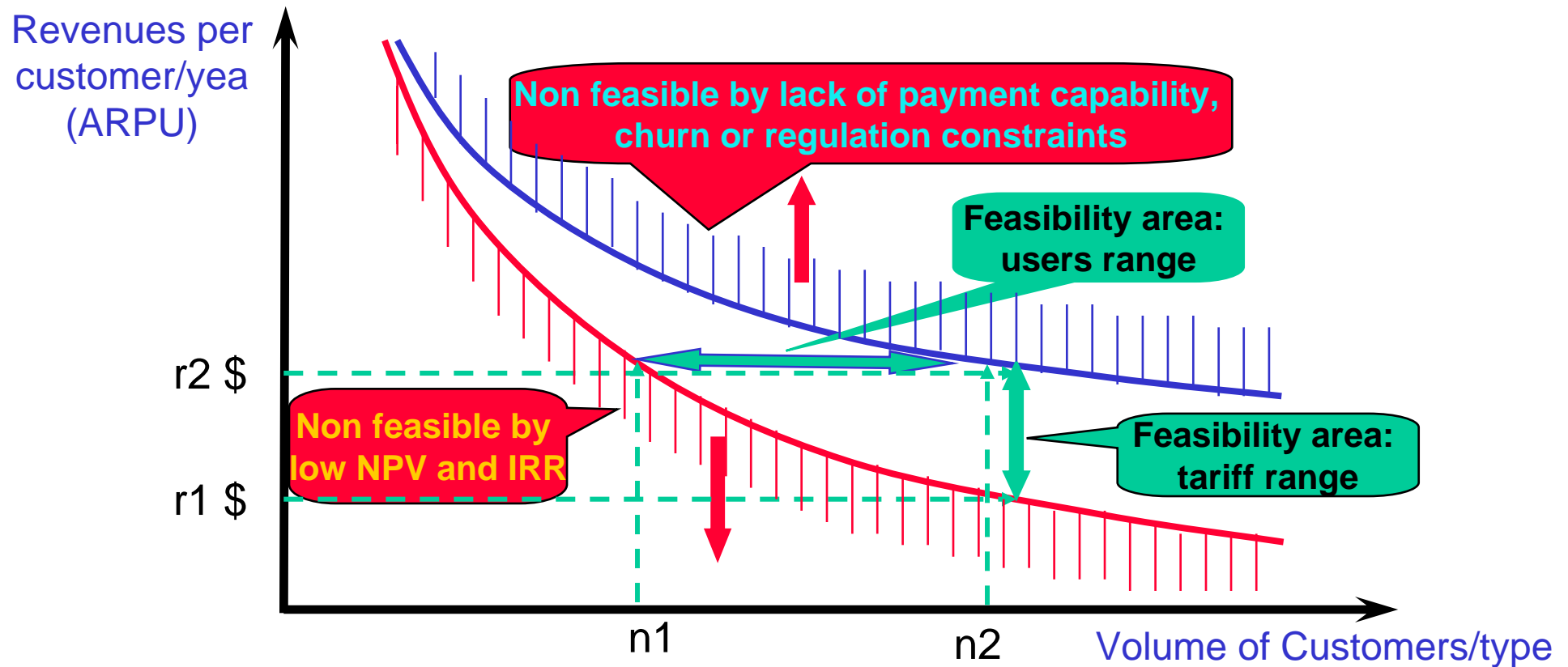
Business feasibility limited by positive NPV



# Convergence Strategy in Competition

## Key Factors: Competition level

Business feasibility space as a function of volume and ARPU



Feasibility space highly dependent on country size and economical level



# Convergence Strategy in Competition

## Key Factors: Competition level

### Key factors for survivability in competition

- Push for **new services**
- Imaginative **pricing** strategies and bundles
- Actions for **market share** capture and better **take-up** rate
- Actions do minimize **churn**
- Actions to decrease **Cost of Ownership** and share common resources
- Business **profitability** positive and within or better than indicators benchmark



# Convergence Strategy in Competition Content

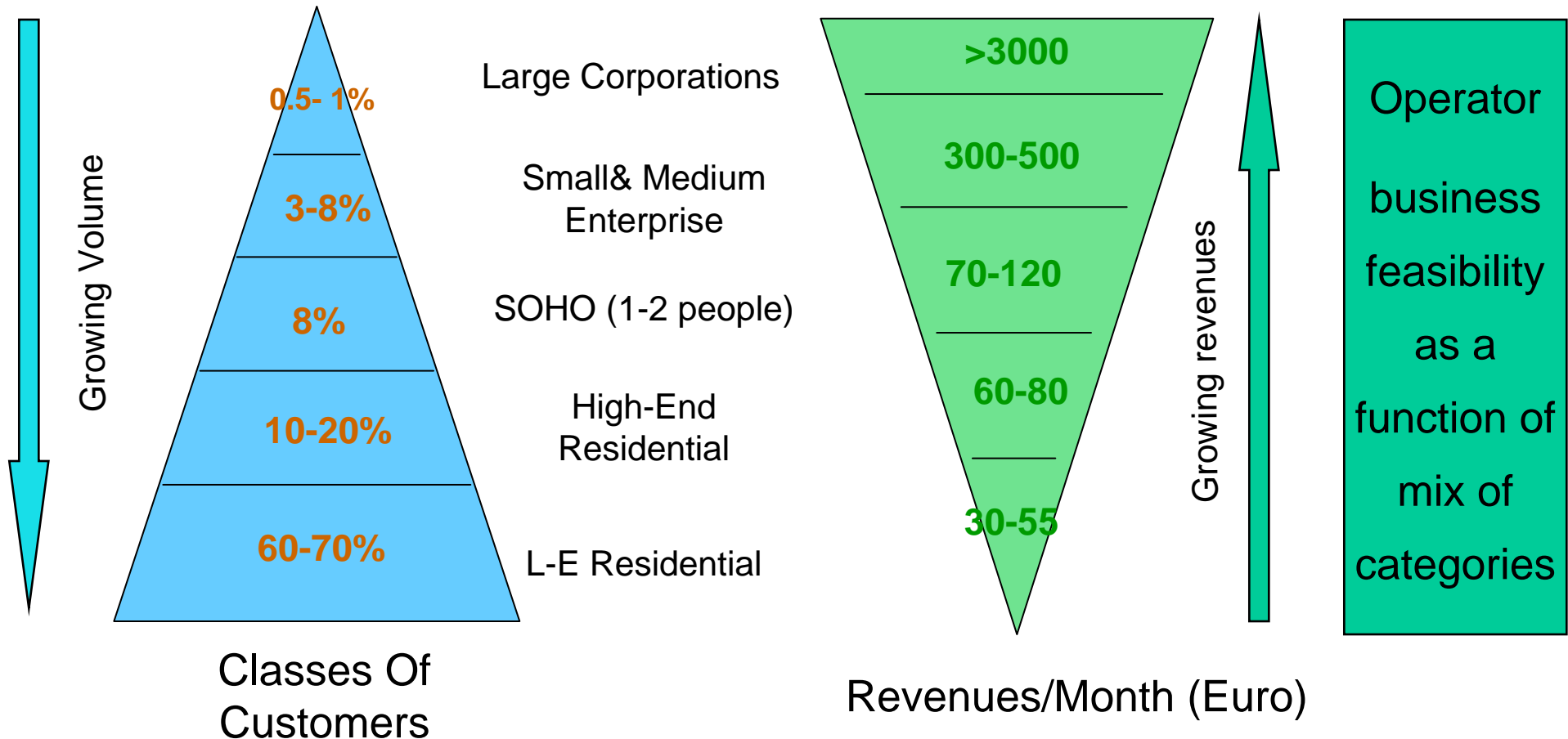
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# Convergence Strategy in Competition

