

Workshop on Multimedia Streaming in Information-/ Content-Centric Networks (MuSIC 2017)

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Motivation and Goals

With the exponential growth of multimedia content in recent years (in particular, real-time video for entertainment) and the availability of the same content at multiple locations (e.g., the same video being hosted at YouTube and Dailymotion), users are interested in fetching a particular content and not where that content is hosted. In today's IP networking world, Content Delivery Networks (CDNs) are the primary (overlay) means to deliver massive amounts of real-time content, e.g., video streams, to clients in a satisfying manner. However, native mechanisms to support efficient content distribution have not become available in IP networks. Moreover, the ever-increasing number of mobile devices that lack fixed addresses calls for a more flexible network architecture.

Among the initiatives and proposals countering these problems and challenges, Information-Centric Networking (ICN) is a promising approach, treating content as a first-class citizen, bringing efficient content delivery into focus, and aiming to evolve the current Internet from a host-to-host communication-based architecture to a content-oriented one where named objects are retrieved in a reliable, secure and efficient manner. Content-Centric Networking (CCN) / Named Data Networking (NDN) are the most active projects, and rapid progress has been made in recent years, resulting in both clean-slate and overlay architectures and solutions.

The MuSIC 2017 workshop, which will be the third instance of this workshop (following [MuSIC 2015](#) and [MuSIC 2016](#)), thus pursues two major goals:

First, the workshop will give emphasis to the predominant source of traffic, i.e., real-time multimedia data delivery/streaming, and the resulting requirements, challenges and opportunities in the context of ICN. The workshop will specifically consider video-on-demand (VoD) and voice/video conferencing (live) applications on ICN, but other distributed multimedia applications are welcome, such as gaming. All aspects of media streaming in ICN will be addressed, including: basic principles and insights; protocols, mechanisms and policies (strategies) in ICN nodes; routing; measures and metrics for real-time behavior, QoS and QoE; evaluation methodology; prototype implementations, testbeds, and demos; and comparisons of different ICN architectures and with IP-based systems. Following up on the major goals of the MuSIC 2015 and MuSIC 2016 workshops, MuSIC 2017 will provide a forum that will bring the Multimedia Systems/Communications and Information-/Content-Centric Networking communities together to present new work, spawn intense discussions, exchange results and learnings at the intersection of the two areas, and help establish common terminology, work and projects.

Second, CCN/NDN as the most actively explored approaches in the area, will be addressed in specific depth. The workshop will bring together researchers from academia and industry and investigate the architectural issues and challenges in CCN/NDN. While multiple initial architectural designs addressing in-network caching,



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mobility support and multipath routing have been proposed and prototypes have been implemented, areas such as security, privacy and economic models for, as well as multimedia streaming in, CCN/NDN have received limited attention. We invite submissions investigating and understanding some of the challenges in CCN/NDN, describing new research contributions, and showing potential to foster collaboration among researchers interested in CCN/NDN.

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