2012 14th International Conference on Advanced Communication Technology

(ICACT 2012)

PyeongChang, South Korea 19-22 February 2012

Pages 1-708



IEEE Catalog Number: ISBN: CFP12561-PRT 978-1-4673-0150-3



Table of Contents



Session A1: Wireless Communication Technology I

1.	A New Weighting Factor of PTS OFDM with Low Complexity Based on Split-Radix IFFT for PAPR Reduction Pornpawit Boonsrimuang [‡] , Pongsathorn Reangsuntea [†] , Pisit Boonsrimuang [‡] and Hideo Kobayashi [‡]
	‡ Mie University, Japan, †King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand
2.	A Multisink-based Continuous Object Tracking in Wireless Sensor Networks by GIS
3.	Zigbee RF Signal strength for indoor location sensing - Experiments and results
4.	Multiband OFDM UWB System Performance under Saleh-Valenzuela Channel
5.	 A Method of Avoiding Interference with Hidden Terminal in Cognitive Radio Network
Se	ession B1: MobileCommunications I
1.	Performance Analysis of MBS Handover for Mobile WiMAX 29 Khishigjargal Gonchigsumlaa* Young-il Kim* Enkhzul Doopalam** * ETRI, UST, Korea, ** Korea University, Korea
2.	Inter-Cell Interference Coordination Scheme Based on CoMP
3.	Coordinated Multi-Point Algorithms in Pico Based Heterogeneous Networks
4.	Using Game Theory for Radio Resource Management of RRC Layer in LTE-A 41 ZhirongLUANa,HuaQUb,JihongZHAOb a,b Xi'an Jiaotong University, China
Se	ession C1: UbiquitousNetwork&AdHoc I
1.	Topological Importance as an Incentive to Cooperate in Mobile Ad Hoc Networks: A Game Theoretic Analysis 46 Sultan Javed Majeed, Hasan Mahmood * Amirkabir University of Technology, Iran
2.	Design and Implementation of a Hybrid Sensor Network for Milu Deer Monitoring

Huazhong Yanga

a Tsinghua University, China, b Milu Ecological Research Center, China

- 3. Performance Analysis of AODV, DSDV and OLSR in a VANETs Safety Application Scenario 57 Ganis Zulfa Santoso and Moonsoo Kang Chosun University, Korea
- 4. Network Virtualization for Military Application: Review and Initial development of conceptual design …… 61
 Jiradett Kerdsri*, Komwut Wipusitwarkun**

 * Defense Technology Institute, Thailand, ** Sirindhorn International Institute of Technology, Thailand

Session D1: InformationSecurity I

- 2. A Method of Detecting the Manipulation Message to Provide a Reliable Demand Response Service 77 Sun-Hee Han*, Min-Woo Park*, Tai-Myoung Chung** ,**SungkyunkwanUniversity,Korea

00

Session E1: Green ICT

тт

.

4 3379 1

1.	wireless Harness inside IC1 Equipments
	Hiroshi BAN*, Narihiro NAKAMOTO*, Tomohiro OKA*, Shoichi KITAZAWA*, Kiyoshi KOBAYASHI*,
	Noriyasu KIKUCHI**, Hironobu HATAMOTO**, Satoru SHIMIZU**, Minako HARA***
	*ATR(Advanced Telecommunications Research Institute International), Japan, ** OKI Electric Industry Co. Ltd., Japan,
	*** NTT Energy and Environment Laboratories, Japan
2.	Research of Energy Management System and its Applications at the Consumer Side Based on
	Converged Communication 103
	Huijiao Sun1, Jie Qiu2, Yueping Zhou3
	Guodiantong Corporation, State Grid Information & Telecommunication Corporation, China
3.	Dynamic Power Management for Cluster System 1 107
	Dae Won Kim, Sun Wook Kim and Seong-Woon Kim
	ElectronicsandTelecommunicationsResearchInstitute,Korea
4.	An Approach to Determine Non-Technical Energy Losses in India 111
	VineethaParuchuri -a , Sitanshu Dubey - b
	RV College of Engineering Bangalore - a, India, TATA Consultancy Services Pune - b, India
5.	An efficient power-saving downlink transmission scheme in OFDM-based multiple component
	carrier systems 116
	Chien-Te TUNG, Yao-Liang CHUNG, Zsehong TSAI
	National Taiwan University, Taiwan