## Business domains and trends

### Illustration case for customer categories and revenues



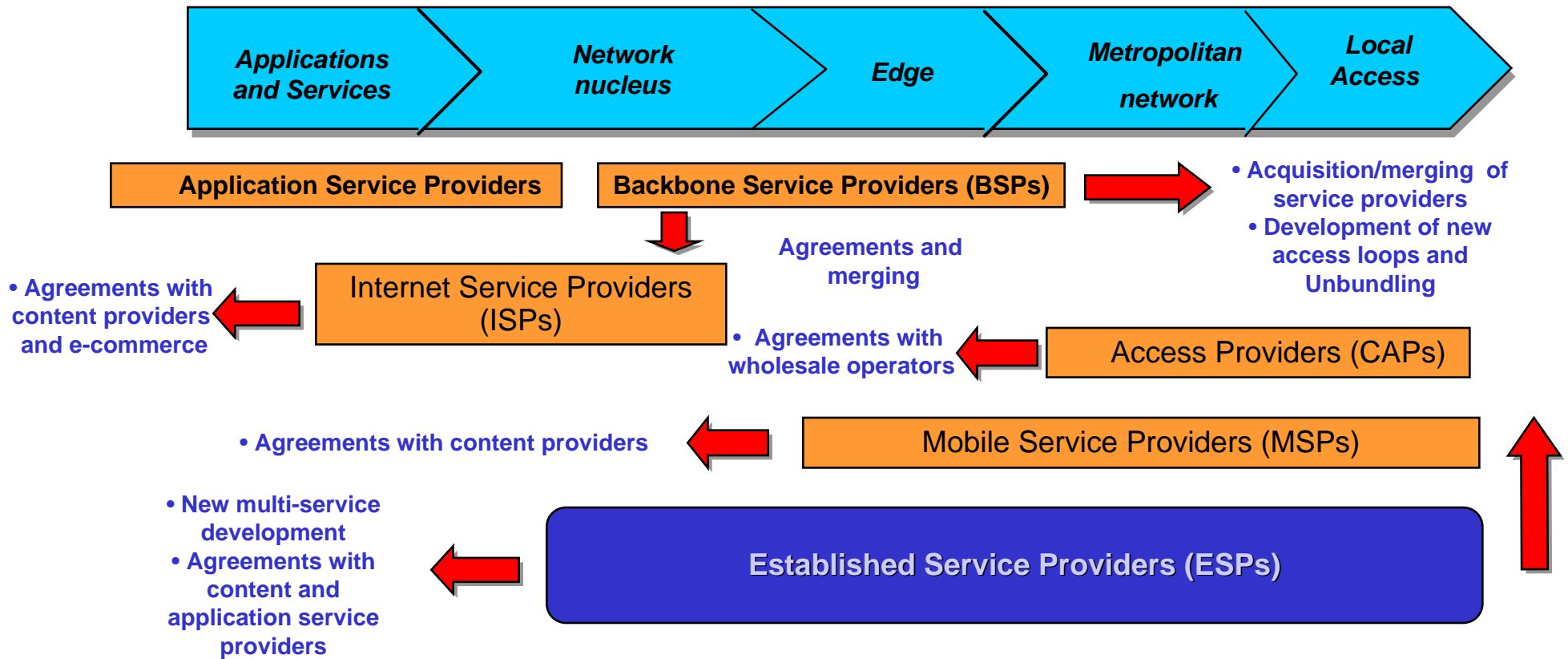
**“Customer stratification should be analyzed per country”**



