AN OPTIMIZED APPROACH IN 3G MOBILE SYSTEMS DEPLOYMENT

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Combined analytical and practical approach in considering the third generation and beyond mobile systems implementation will be presented. Starting from the characteristics of the second generation cellular systems and the required next generations' features, different possible migration paths towards next generation systems will be analyzed. Thus, using the two known scenarios: evolutionary and innovative, it will be shown that considerable modifications in this basic approach can be introduced. Taking into account that IP is going to be an end-to-end protocol, a full scale of possible 3G and beyond mobile radio systems deployment possibilities will be identified.

A detailed comparison of the given deployment scenarios will be performed considering at the first place their impact on the already existing cellular infrastructure. Finally, having in mind that operators have to evolve the current mobile radio infrastructure, network services and the end user applications towards an end-to-end IP solution capable to support quality of service (QoS) in accordance with the needs of the dominant data traffic, presented scenarios will then be used to define an algorithm for the choice of an optimized solution when next generation (all-IP 3G/4G) cellular networks deployment is considered.