

Traffic demand trends and multiservice modeling in Broadband

Abstract

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- Systematic grow in traffic and bandwidth demands imply a major focusing on network capacity planning as well on the definition of a new equilibrium between services provision and pricing to avoid the “bandwidth crunch” . Especially in mobile, disruptive demands by the smart phones, tablets and Blackberry’s are creating new blocking situations in the busy periods at metropolitan network centers due to the high signaling load. There are already a series of mature broadband networks in operation that allow seeing the evolution of traffic flow demands and important changes are derived from the video services, web browsing, social networks and P2P that are the dominant classes in the demand grow. Paper analyses those trends, implications and modeling required for correct dimensioning.
- Traffic demand of new services increase bandwidth requirements up to factors of 20:1 and signaling up to 10:1 due to capabilities of smart mobile terminals, notebooks and tablets. Modeling for multiservice traffic requires a characterization of service flows per category of content type and per origin destination in the network sources/sinks. A review is done for the flow types from the statistical behavior point of view and for the available models today in the dimensioning process for nodes, links and paths.
- A process is proposed for the traffic demand evaluation in the network design and operations taking into account the customers segmentation per life-style, usage pattern and purchasing criteria. Fulfillment of target performance values is key to ensure efficiency in the network utilization, profitability and customer satisfaction. Systematic measurement of traffics generated by new services is a must for the correct application of the dimensioning process and quality assurance.