



**ITU / ITC Regional Seminar on Network Evolution to
Next Generation Networks and Fixed Mobile
Convergence
CEE, CIS and Baltic States
Moscow (Russia), 27-30 April 2004**

**Convergence Strategy for Universal Operators
and role of Business Planning**

**Oscar González Soto
ITU Consultant Expert
Strategic Planning and Assessment**



**Convergence Strategy and Business Planning
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**
- **Convergence at Network, Services and IT platforms**
 - **Architectures for convergence per domain**
- **Business planning and impacts of competition level**



Convergence Strategy and Business Planning 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%**

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

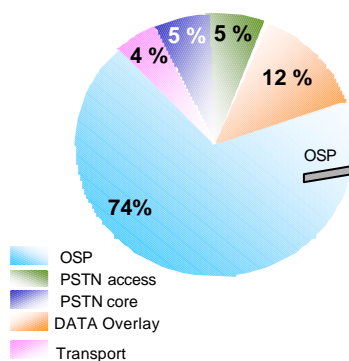
slide 3



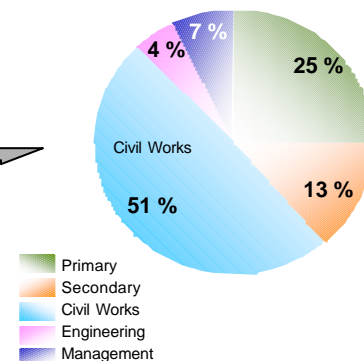
Convergence Strategy and Business Planning Key Factors: Cost structure and savings

Investment Splitting in Greenfield Access + Local

Network Cost Composition
for metropolitan scenario



Infrastructure Cost for Outside
Plant (OSP)



April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

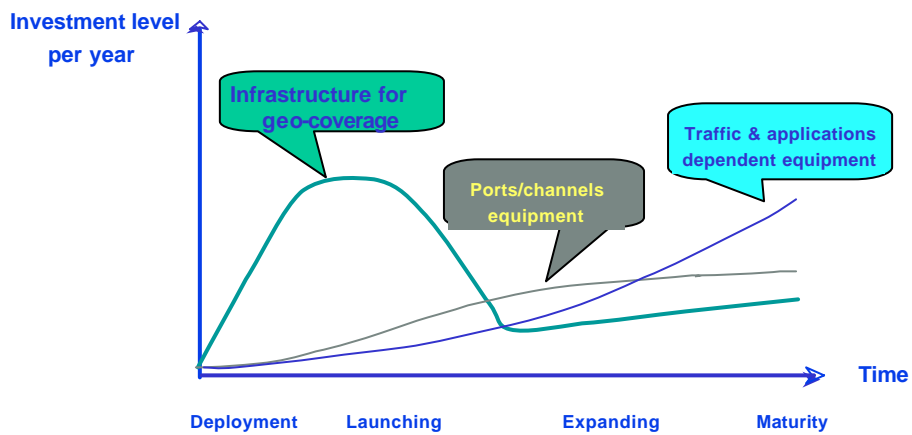
slide 4



Convergence Strategy and Business Planning

Key Factors: Cost structure and savings

Dimensioning and investment trough time per domain



April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 5



Convergence Strategy and Business Planning

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 several dimensions of the economy of scale:

- By **Size** of the systems
- By **Technology** capabilities
- By **Traffic efficiency** in the resources utilization
- By customers **Density**
- By **Volume** of purchasing

April, 2004

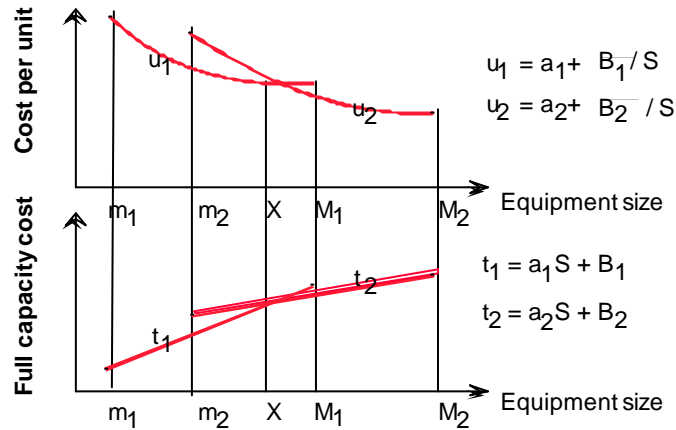
ITU/BDT/ Convergence Strategy O. G.S.

