Title: **Orchestrating Massively Distributed CDNs**  
Speaker: **Stratis Ioannidis, Technicolor Palo Alto Research Center**  
When: Thu Feb 14, 1:40pm  
Host: Chen-Nee Chuah  

**ABSTRACT:**  
We consider a content delivery architecture based on geographically dispersed groups of "last-mile" CDN servers, e.g., set-top boxes located within users' homes. These servers may belong to administratively separate domains, such as multiple ISPs. We propose a set of scalable, adaptive mechanisms to jointly manage content replication and request routing within this architecture. Relying on primal-dual methods and fluid-limit techniques, we formally prove the optimality of our design. We further evaluate its performance on both synthetic and trace-driven simulations, based on real BitTorrent traces, and observe a reduction of network costs by more than 50% over traditional mechanisms such as LRU/LFU with closest request routing.

This is joint work with Joe Wenjie Jiang, Laurent Massoulie, and Fabio Piconni.

**BIOGRAPHY:**  
Stratis Ioannidis is a researcher at the Technicolor Research Center in Palo Alto, CA. He received an M.Sc. (2004) and a Ph.D. (2009) in Computer Science from the University of Toronto, Canada, and a B.Sc. (2002) in Electrical and Computer Engineering from the National Technical University of Athens, Greece. Between 2009 and 2011 he was a postdoctoral researcher at Technicolor Research Center in Paris, France.

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