Session A2: WirelessCommunicationTechnology ${\rm I\!I}$

1.	Application-aware Retransmission Design for VoIP Services in BWA Networks	· 122
2.	Effect of a Pre-filter on Timing Jitter Shun-ichi URANO*, Isamu WAKABAYASHI*, and Masatoshi SANO* * Tokyo University of Science, Japan	· 132
3.	Possibility of Directional Communication in mmWave WPANs	· 138
4.	Performance Modeling and Evaluation of Millimeter-Wave Based WPANs	• 142
5.	Performance of a Predistorter Based on Saleh Model for OFDM Systems in HPA Nonlinearity Mohammad Mehdi Shammasi, S. Mostafa Safavi Amirkabir University of Technology, Iran	• 148
Se	ession B2: MobileCommunications I	
1.	A Combined Handover Scheme for LTE-Advanced System	· 154
2.	A Link Adaptation Based Call Admission Control Algorithm for OFDMA Systems	· 158
3.	Dynamic MBS zone configuration based on contents characteristics	• 164
4.	An Artificial Bee Colony Optimization Algorithm for Multicast Routing	• 168
5.	A SPF-PF crossing Component Carrier joint scheduling algorithm	· 173
Se	ession C2: UbiquitousNetwork&AdHoc I	
1.	MG-LEACH: Multi Group Based LEACH an Energy Efficient Routing Algorithm for Wireless Sensor Network Muhammad Haneef, Zhou Wenxun, Zhongliang Deng Beijing university of Posts and telecommunications, China	· 179
2.	Adaptive Localization Algorithm for Movement of Mobile Node	• 184
3.	An Energy-Balanced Lifetime Enhancing Clustering for WSN (EBLEC)	· 189

4.	An Adaptively Balancing Workload Protocol on Query Trees for Maximizing Lifetime in Sensor Networks	105
	AnuparpBoonsongsrikul -a, Seung-Kyu Park -b, Seung-Hun Shin -c Burapha University - a, Thailand, Ajou University- b,c, Korea	195
5.	Performance Analysis of MANET using Elliptic Curve Cryptosystem	201
Se	ession D2: InformationSecurity II	
1.	A New Chaos Steganography Algorithm for Hiding Multimedia Data Mazhar Tayel, Hamed Shawky, Alaa El-Din Sayed Hafez Alexandria University, Egypt	208
2.	A DDoS Attack by Flooding Normal Control Messages in Kad P2P Networks	213
3.	High-performance Implementation of a New Hash Function on FPGA Demin Han, Renfa Li, Juanli Zeng Hunan University, China	217
4.	On the Fast Algebraic Immunity of Even-Variable Rotation Symmetric Boolean Functions Minglei ZHA*, Bin WANG* * Fudan University, China	221
5.	Novel Robust Video Watermarking Algorithm Based on Adaptive Modulation	225
Se	ession E2: Smart Service	
1.	A File System Specialized for N-Screen Platforms	231
	Illyoung Choil, Jinsuk Baek2, Sangchul Kim3, Paul S. Fisher2 1 Minigate Co., Ltd, Korea, 2 Winston-Salem State University, USA, 3 Hankuk University of Foreign Studies, Korea	
2.	A Smart Reminder System for Complex Human Activities	235
	Hapugahage Thilak Chaminda*, Vitaly Klyuev*, Keitaro Naruse* The University of Aizu, Japan	
3.	Daily Life Activity Tracking Application for Smart Homes using Android Smartphone	241
4.	How to Provide Service using Intention and Service Models	246
5.	A Study of Pedestrian Observation System with Ultrasonic Distance Sensor Shohei MINOMI [†] , Hiroshi YAMAMOTO [†] , Katsuichi NAKAMURA [‡] , Katsuyuki YAMAZAKI [†] [†] Nagaoka University of Technology, Japan, [‡] Network Application Engineering Laboratories Ltd., Japan	251
6.	Advanced Electronics Based Smart Mobility Aid for the Visually Impaired Society	257