# Convergence Strategy in Competition

## Business domains and trends

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

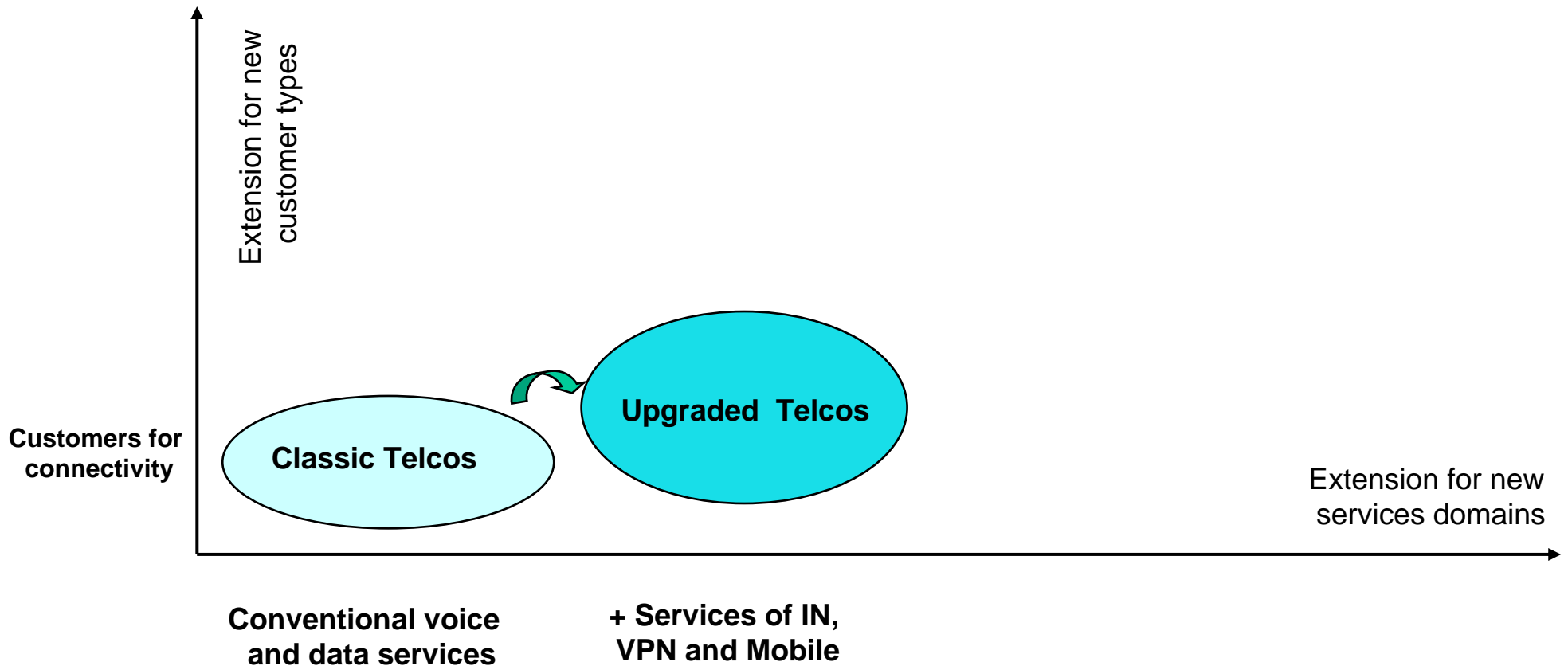




# Convergence Strategy in Competition

## Migration steps

“staircase” for leading growing alternatives

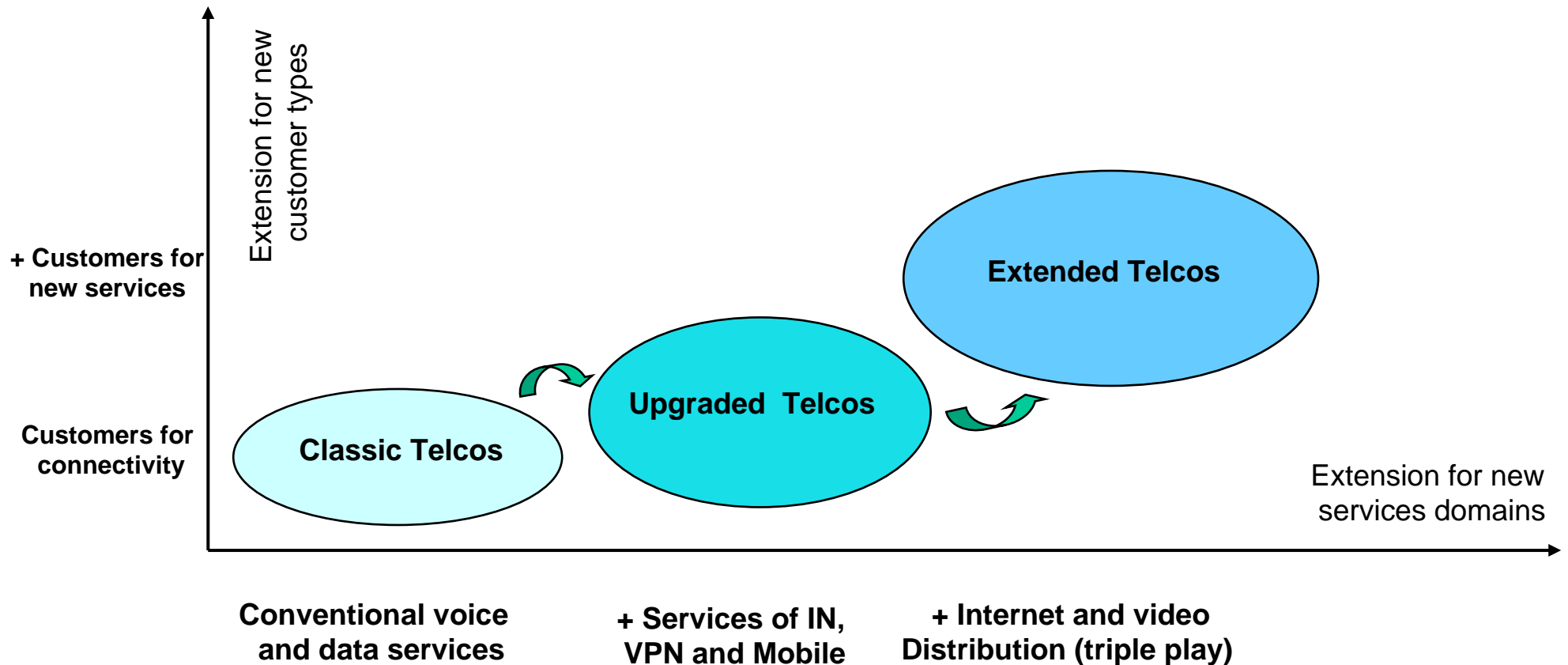