slide 6



Convergence Strategy and Business Planning

Key Factors: Economies of scale by size



Impact by size, occupancy or fill-in degree

April, 2004

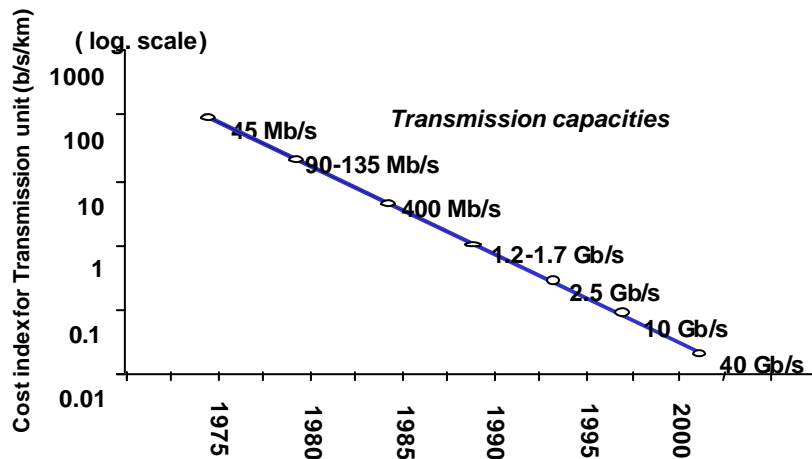
ITU/BDT/ Convergence Strategy O. G.S.

slide 7



Convergence Strategy and Business Planning

Key Factors: Economies of scale by technology



Source: AT&T data reproduced by Word Bank and TeleGeography Inc.

April, 2004

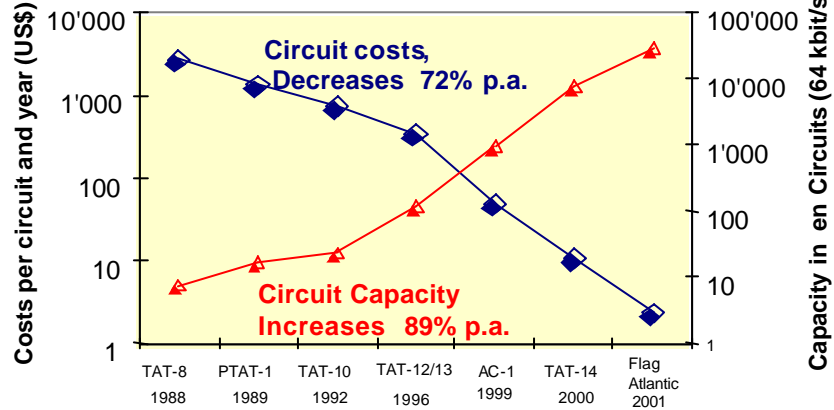
ITU/BDT/ Convergence Strategy O. G.S.

slide 8



Convergence Strategy and Business Planning Key Factors: Economies of scale by technology

Capacity and costs: Transatlantic Cables,

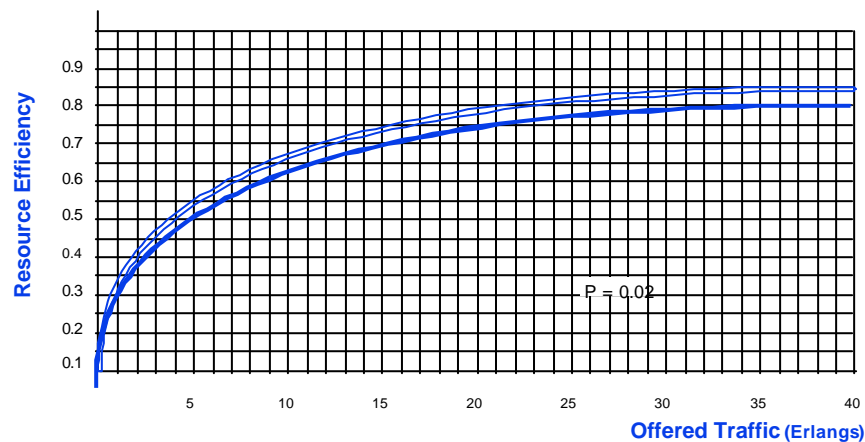


Source: ITU, adapted from FCC.
Note: Circuit Costs for an average utilization of 18%, compression factor of 5:1 and cycle life of 20 years



Convergence Strategy and Business Planning Key Factors: Economies of scale by traffic efficiency

Impact on efficiency increase for a given quality with traffic and group size (non-linear effect)

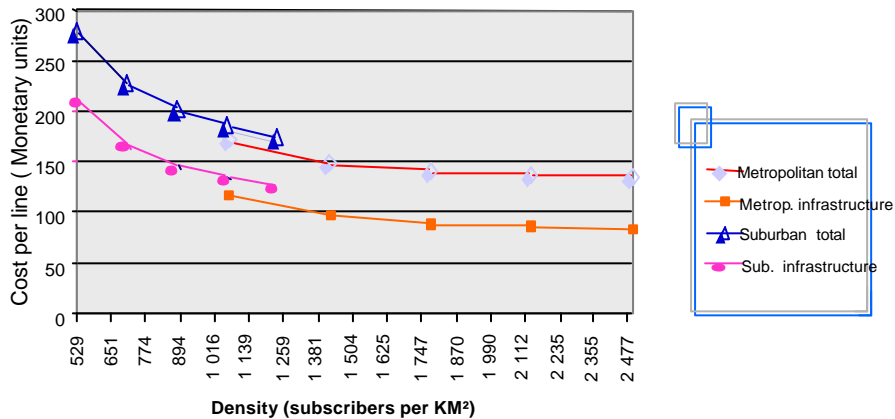




Convergence Strategy and Business Planning

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)