Session F2: Poster I

1.	Power Allocation for Broadcast and Multicast Service Hannah KIM *, Young-il KIM* * ETRI(Electronics and Telecommunications Research Institute) , Korea	263
2.	A Predictive Bandwidth Reservation Strategy based on Mobile Station's Weekly Histories for Macrocellular Wireless Networks Adel Amani *, Hossein Pedram * * Amirkabir University of Technology, Iran	268
3.	A Fully Integrated Pulsewidth Modulator for Class-S System ······ Bonghyuk Park, Jaeho Jung ETRI(Electronics and Telecommunications Research Institute), Korea	274
4.	Performance Evaluation of Random Access for M2M Communication on IEEE 802.16 Network Seokki Kim*, Jaesun Cha*, Soojung Jung*, Chulsik Yoon*, Kwangjae Lim* * ETRI(Electronics and Telecommunications Research Institute), Korea	278
5.	Mimimum FFT input bit resolution of 64-QAM case according to Uncoded-BER (Bit Error Rate) Performance in Mobile-WiMAX system Yong Su Lee*, Young-il Kim*, Jun-woo Kim*, Won Ryu*, Lee Ho Jin*, Tae-Sik Kim**, Whan Woo Kim*** * Electronics Telecommunications Research Institute, Korea, **Korea Aerospace Research Institute, Korea, *** Chungnam Nation University, Korea	
6.	Dynamic MBS Zone Configuration Mechanism for MCBCS over Mobile WiMAX	287
7.	Paging Scheme for Interworking between WiBro and IMS *HyunsukRoh,**Sang-hoLee, * Electronics and Telecommunications Research Institute (ETRI), Korea, ** Chungbuk National University, Korea	291
8.	Pre-Equalizer Systems with Transmit Equalization Code for Three and Four Transmit Antennas Soon Yong Song ab, Young-il Kim ab a ETRI (Electronics and Telecommunications Research Institute), Korea, b KUST(Korea University of Science and Technology),	
9.	Design of On-body Antenna for Wireless Body Area Network	300
10	 An OID-Based Identifier Framework Supporting the Interoperability of Heterogeneous Identifiers Euihyun Jung*, Younghwan Choi**, Jun Seob Lee**, Hyoung Jun Kim** * Anyang University, Korea, ** ETRI(Electronics and Telecommunications Research Institute), Korea 	304
11	 Method of Social Network Service Based Media Contents sharing by Modified URL shortening Seokhyun Song*, Hyeontaek Oh*, Sangmin Park*, Seung-Hee Kim**, Youngho Jeong** and Junkyun Choi* * Korea Advanced Institute of Science and Technology, Korea, ** Electronics and Telecommunications Research Institute, Ko 	
12	A Survey on Guaranteeing Availability in Smart Grid Communications Mihui Kim Hankyong National University, Korea	314
13	. XBRL Financial Database for Higher Education Institutions Masaaki IDA National Institution for Academic Degrees and University Evaluation, Japan	318
14	. A Robust and Embedded Efficient PFC Controller Based on Storable Reference Current Rebuilt Strategy	323

Jinjin Yang, Hongkun He, Jianping Wang, Lei Shi, Linbo Wang Northwestern Polytechnical University Shaanxi, China