# Convergence Strategy in Competition

## Migration steps

“staircase” for leading growing alternatives

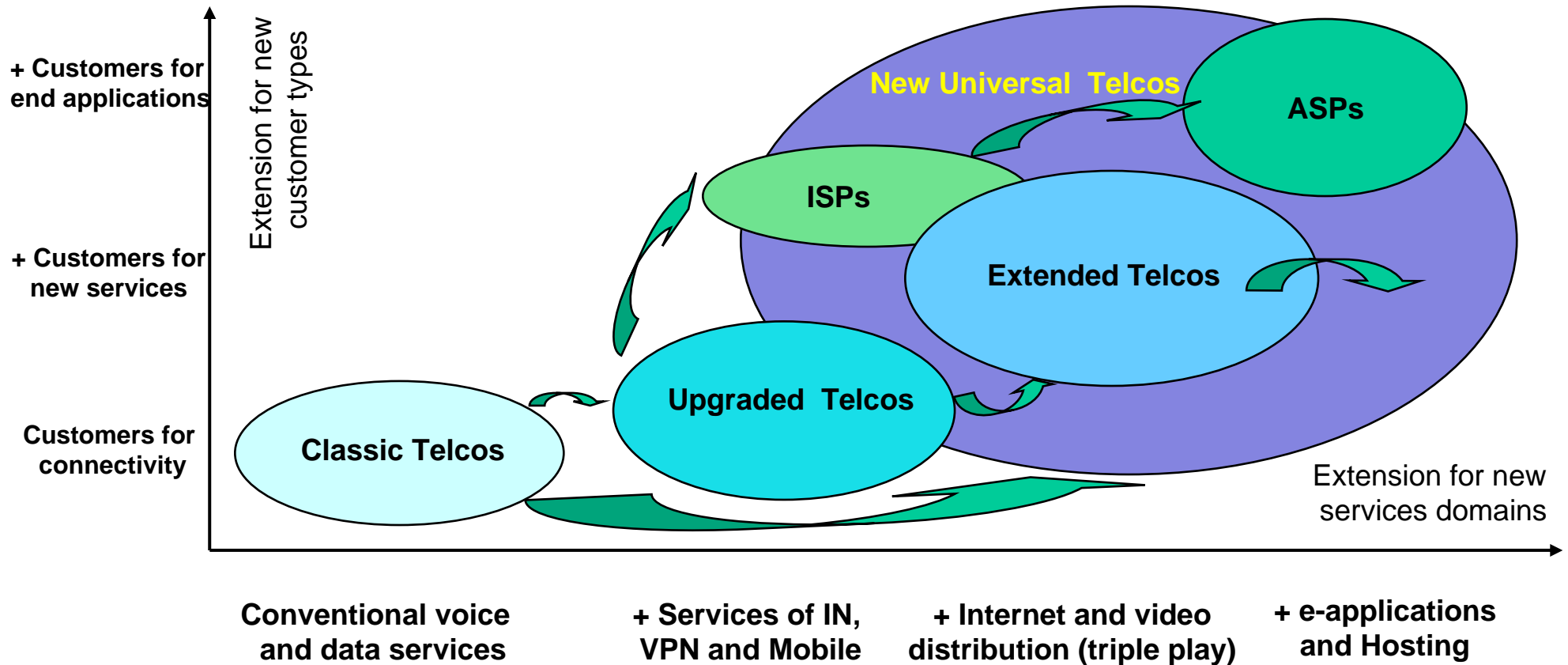




# Convergence Strategy in Competition

## Migration steps

“staircase” for New Universal Telcos



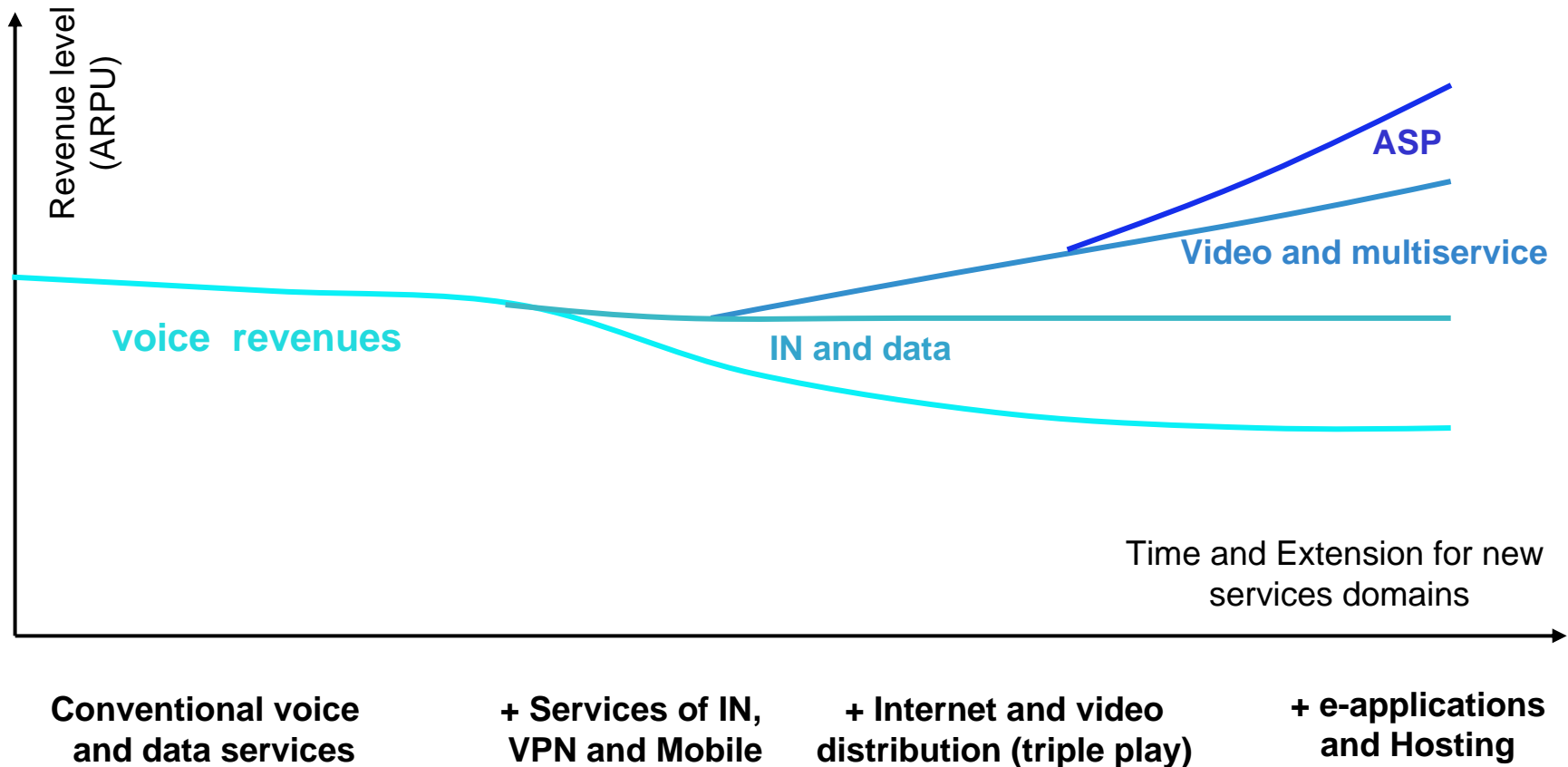
Specific migration and timeframe to be optimized for the country context and regulatory conditions