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 11



Convergence Strategy and Business Planning

Key Factors: Competition level

Different Levels of Competition

- **Monopoly** for all geographical areas, customer classes and service types
- **Limited monopoly** per area and/or service types while free operation for niche operators
- **Moderate competition** for all network segments and services
- **High competition** for high revenue customers and services
- **Aggressive competition** for all areas, customers and services

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

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 12



Convergence Strategy and Business Planning 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

April, 2004

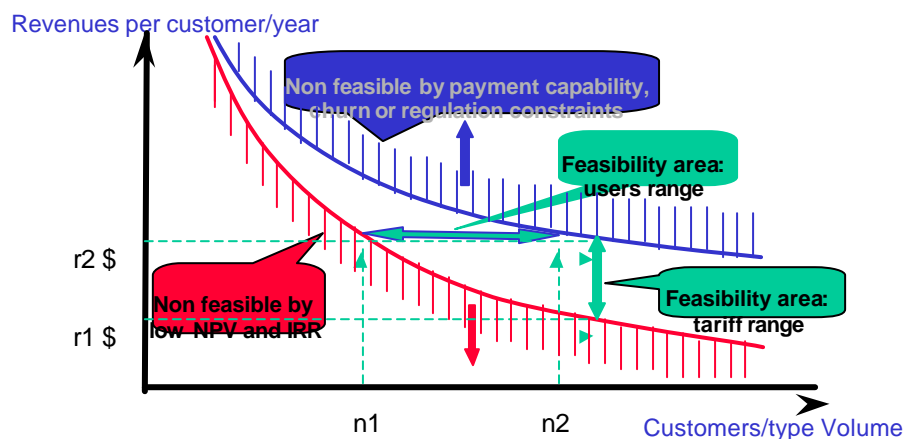
ITU/BDT/ Convergence Strategy O. G.S.

slide 13



Convergence Strategy and Business Planning Key Factors: Competition

Business feasibility space in competition as a function of volume



Feasibility space highly dependent on country size and economical level

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 14



Convergence Strategy and Business Planning 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 service categories
 - Migration steps towards universal operation
- Convergence at Network, Services and IT platforms
 - Architectures for convergence per domain
- Business planning and impacts of competition level

April, 2004

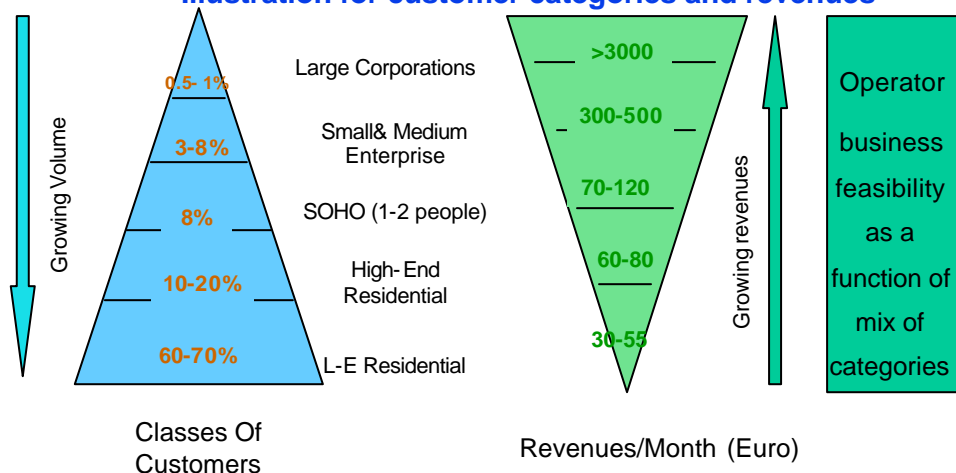
ITU/BDT/ Convergence Strategy O. G.S.

slide 15



Convergence Strategy and Business Planning Business domains and trends

Illustration for customer categories and revenues



“Customer stratification should be analyzed per country”