15.	 Battery Life Time Extension Method By Using Signalling Interval Control Yang Hyeon*, Min Woo Kim*, Jong Min Lee**, Seong Gon Choi* * Chungbuk National University, Korea, ** SK Telecom, Korea 	· 327
16.	 Implementation of Smart Green City in Response to Climate Change-With focus on the Reference Case of the Ministry of Land, Transport & Maritime Affairs of Korea B. Y. CHOI*, S. J. MOON*, M. W. PYEON*, J. H. KOO* Konkuk University, Korea 	• 33 1
17.	 The Effect of Social Influence on Consumers "Hybrid Electric Vehicles Adoption in Korea and China	• 336
Se	ssion A3: WirelessCommunicationTechnologyⅢ	
1.	Proposal of New PAPR Reduction Method for OFDM Signal by Using Permutation Sequences Pornpawit Boonsrimuang [†] , Kanchana Limwattanachai [‡] , PisitBoonsrimuang [‡] , and Hideo Kobayashi [†] Mie University, Japan [‡] King Mongkut's Institute of Technology Ladkrabang, Thailand	• 342
2.	The Method of Beam-forming for SA in Line Array by Amplitude Weighting	346
3.	Cross-correlation Characteristics of Multi-link Channel based on Channel Measurements at 3.7GHz Myung-Don Kim*, Jae Joon Park*, Hyun Kyu Chung* and Xuefeng Yin** * ETRI(Electronics and Telecommunications Research Institute) Korea, ** Tongji University, China	- 351
4.	Study on Band Gap Behaviour of Electromagnetic Band-Gap(EBG) Structure With Microstrip Antenna Harish Kumar*, Member IEEE, Manish Kumar*, Student Member, Mohit Kumar*, Abhijeet Kumar*, RajeevKanth# * Bhagwant Institute of Technology, India, ** University of Turku, Finland	· 356
5.	ASIC Design of 600Mbps 4×4 MIMO Wireless LAN System Thi Hong Tran, Yuhei Nagao, Masayuki Kurosaki, Baiko Sai and Hiroshi Ochi Kyushu Institute of Technology, JAPAN	· 360
Se	ssion B3: MobileCommunicationsIII	
1.	Novel IEEE 802.16 Mesh Node Architecture to Achieve QoS in Coordinated Distributed Mode Eman O. Attia*, Amany S. Amin* and Hadia M. El Henawy** * National Telecommunication Institute, Egypt, ** Faculty of Engineering Ain Shams, Egypt	· 365
2.	Improved Reliable 1-Hop Broadcast in Mobile Ad Hoc Networks ······ SeungjinPark*,Seong-MooYoo** *UniversityofSouthernIndiana,USA,**TheUniversityofAlabamainHuntsville,USA	371
3.	Novel design of eMBMS based on Femtocell	377
4.	The Management Method of Multi-carrier for Multicast services	. 383
5.	Balancing QoE and Fairness of Layered Video Multicast in LTE Networks	387

Session C3: UbiquitousNetwork&AdHocIII

- 2. Cross-Layer Design for TCP Performance Improvement in Vehicular Communication Networks …………… 400 Zhaoran Wang*, Xianzhong Xie*, Dingxin Zhao * * Chongqing University of Posts and Telecoms, China
- 3. Power Consumption Measurement and Clock Synchronization on Low-Power Wireless Sensor Networks ……… 406 Yu-Ping CHEN, Quincy WU National Chi Nan University, Taiwan
- 5. Multi-objective routing optimizations in cluster based Sensor Networks ------ 416 Biswanath Dey*, Sukumar Nandi** *National Institute of Technology Silchar(India), **Indian Institute of Technology Guwahati(India)

Session D3: InformationSecurity III

1.	Countermeasure of Public Key Attacks for Asymmetric Watermarking	421
2.	Fast Compression Domain Video Encryption Scheme for H.264/AVC Streaming	425
3.	Implementation of An Offline Chaos-based EEG Encryption Software	430
4.	REES: Malicious Software Detection Framework for MeeGo-In Vehicle Infotainment	434
5.	Research on Malicious Links Detection System Based On Script Text Analysis	139
Se	ession E3: Digital Broadcasting & IPTV	
1.	Reduced Complexity DVB-RCS Turbo Decoder	144
2.	The Performance of ML Estimation of OFDM Symbol Time with and without Correlation Coefficient	449
3.	Development and Evaluation of Ecotourism Support System using Mobile Phone and	

Oneseg Broadcasting 454 Kotaro ISHITANI, Hiroshi YAMAMOTO, Maki YAMAMOTO, Katsuyuki YAMAZAKI Nagaoka University of Technology, JAPAN