# Convergence Strategy in Competition

## Migration steps

Evolution of revenues with service domains



Convergence strategy is fundamental to be competitive and to grow



# Convergence Strategy in Competition Content

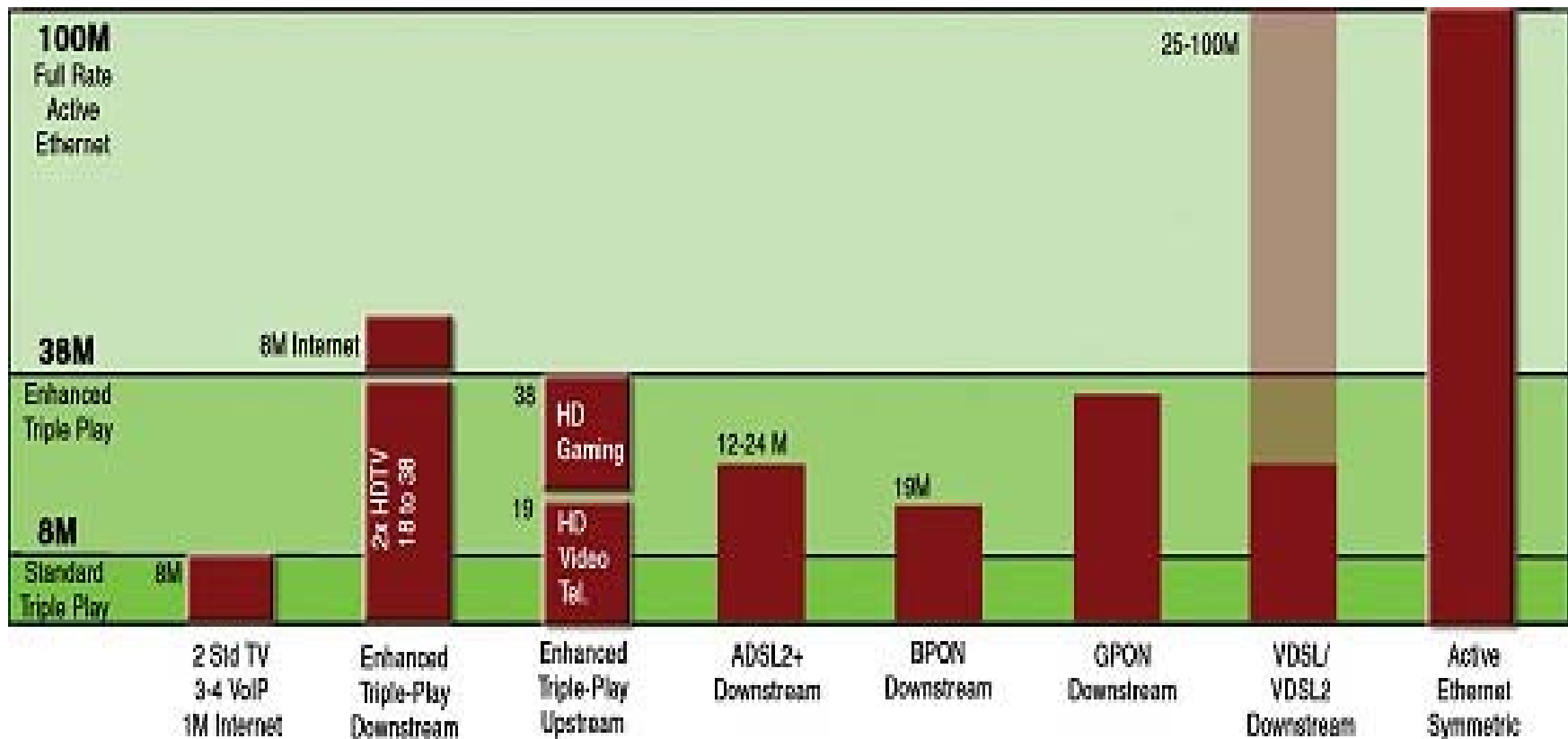
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# Convergence Strategy in Competition