April, 2004

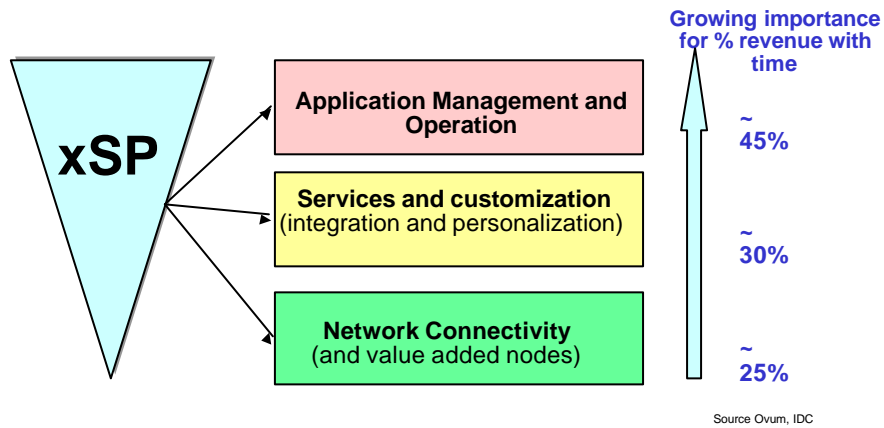
ITU/BDT/ Convergence Strategy O. G.S.

slide 16



Convergence Strategy and Business Planning Business domains and trends

Trends for new application revenues in the future



April, 2004

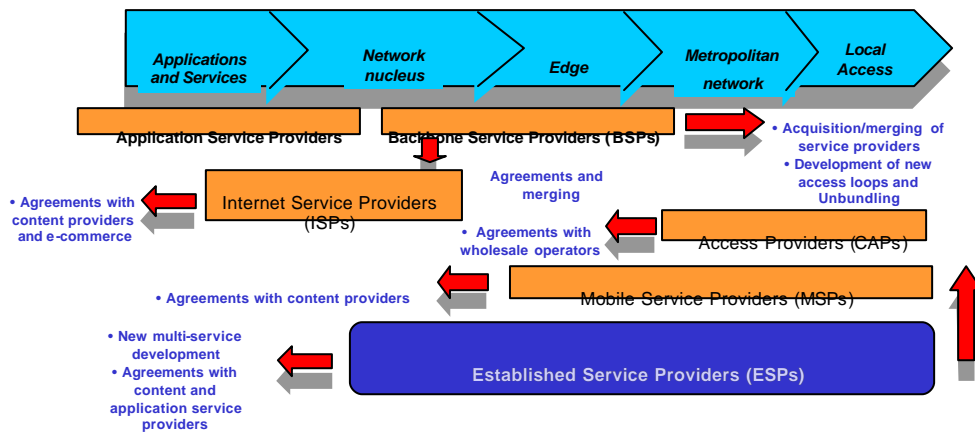
ITU/BDT/ Convergence Strategy O. G.S.

slide 17



Convergence Strategy and Business Planning Business domains and trends

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



April, 2004

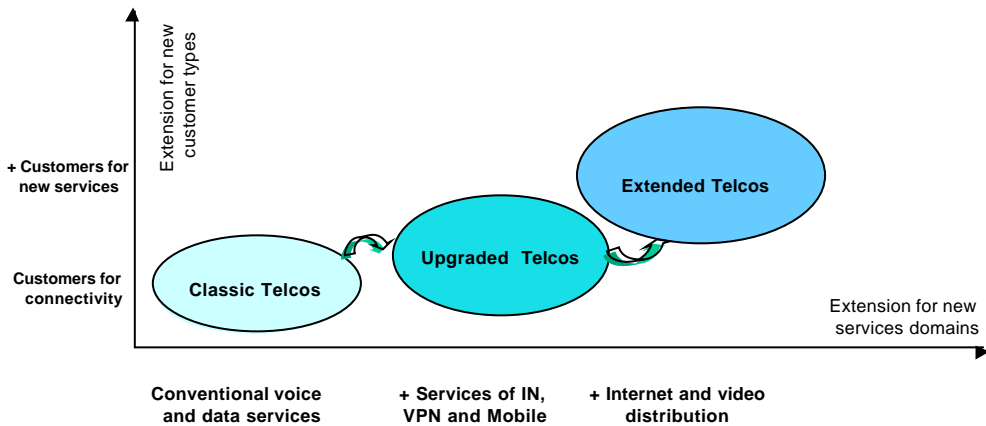
ITU/BDT/ Convergence Strategy O. G.S.

