Report on the ITC Special Interest Group (SIG) on Information Centric Networking (ICN)
Editor: Mayutan Arumaithurai, NEC Laboratories Europe.

Information Centric Networking (ICN) or Content Centric Networking (CCN) is based on the principle that users are interested in obtaining content and are agnostic as to how or from where it is delivered and has emerged in recent years as a promising candidate paradigm for the future Internet architecture. Although existing and popular approaches such as P2P systems and CDNs also provide a user interface that is based on the name of the desired content, they depend on a name-to-location translation function in the network to then find a path to the requested content. While these systems reduce the burden on the user to know the location of the content, they still impose considerable limitations on the services that may be built on top of them. E.g., Publish/Subscribe services and the ability to query the information repository for a piece of content are still the responsibility of servers and end-systems, which poses scalability and efficiency challenges. ICN is expected to exploit the network capability for information delivery services. Below is a summary of some of the activities in which SIG members have been active in and some activities that would take place in the near future.

- ICN Research group (ICNRG), February 14-15, 2013   -

ICNRG was recently started in the Internet Research Task Force (IRTF) to deal with issues concerning scalable naming, addressing, routing, resource control, access analysis and access management in Information Centric Networks. ICNRG will hold its first interim meeting in Kista, Stockholm, Sweden, February 14-15, 2013.

Some of the talks would include ongoing projects with a focus on experimental and future plans: Lixia Zhang, NSF funded NDN project, Dirk Trossen, EU PURSUIT project, Dirk Kutscher, NetInf as part of the EU SAIL project. Other talks will include the current ICNRG Documents pertaining to an ICN Survey, Research Challenges and Baseline Scenarios were discussed. Take a look at the agenda and Luigi's report on past ICNRG talks.

- EU projects   -

-- Dirk Kutscher, EU SAIL project --
The EU SAIL project will also organize a co-located workshop that included the final demo of the SAIL project on the 13th of February. With the final demo, the EU project SAIL is expected to come to a successful end.

-- Mayutan Arumaithurai, EU COAST project --
Another EU project that dealt with ICN related topics, COAST came to a successful end in September 2012.

-- EU-JAPAN ICN project, Starting in April 2013 --
On the topic of EU projects, in Europe and Japan, there was a collaborative call for projects with a total funding of 3 Million Euros for energy efficient ICN specific topics under the EU-Japan FP7 call. Researchers from Europe and Japan were expected to team up and propose topics that dealt with energy efficient content centric networking and address issues pertaining to migration, naming, addressing and routing as well as resource control, access analysis and Digital Rights Management. The project has started on April 2013.

- Publications in recent conferences   -

There have been ICN related workshops held at both IEEE Infocom and ACM Sigcomm.

-- [INFOCOM April 2012, Florida, U.S.A](#) --
The main Infocom 2012 conference also had a couple of ICN related papers such as:
1) Sara Oueslati and et. al., "Flow-aware traffic control for a content-centric network".
2) Mengjun Xie and et. al., "Enhancing Cache Robustness for Content-Centric Networking".

-- [NOMEN March 2012, Florida, U.S.A](#) --
The NOMEN 2012 workshop at INFOCOM had 12 ICN related papers and a poster/demo session. The sessions included Data naming and name prefixes management, Traffic control and network management; and In-network caching mechanisms and performance. The panel discussion was on the topic " The future of content delivery: how much do we need a new network architecture? ".

- Publications in journals   -

-- K. Pentikousis, P. Chemouil, G. Pavlou, K. Nichols: "*Information-Centric Networking*", IEEE Communications Magazine, Vol. 50 n°12, 2012.

-- K. Pentikousis, P. Chemouil, G. Pavlou, K. Nichols, D. Massey: "*Information-Centric Networking : part II*", IEEE Communications Magazine, Vol. 50 n°7, 2012.

- Panels   -

[Prosper Chemouil](#) organized a Panel Session titled "Information-Centric Networking: which impact on design & management? " on ICN during [IFIP/IEEE NOMS 2012](#) in April 2012 that included R. Boutaba (Waterloo Uni., Canada) and D. Dudkowski (NEC, Germany).

-- ICN related conferences in the near future   --

-- Giovanna Carofiglio, Lixia Zhang, NOMEN April 2013, Turin, Italy --
For those interested, the NOMEN workshop will be held at Infocom 2013 too. The workshop will be held on the on the 19th of April, 2013. The workshop is expected to have papers that address new application and use case scenarios.

-- Xiaoming Fu, Volker Hilt, IEEE ICNP October 2013, Goettingen, Germany --
Another IEEE conference, the IEEE ICNP 2013 will be held in October in Goettingen, Germany. The paper submission deadline is on the 6th of May and also encourages submissions related to ICN.

-- ICN industry forum   --

Prosper Chemouil is the member of the steering committee of the Emerging Networks Consortium. It is an industry forum (Emerging Networks Consortium) that has been created in 2012 under the coordination of PARC (USA) so as to promote ICN in the industry. Founding members include Alcatel-Lucent, BT, France Telecom-Orange, HCL, Huawei, MACH, Panasonic, and Samsung Electronics Co., Ltd**.**