Future Network Technologies Workshop
Abstract Submission Form
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Presentation title: **Networking of Information – An information-centric approach to the network of the future**	
Related subject in the call for papers: **Disruptive technological scenarios, Future Internet Content and Media, Architectures and infrastructures, Content delivery networks, Identity and addressing, Routing**	

Short Abstract :

Networking of information (NetInf) is an *information-centric* approach to the network of the future that is being explored in the FP7 project 4WARD[1]. In this approach, it is the information objects themselves which are the primary focus rather than the network nodes. Communication is performed in terms of requesting and delivering named information objects. The hosts or nodes of the network is secondary. Any node holding a copy of the information can provide it to a requester. Storage for caching these copies of information become an integral part of the network. This approach is believed to result in a network that is better suited for content distribution, the currently prevailing use of communication networks. The PARC Content Centric Networking (CCN)[2] and the Publish-Subscribe Internet Routing Paradigm (PSIRP)[3] are two other projects also taking an information-centric approach for designing a new network.

A fundamental part of the NetInf network architecture is the information object naming scheme. It names pieces of information independently of where they are stored. The scheme has direct support for content integrity and author authentication. This means that the receiver of an information object can verify the data integrity and the identity of the originator without needing to trust the particular network node or server that delivered the information. This is an important property needed to implement the vision of information-centric networking. Another important component of an information-centric network architecture is the function which enable locating a copy of an information object when it is requested by someone. The NetInf architecture defines a name resolution system using an integrated approach that routes information by its name called MDHT – Multiple DHTs.

A prototype of a NetInf network including a set of example applications is under development. A version was demonstrated at the IEEE LCN conference in October 2009. The software is currently in the process of being made available as open source.

For information centric networking to become the next main networking paradigm standardization is required in a number of areas, which include: naming of information objects, name resolution, protocols for publishing and retrieving objects, standards and legal frameworks for how objects can be cached. New or modified protocols for routing, management and accounting will also be needed.

1 Http://www.4ward-project.eu/
2 http://www.parc.com/work/focus-area/networking/
3 http://www.psirp.org/