slide 18



Convergence Strategy and Business Planning Migration steps

“staircase” for leading growing alternatives



April, 2004

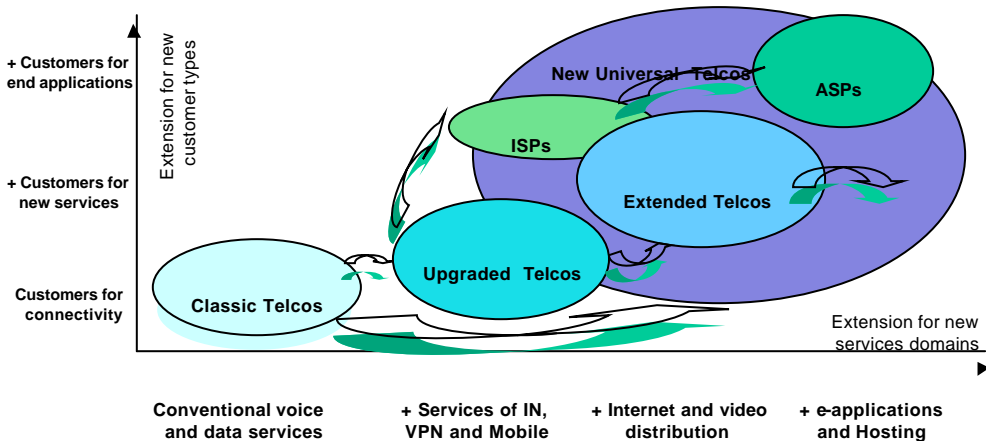
ITU/BDT/ Convergence Strategy O. G.S.

slide 19



Convergence Strategy and Business Planning Migration steps

“staircase” for New Universal Telcos



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

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 20



Convergence Strategy and Business Planning 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 service categories
 - Migration steps towards universal operation
- Convergence at Network, Services and IT platforms
 - Architectures for convergence per domain
- Business planning and impacts of competition level

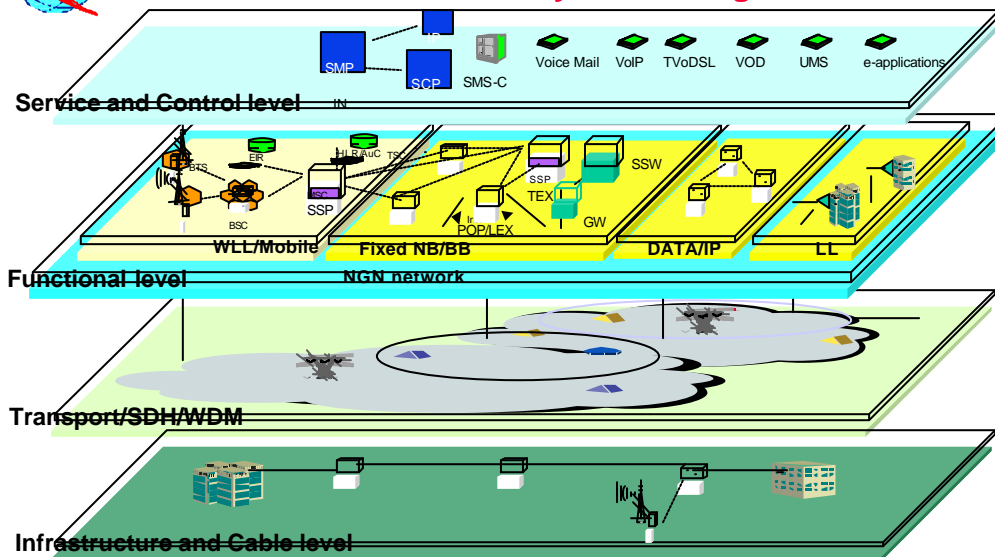
April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 21



Convergence Strategy and Business Planning Network Layer Modeling



April, 2004

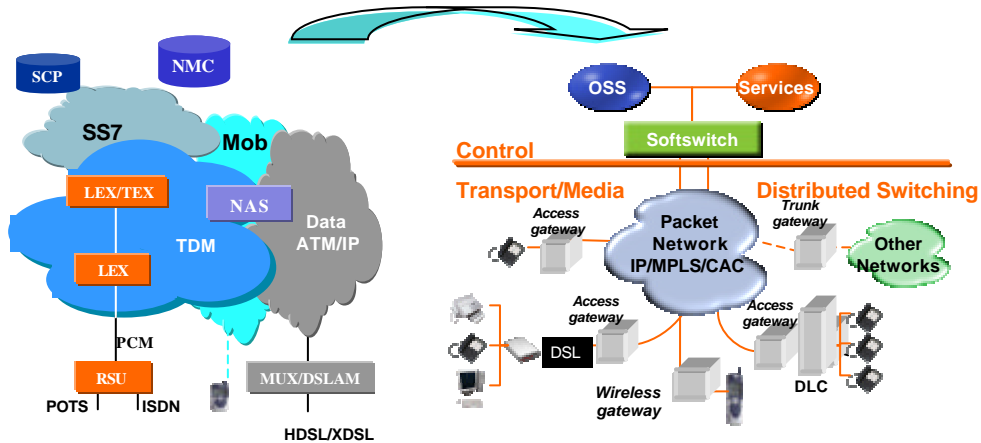
ITU/BDT/ Convergence Strategy O. G.S.

