RE-THINKING THE INTERNET

DATA-BASED COMMUNICATION THROUGH INFORMATION-CENTRIC NETWORKS

Lotte Steenbrink

Hamburg University of Applied Sciences, Dept. Computer Science,
Berliner Tor 7
20099 Hamburg, Germany
`lotte.steenbrink@haw-hamburg.de`

ABSTRACT

Content-Centric Networking (CCN) presents a paradigm shift in internet technologies: Instead of thinking about data lying at addresses, CCN works with data *directly*. Nodes retrieve data by directly asking the network for it, and let the underlying protocols figure out the rest. This allows for location-independent data storage and caching throughout the entire network, improving latencies, reducing network load, and even enabling the network to cope with partitioning without losing all the data. CCN was designed with the cabled Internet in mind, but may also be a promising approach for the Internet of Things. My Homework would explore recent developments in CCN research and their applicability to the IoT.

1. SOURCES

1.1. Overview

[1] provides a detailed introduction to the field of Information-Centric Networks.

1.2. Named Data Networking

One of the most prominent approaches to ICN is Named Data Networking (NDN), which is detailed in [2].

1.3. Critical evaluation

[3] provides a critical evaluation of the Content-Centric Networking paradigm.

2. REFERENCES

[1] B. Ahlgren, C. Dannewitz, C. Imbrenda, D. Kutscher, and B. Ohlman, "A survey of information-centric networking," *Communications Magazine, IEEE*, vol. 50, no. 7, pp. 26–36, July 2012.

[2] Lixia Zhang, Alexander Afanasyev, Jeffrey Burke, Van Jacobson, kc claffy, Patrick Crowley, Christos Papadopoulos, Lan Wang, and Beichuan Zhang, "Named Data Networking," Technical Report NDN-0019, NDN, April 2014.

[3] Diego Perino and Matteo Varvello, "A reality check for content centric networking," in *Proceedings of the ACM SIGCOMM Workshop on Information-centric Networking*, New York, NY, USA, 2011, ICN '11, pp. 44–49, ACM.