## Broadband Content : Triple Play

### Illustration of Service Requirements and technology capabilities

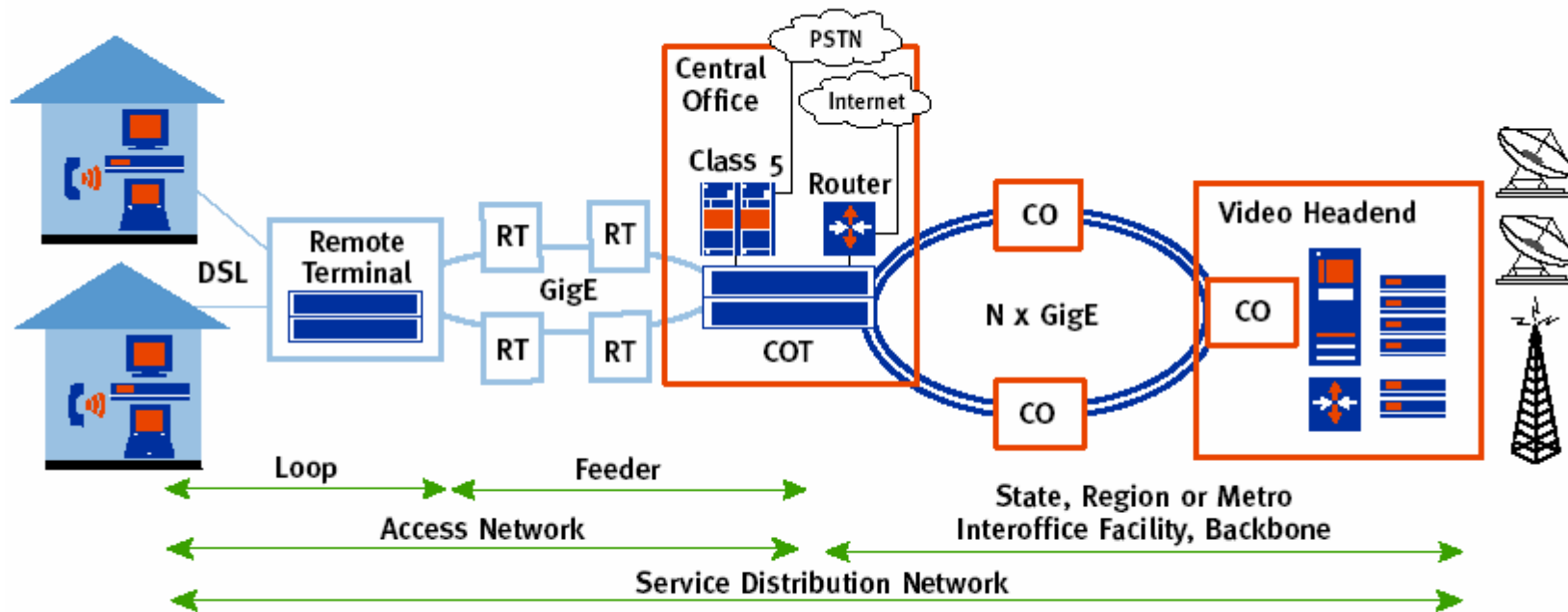




# Convergence Strategy in Competition

## Broadband Content : Triple Play

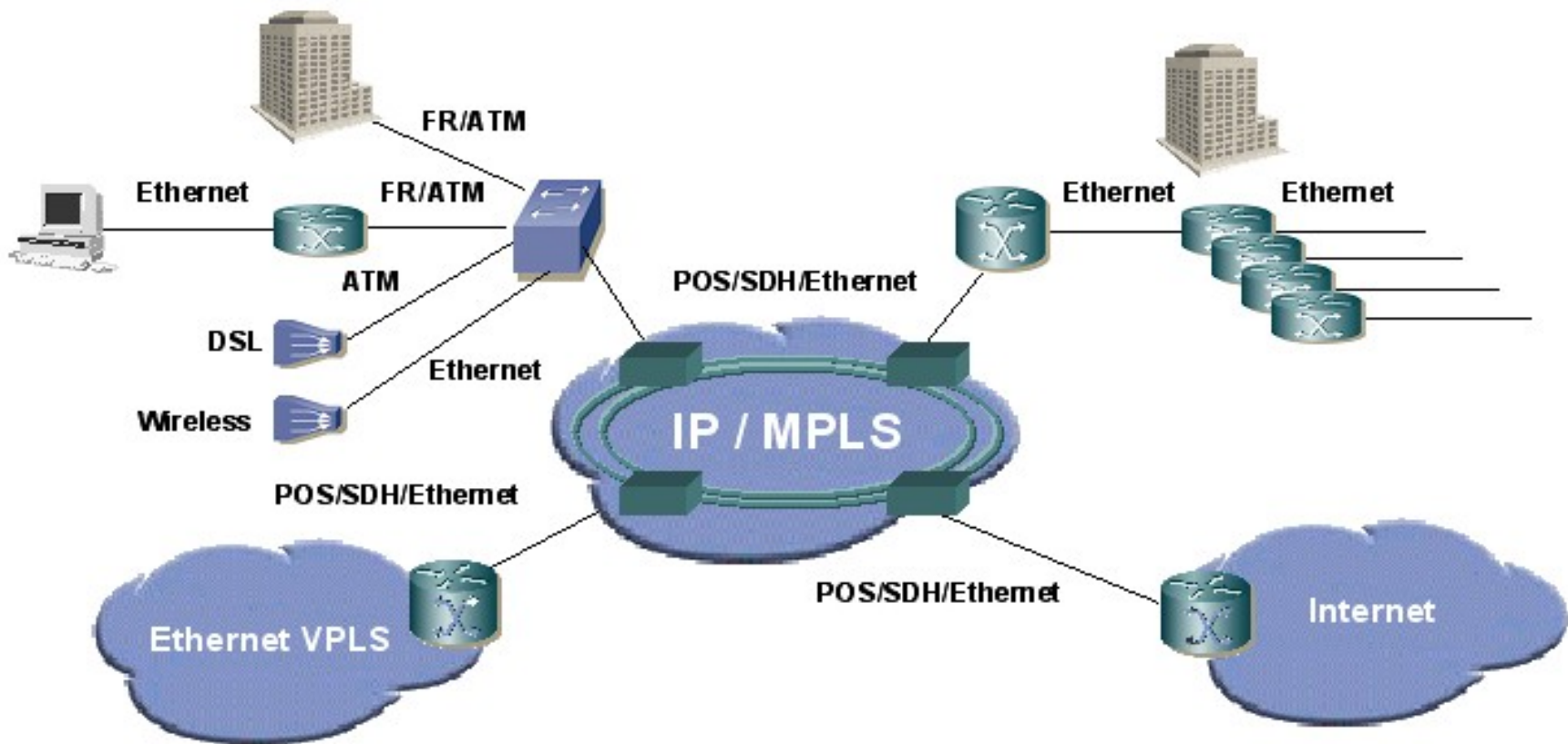
### Illustration of Loop Architecture on Ethernet