slide 22



Convergence Strategy and Business Planning Evolution towards NGN

From initial networks towards target network



Migration steps and timeframe to be studied/optimized for each country context

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

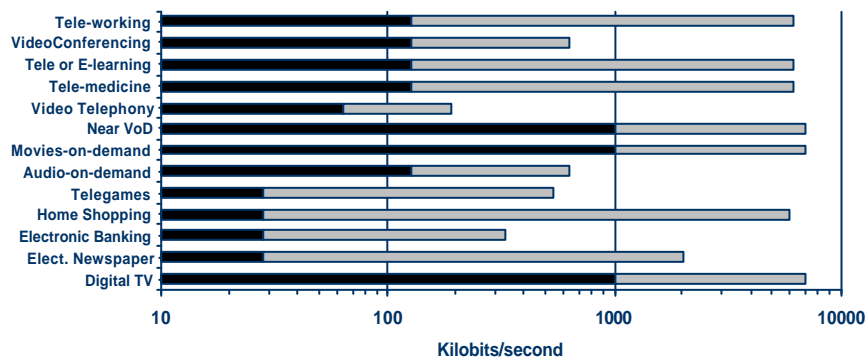
slide 23



Convergence Strategy and Business Planning

Example of Requirements for new BB applications

Minimum and suitable speeds required by application



By: Plannedapproachinc.com

■ Minimum □ Suitable

April, 2004

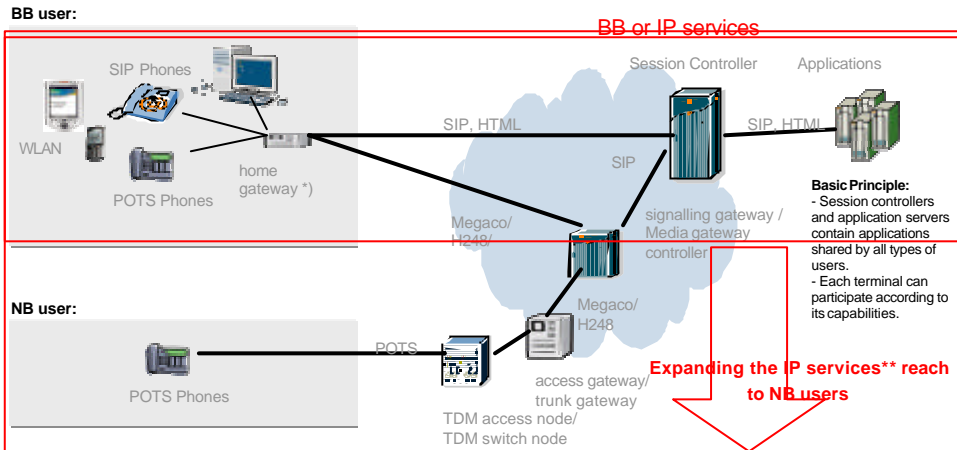
ITU/BDT/ Convergence Strategy O. G.S.

slide 24



Convergence Strategy and Business Planning

Converged Services for BB and NB



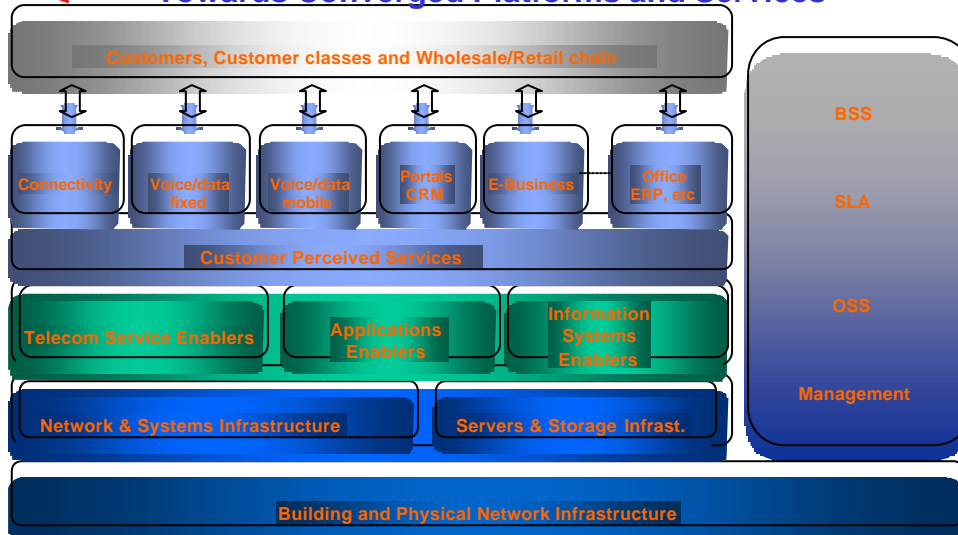
** e.g. IP Centrex, Multiparty multimedia conference services and like, Unified Messaging services, Click-to-dial, Browse and Talk,...

