

Goal Modeling Method for Autonomic Control Of Cyber-Physical Systems (CPS)

Jeongmin Park*, Sungjoo Kang*, Ingeol Chun*, Wontae Kim*

**Embedded SW Department, Electronics and Telecommunications Research Institute (ETRI),
218 Gajeongno, Yuseong-gu, Daejeon, Korea
jmpark23@etri.re.kr, sjkang@etri.re.kr, igchun@etri.re.kr, wtkim@etri.re.kr*

Abstract— This paper presents an approach to implementing ‘Goal Model’ for autonomic control of Cyber-Physical Systems (CPS). The approach presents to define and apply system knowledge required for autonomic control from goal model.

Keyword— CPS, Autonomic Control, Goal Model, Self-Adaptation, Embedded SW



Jeongmin Park received his Ph.D. and M.S. degrees in Department of Computer Engineering from Sungkyunkwan University, Korea, in 2009 and 2005, respectively, and his B.S. degree in Computer Engineering from Korea Polytechnic University, in 2003. He is currently a senior member of engineering staff in ETRI, Korea. His research interests include Cyber-Physical System (CPS), Autonomic Computing and Software Engineering.



SungJoo Kang received his M.S. and B.S. degrees in Electronic Engineering from Hanyang University, Korea, in 2003 and 2005 respectively. He is currently a senior member of engineering staff in ETRI, Korea. His research interests include Cyber-Physical System (CPS), Autonomic Computing and Software Engineering



Ingeol Chun received his Ph.D., M.S. and B.S. degrees in Electrical and Computer Engineering from SungKyunKwan University, Korea, in 2011, 1998 and 1996 respectively. He is currently a senior member of engineering staff in ETRI, Korea from 1998. His research interests are Cyber-Physical Systems (CPS), Autonomic Computing, Agent-oriented intelligence system, Embedded systems and Software Engineering.



Wontae Kim received his B.E., M.E., and Ph.D. degrees in Electronic Engineering from Hanyang University, Seoul, Korea in 1994, 1996, and 2000, respectively. From Jan. 2001 to Feb. 2005, he was CTO of Rostic Technologies, a venture company which developed advanced mobile technologies. He joined ETRI (Electronics and Telecommunication Research Institute), the major national research institute of Korea, in March 2005. He is the team director of CPS (Cyber-Physical Systems) Research Team in Dept. of Embedded SW from Aug. 2010. His main research areas are CPS, RT Middleware, Autonomic Control, and High confidential Computing.