

A Flat Name Based Routing Scheme for Information-Centric Networking

Jungha Hong*, Woojik Chun**, Heeyoung Jung*

* *ID Comm. Research Lab, ETRI, Daejeon, Republic of Korea*

** *Hankuk University of Foreign Studies, 81, Oedaero-ro, Mohyeon-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea*

jhong@etri.re.kr, woojikchun@gmail.com, hyjung@etri.re.kr

Abstract— The paradigm shift from the current host-centric networking to information-centric networking (ICN) generates much interest in the research community. In ICN, the primary communication entity is contents and uniquely identifiable names are assigned directly to the contents, where the names are independent of their locations. Thus, content naming and routing are the key challenges in ICN. In this paper, we propose a flat name based routing scheme for ICN. For scalable routing, we exploit the structure of container which is a space where contents or information objects reside. We also utilize bloom filters as an aggregated form of the flat names and enable the deepest match routing.

Keyword— Internet Architecture, Information Centric Networking, Container, Flat Name Based Routing



Jungha Hong received the B.S. and M.S degrees in mathematics from Korea University in 1999 and 2001, respectively. After receiving the M.S. and Ph.D. in computer science from the University of Missouri - Kansas City in 2006 and 2010, respectively, she joined Electronics and Telecommunication Research Institutes (ETRI) in 2010 and is currently a senior research member. Her current research interests include ID/LOC separation schemes in Future Internet and the analysis of computer networks.



Woojik Chun received the B.S. and M.S degrees in Computer Engineering from Seoul National University in 1982 and 1984, respectively. He received his Ph. D. degree in Computer and Information Science from University of Delaware in 1992. He is currently a visiting researcher at Hankuk University of Foreign Studies. His current research topic is Future Internet, network architecture, protocol engineering.



Heeyoung Jung joined Electronics and Telecommunication Research Institutes (ETRI) in 1991 after receiving bachelor degree from Pusan National University (PNU) and is currently a principal research member. He received his Ph. D. degree in Information and Communications Engineering from the Chungnam National University (CNU) in 2004. His major research areas include Internet and mobile network technologies and are closely related to standardization activities in ITU-T, IETF, etc. His current research topic is Future Internet architecture.