

Wednesday 7st June, 2017

14.00 – 16.00

Aula/Room D02

Andrea Detti

Information Centric Networks: Concepts, Applications, and Open Source Software

An Information Centric Network (ICN) is a communication system based on a new network layer, designed to provide users with named-objects, rather than end-to-end connections. A named object is a bundle of data, with a limited size, uniquely identified by a hierarchical name. ICN main functionality are routing-by-name, in-network caching, multicasting and data-centric security. To some extent, ICN services resemble those of a Content Delivery Network, but with a finer, packet-level, granularity.

With its pro and cons, Information Centric Networking is actually one of the few clean-slate Future Internet proposal. Anyway, even though its real application to a worldwide Future Internet is still debatable, ICN technology is gaining ground for supporting specific distributed applications such as IoT, Databases, Distributed Processing, Functional Chaining, Video Streaming, and so forth.

Currently there are different open-source ICN software implementations and the main ones are Named Data Network (NDN), a NSF project lead by UCLA, and cICN, a Cisco open-source project within the FD.IO community in the Linux foundation.

This talk copes with ICN motivations, challenges, concepts, possible applications and eventually provides a small demonstration based on Linux virtual machines and NDN software.



Andrea Detti (PhD) is an associate professor of the Department of Electronic Engineering of the University of Rome “Tor Vergata”. Currently is the research area is focused on Information-Centric-Network (ICN). He is the coordinator of the EU H2020 Bonvoyage project (bonvoyage2020.eu), where ICN is used for Intelligent Transport Systems. He is leading the activity of Roma Tor Vergata within the H2020 EU-JP ICN2020 (<http://www.icn2020.org/>) project where ICN is used for different applications (video streaming, 5G, data centers, etc.)