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Introduction to Content Centric Networking and the CCNx framework

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Based on the observation that today's Internet is more about content diffusion than point-to-point communication, Content Centric Networking (CCN) is a new routing paradigm that proposes a radical change on the Internet architecture while being incrementally deployable. CCN is one of the most promising research area for a future Internet, more scalable, secure, collaborative and efficient. It is currently raising the increasing interest of the network community. This talk aims to give to the audience the key elements to better understand CCN and its possibilities.

Thibault Cholez graduated in 2007 from Nancy University for both a Master degree in Computer Science and a leading Engineering school (ESIAL). He did his PhD studies in the laboratory INRIA Nancy / LORIA on the monitoring and security of large P2P networks and got his PhD degree from Nancy University in 2011. After a first postdoc at the University of Technology of Troyes where he investigated the diffusion of pollution in P2P systems, he currently pursues his research activities at the University of Luxembourg on the monitoring of distributed systems and the security of services, with a new particular interest for the Content-centric networking paradigm. In the same time, he also contributes to European FP7 research projects on the Internet of Things.

Outline:

- In depth view of CCN
  - The CCN paradigm and architecture
  - Challenges and research activities on several key topics (management, security, deployment, etc.)
- CCNx tools - how to use the framework to experiment CCN, hands-on exercises
  - Architecture of CCNx
  - Provided tools and libraries
  - Generation of CCN traffic
  - Writing of a CCN application