

# Experimental analysis of peer-to-peer streaming in cellular networks\*

Almudena Díaz

Pedro Merino

Laura Panizo

Álvaro M. Recio

Dpto. de Lenguajes y Ciencias de la Computación,

University of Málaga

Málaga, Spain

{almudiaz,pedro,laurapanizo,amrecio}@lcc.uma.es

## Abstract

*In this article evaluate the performance of video streaming services in mobile networks taking into account constraints presented in mobile terminals. We propose a methodology that can be used to evaluate the performance of future mobile P2P streaming applications and services.*

*We have measured video streaming service performance parameters such as packet losses, jitter, bandwidth and round trip time. Moreover, we have measured the performance of video streaming traffic in accordance with according to different configurations and different mobility issues.*

*Our analysis shows that in a mobile-to-mobile scenario packet delay and delay variation increases, bandwidth decreases and video bit rate used is limited by the network congestion.*

*While in a static scenario burst of packet losses are caused by congestion, in a vehicular scenario bursts of packet losses are also caused by radio link disconnection due to handovers and link outage.*

*Our analysis has shown that performance strongly depends on mobility of users. In particular, performance is degraded as the mobility increases. We can conclude than mobile-to-mobile video streaming in a vehicular scenario is not feasible without adaptive techniques in order to compensate jitter variability and intermittent radio link disconnections. Moreover, for a successful deployment of P2P video streaming applications, new high speed radio access technologies are needed.*

*This is a summary of the paper presented in AINA 2007 conference [1].*

## References

- [1] A. D, P. Merino, L. Panizo, and A. M. Recio. Experimental analysis of peer-to-peer streaming in cellular networks. In *Proc. 21st IEEE International Conference on Advanced Information Networking and Applications*, 21-23 May 2007.

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