# Convergence Strategy in Competition Broadband Content: Triple Play

Illustration of VPLS integration on existing networks

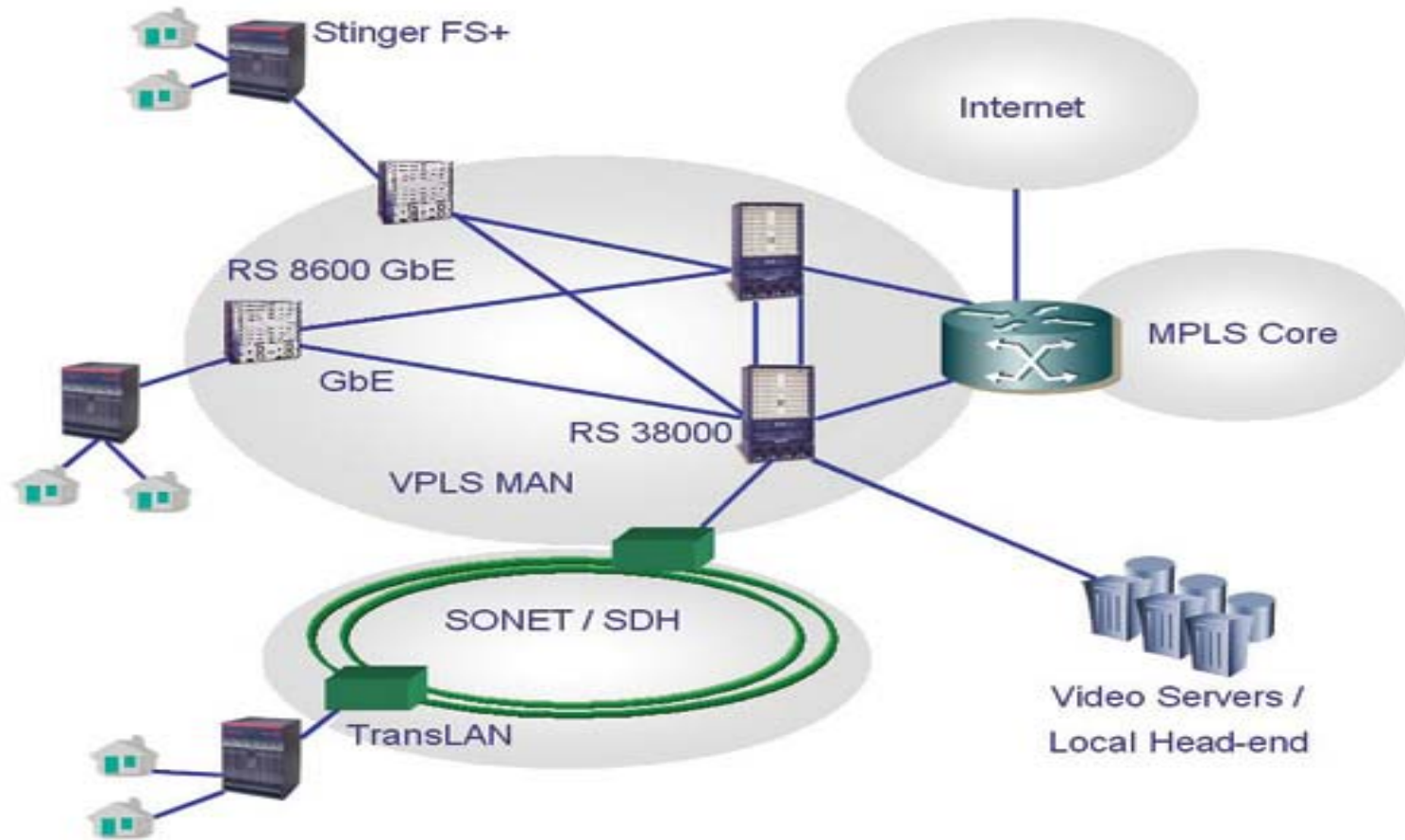




# Convergence Strategy in Competition

## Broadband Content : Triple Play

Illustration of Triple Play' Imagenio by Telefonica based on DSL





# Convergence Strategy in Competition

## Role of Business Planning

- Forecast solutions, costs and revenues
- Evaluate future Cashflows, NPV, IRR, ROI, etc.
- Perform “What-if” analysis for optional alternatives on Volume of customers, customer mixes and services domains
- Perform benchmarking with “best in class” operators
- **Decision making on strategy and actions in competition based on quantified evaluations**
- Recommend alternatives and actions to ensure success



# Convergence Strategy in Competition

## Role of Business Planning

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

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

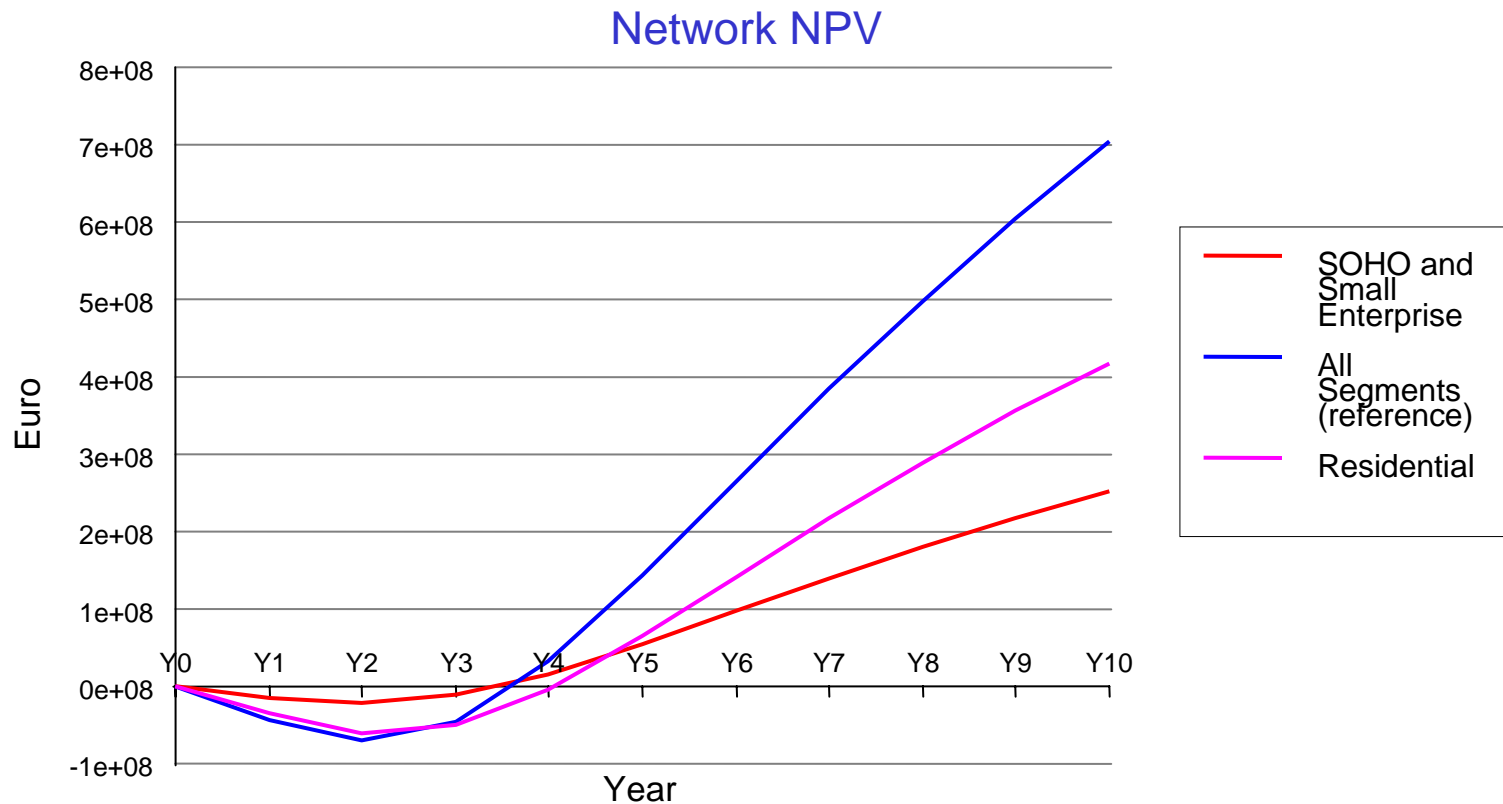
- Multiservice IP Network with integrated operation
- Three service categories: Voice, Data/Internet, Video distribution
- Modeling demands, multiservice traffic flows, dimensioning, network resources, CAPEX, OPEX and financial results for different levels of competition
- Evaluate future Cash-flows,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



