

Implementation of MariComm Bridge for LTE-WLAN Maritime Heterogeneous Relay Network

Hyung-Joo Kim*, Jin-Kyu Choi*, Dae-Seung Yoo*, Byung-Tae Jang*, Kil-To Chong**

**Industries IT Convergence Department, Electronics and Telecommunications Research Institute (ETRI),
218 Gajeong-ro, Yuseong-gu, Daejeon, 305-700, Korea*

***Department of Electronic Engineering, Chonbuk National University,
567 Baekje-daero, deokjin-gu, Jeonju, Jeollabuk-do, 561-756, Korea
{kimhj, jkchoi, ooseyds, jbt}@etri.re.kr, kitchong@jbnu.ac.kr*

Abstract—In this study, we shortly introduce MariComm bridge of MariComm (Maritime Broadband Communication) project to provide broadband internet/multimedia services available at a rate of 1 Mbps or more on the sea. MariComm bridge enables MariStations to form the maritime heterogeneous relay networks. Thanks to this bridge function, MariStation can act as a gateway node or a relay node according to the connection possibility of a terrestrial base station. And finally, marine performance tests of this noble maritime communication system on 4 vessels in the Korean southern sea are introduced.

Keyword— Multi-hop Relay, MariComm, Maritime Bridge, MariStation



Hyung-Joo Kim received his B.S. and M.S. degrees in the Department of Control & Instrumentation Engineering from Chonbuk National University in 1997 and 1999 respectively. Since March 2000 he has been an engineer at Electronics and Telecommunications Research Institute, Korea. His research interests include ship-IT convergence, networking protocol, and wired/wireless communications.



Jin-Kyu Choi received B.S. and M.S. degrees from the Department of Electronics, Communications and Electromagnetics Engineering at Hanyang University in 1999 and 2001 respectively. Since January 2001 he has been an engineer at Electronics and Telecommunications Research Institute, Korea. His research interests include MIMO-OFDM, 3GPP LTE, SDR, e-Navigation, and LTE-R.



Dae-Seung Yoo received his B.S., M.S. and Ph.D degrees in the Department of Computer Engineering from University of Ulsan in 1998, 2001 and 2011 respectively. Since May 2009 he has been an engineer at Electronics and Telecommunications Research Institute, Korea. His research interests include software engineering, mobile communication, ship-IT convergence and ad-hoc network.



Byung-Tae Jang obtained B.S. degree from the Department of Atmospheric Sciences at Seoul National University in 1989 and received M.S. and Ph.D degrees from the Department of Computer Science at Chungnam National University in 1997 and 2001 respectively. Since March 1989 he has been an engineer at Electronics and Telecommunications Research Institute, Korea. His research interests include ship-IT convergence, e-Navigation system and intelligent vehicle.



Kil-To Chong (Corresponding author) received his Ph.D. in Mechanical Engineering from Texas A&M University in 1995. Currently, he is a professor and department head of the School of Electronics and Information Engineering, and he is a member and head of the Advanced Electronics and Information Research Center at Chonbuk National University in Jeonju, Korea. His research interests are in the areas of motor fault detection and control, network system control, sensor network systems, time-delay systems, and neural networks.