

Master 2 research subject: “*Caching strategies for adaptive video streaming over Content Centric Networks*”

Research laboratory: IRISA/INRIA

Project team: Dionysos

Note: This internship is jointly proposed with Technicolor

Subject description:

Content-centric networking (CCN) (i.e. content-based networking, data-oriented networking or named data networking) is an alternative approach to the current architecture of computer networks [1]. CCN is based on the principle that communication network should allow users to focus on the data, rather than having to reference a specific, physical location where that data is to be retrieved from. CCN is motivated by the fact that the vast majority of current Internet usage (a "high 90% level of traffic"[2]) consists of data being disseminated from a source to a number of users. CCN will clearly allow automatic and application-neutral caching, which enables a more efficient data delivery system.

Since CCN is natively implementing caching procedures and tracking information, it could be an interesting solution to distribute video contents to end-users in contrast with the expensive Content Delivery Network (CDN).

In this internship, we propose to study the impact of caching strategy on the adaptive video streaming over CCN. More specifically, we will study and compare different strategies to allow dynamic adaptation of the video quality being either fully transparent to the end host or not.

Key words: CCN, caching strategies, Adaptive video streaming, simulation

References

[1] Content Centric Network, www.parc.com/work/focus-area/networking/

[2] Van Jacobson's Google Tech Talks speech entitled "A New Way to Look at Networking"

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Further information :

Applicants shall be interested in distributed and/or peer-to-peer systems ; have a good knowledge of distributed algorithms, and good programming skills.

Please include a Curriculum Vitae with your application.