# Convergence Strategy in Competition

## Role of Business Planning

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



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

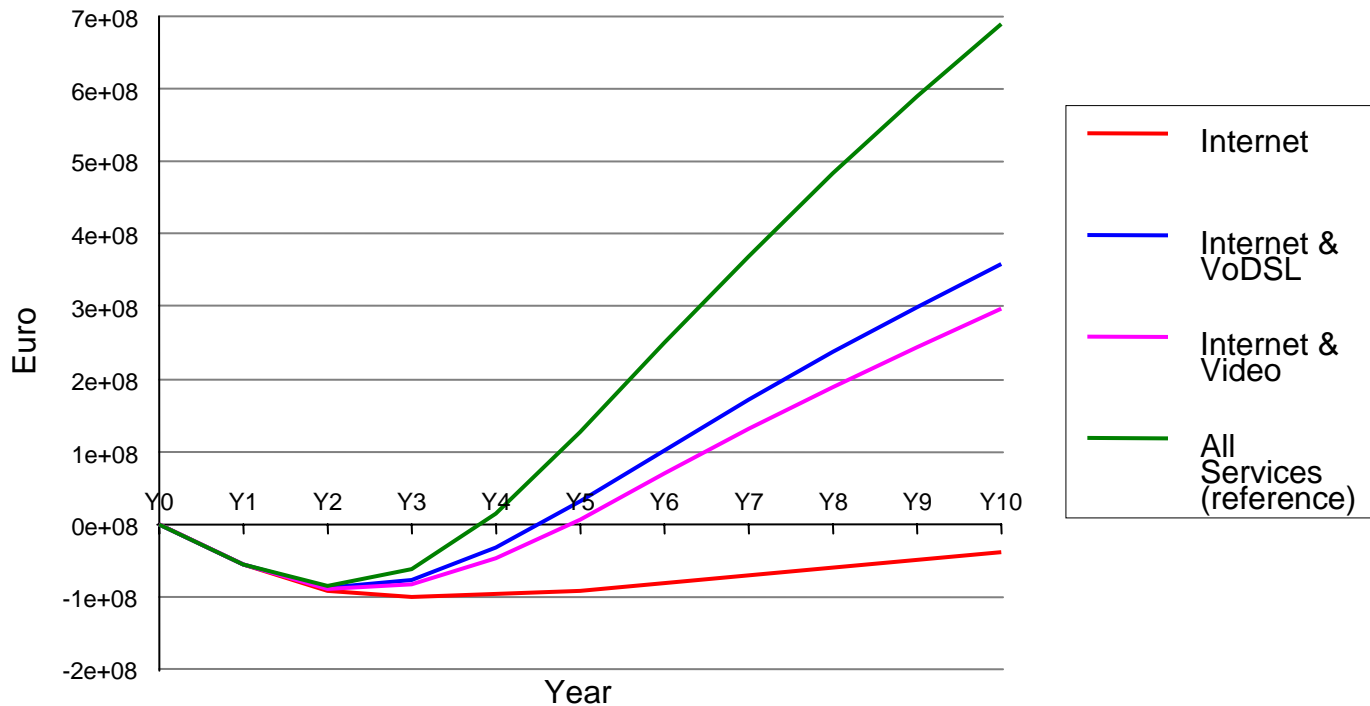


# Convergence Strategy in Competition

## Role of Business Planning

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

Network NPV



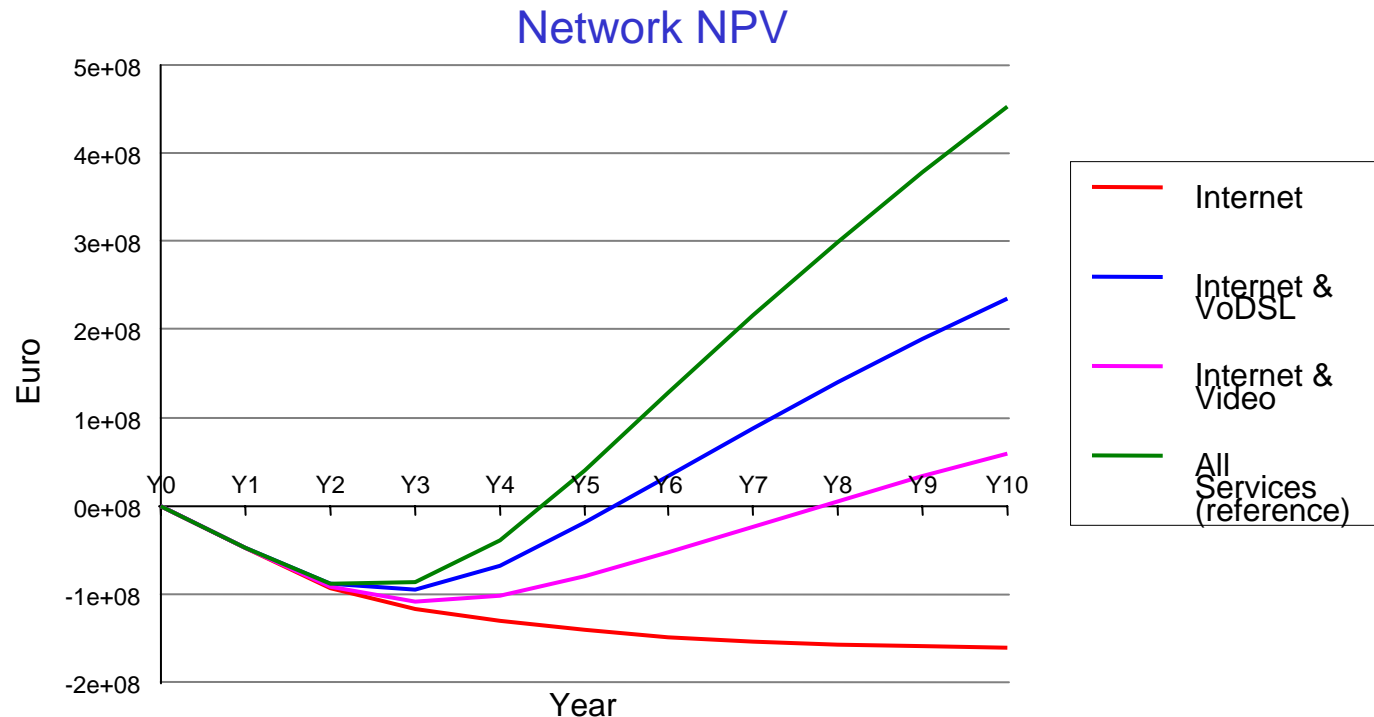
- Major impact of service classes on NPV and company survivability
  - Single service classes without future
  - High benefit of “all services” case



# Convergence Strategy in Competition

## Role of Business Planning

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



- 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 in Competition

## Recommendations

- Ensure proper **modeling of key techno-economical factors** and professional tools
- Focus on multiple customers, **multiple services domains**
- Take benefit of **all economies of scale**
- Maintain business indicators within **benchmark margins** in competition

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