Abstract

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- Successful convergence of services and networks needs powerful modeling both from technical and economical perspectives. This paper considers the main dimensions in convergence, the related key economical factors and a strategy for convergence of an operator with universal scope in a competitive environment. Those factors allow defining the best steps to follow in order to increase business and benefit from the economies of scale at the different network layers.

- The migration steps from a classical operator towards a universal operator for voice, data and video in fixed and mobile networks are defined as a “stair case” strategy that aggregates new business domains on top of the currently in operation. NGN architecture facilitates the functionality and scalability at network level while common IT architectures are also needed to allow flexibility and economies of scale at the level of applications and control functions, especially between fixed and mobile domains.

- Due to the important contribution to costs by the infrastructure and the services launching, special emphasis is done on the modeling and evaluation of the CAPEX and OPEX for the network infrastructure, systems and service platforms. Architectures and steps within NGN are proposed for the convergence and a techno-economical modeling is summarized for the evaluation of costs, revenues and financial ratios incurred by the multi-service provisioning solutions.

- Different alternatives of operation are evaluated in a case study for an integrated network that provides several mixes of voice, data and video related services in order to illustrate the sensitivity of the economical indicators as Net Present Value and Break-even point on the business health of the operator. Conclusions are derived on the business feasibility and positioning in a competitive market as a function of the services categories and customer classes to be addressed.