By: Alcatel *) Initially, POTS phones are expected to be controlled through Megaco/H248 via a network media gateway controller. Later, the home gateway may be fully SIP based in which case it contains the POTS mediation function.



Convergence Strategy and Business Planning

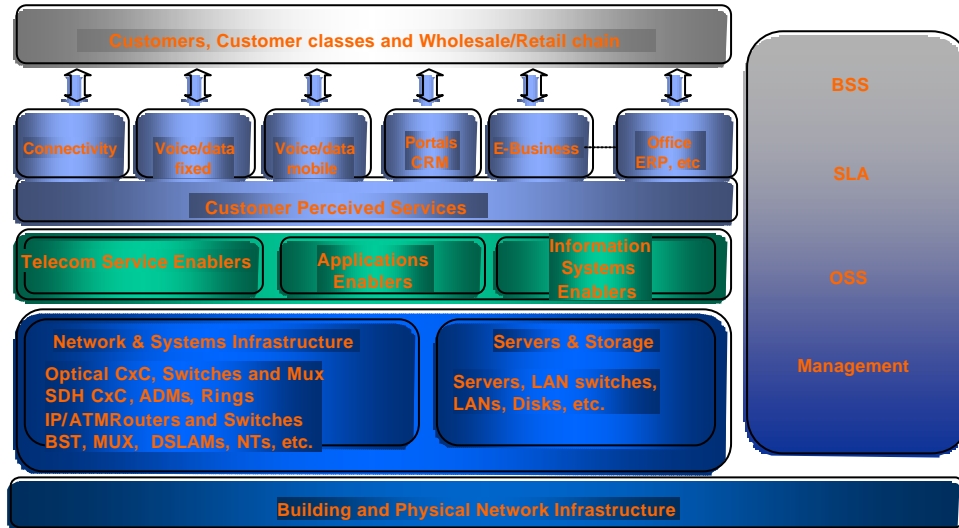
Towards Converged Platforms and Services





Convergence Strategy and Business Planning

Towards Converged Platforms and Services



April, 2004

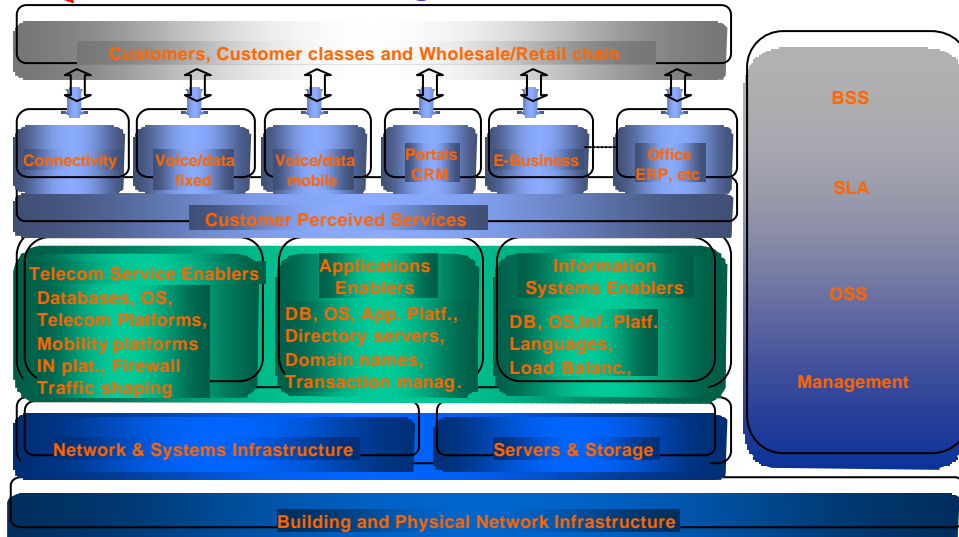
ITU/BDT/ Convergence Strategy O. G.S.

slide 27



Convergence Strategy and Business Planning

Towards Converged Platforms and Services



April, 2004

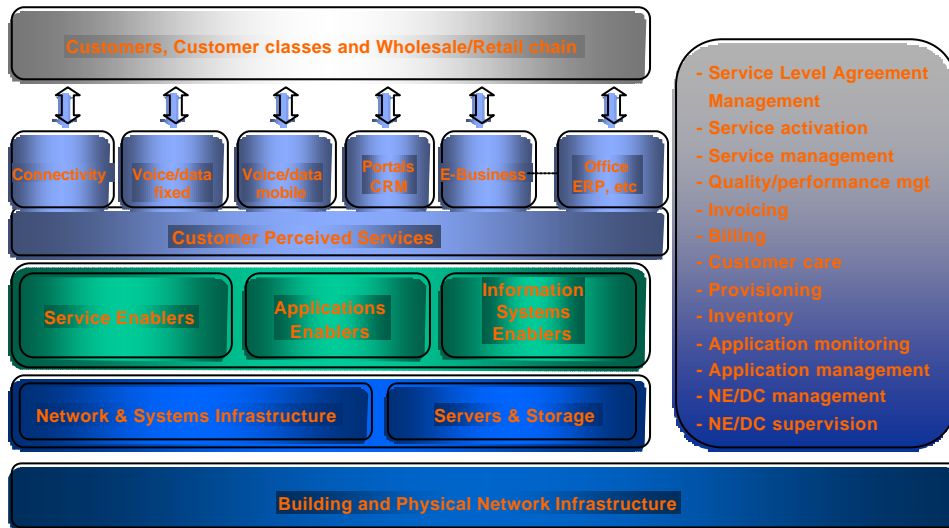
ITU/BDT/ Convergence Strategy O. G.S.

slide 28



Convergence Strategy and Business Planning

Towards Converged Platforms and Services



April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 29



Convergence Strategy and Business Planning 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 service categories
 - Migration steps towards universal operation
- **Convergence at Network, Services and IT platforms**
 - Architectures for convergence per domain
- **Business planning and impacts of competition level**

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 30



Convergence Strategy and Business Planning 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 and Business Planning Role of Business Planning

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

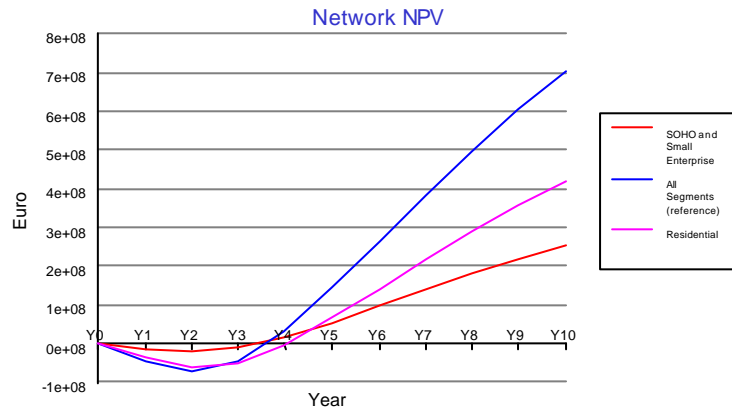
Case study for medium size country with mixes of customer classes and services domains

- 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 Cashflows , NPV, IRR, etc. for a 10 years period



Convergence Strategy and Business Planning 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 and medium term
- “All customer segments” case with much better behavior

April, 2004

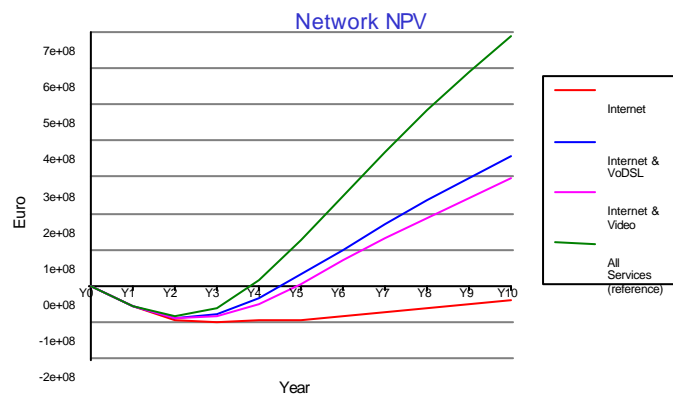
ITU/BDT/ Convergence Strategy O. G.S.

slide 33



Convergence Strategy and Business Planning Role of Business Planning

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



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

April, 2004

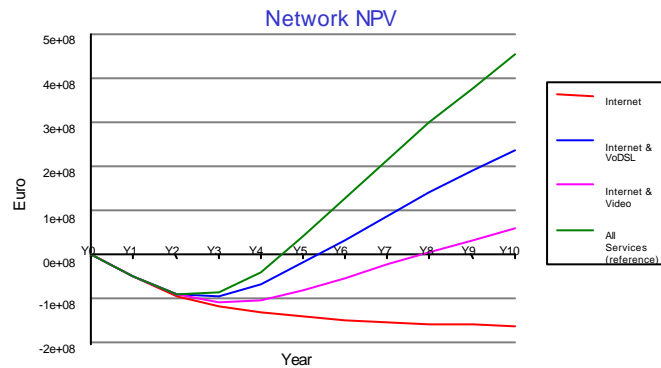
ITU/BDT/ Convergence Strategy O. G.S.

slide 34



Convergence Strategy and Business Planning 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

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 35



Convergence Strategy and Business Planning Recommendations

- Ensure proper modeling of key 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
- Be in the forefront for the new services introduction

and

!! Base decisions on joint Technical and Economical evaluation at all phases !!

April, 2004

ITU/BDT/ Convergence Strategy O. G.S.

slide 36