4.	QoE Assessment Model for Video Streaming Service using QoS Parameters in Wired-Wireless Network 459 Hyun Jong Kim*, Dong Geun Yun*, Hwa-Suk Kim**, Kee Seong Cho**, Seong Gon Choi* * Chungbuk National University, Korea, ** Electronics ans Telecommunications Research Institute, Korea
5.	VoIP Limit Analysis on WLAN Networks 465 EdgardaSilvaArrais1,ClaudiodeCastroMonteiro2 FederalInstituteofEducation,ScienceandTechnology,Brazil.
Se	ession A4: WirelessCommunicationTechnologyIV
1.	Auction-based Resource Allocation for Wireless Local Area Networks in Metropolitan Areas
2.	Optimized Min-Sum Decoding Algorithm for Low Density PC Codes
3.	Outage Performance Analysis of Dual-hop AF Relaying System with Underlay Spectrum Sharing 481 LuuPhamTuyen - a , Vo Nguyen Quoc Bao - b Binh Dinh Telecommunications Vietnam Posts and Telecommunications Group (VNPT) - a, Vietnam, Telecom. Dept. Posts and Telecomm Institute of Technology (PTIT) - b, Vietnam
4.	Evaluation of Cellular Networks in Underwater Acoustic Communication
5.	Analysis of Radio Channel Characteristics in the Outdoor Environments at the 781 MHz Frequency ····· 492 Myoung-won Jung*, Jong Ho Kim*, Joo Seock Kim**, Won Ho Jeong**, Jeong Ki Pack*** * ETRI(lectronics and Telecommunications Research Institute), Korea, ** Chungbuk National University, KOREA, *** ChungNam National University, KOREA
Se	ession B4: MobileCommunicationsIV
1.	A Study on Adaptive Thresholds for Reduced Complexity Bit-Flip Decoding
2.	Power Allocation with Max-min Fairness for Multicast in Heterogeneous Network
3.	A Partial PIC with MRC Receiver Design for SCBT System over Multipath Fading Channels
4.	A Efficient Compensation of Carrier Frequency Offset with Fast Processing Matrix
5.	Wireless Repeater with Equalization of Feedback Channel and Phase noise for LTE-Advanced Uplink

$Session \ C4: \ Ubiquitous Network \& AdHoc IV$

1.	Self-Organized Energy Conscious Clustering Protocol for Wireless Sensor Networks M. Bala Krishnal and M. N. Doja2 1 G G S Indraprastha University, INDIA. 2 J M I Central University, INDIA.	·· 521
2.	Wireless Sensor Network Based Cable Tension Monitoring for Cable-stayed Bridges	·· 527
3.	On Dynamics of Field Based Anycast Routing in Wireless Mesh Networks	533
4.	Performance Analysis of Broadcasting in Small-Scale Multi-Radio Multi-Channel Wireless	
	Mesh Networks Avid Avokh*, Ghasem Mirjalily** * Najafabad Branch, Islamic Azad University, Iran, ** Computer and Communication Networks Research Group, Yazd University, Iran	··· 537
Se	ession D4: InformationSecurityIV	
1.	Lattice-based Risk Models for Workflows in Multidomain Environments	·· 544
2.	Security Enhanced IEEE 802.1x Authentication Method for WLAN Mobile Router	·· 549
3.	Filtering Malicious Routines in Web Browsers Using Dynamic Binary Instrumentation	·· 554
4.	Quantum Communication Scheme for Blind Signature With Two-Particle Entangled Quantum-Trits Jinjing Shi1,2, Danping Xu2, Guoxiang Xu1 and Moon Ho Lee2 1 Central South University, China, 2 honbuk National University, Korea.	558
Se	ession E4: e-Government&DigitalHomeNetwork I	
1.	Globalization and ICT Innovation Policy: Absorption Capacity in developing Countries Ayesha SALEEM, kiyohide HIGUCHI Waseda University, Japan	563
2.	Femtocell Deployed Self Organizing Network for U-Health: Opportunities and Challenges	·· 568
	Anup Thapa and Seokjoo Shiny Chosun University, Gwangju, Korea	
3.	Effects of Interactivity on Students' Intention to Use Simulation-Based Learning Tool in	
	Computer Networking Education	·· 573
	Hsin-ke Lu *, Peng-chun Lin * * Chinese Culture University, Taiwan	
4.	Providing Augmented Reality Based Education for Students with Attention Deficit Hyperactive Disorde	
	via Cloud Computing: Its Advantages	·· 577
	Nor Azlina Ab Aziz a, Kamarulzaman Ab Aziz b, Avijit Paul c, Anuar Mohd Yusof d, Noor Shuhailie Mohamed Noor e a,b,c Multimedia University, Malaysia, d University Malaysia Kelantan, Malaysia, e Korea Development Institute, Korea	

5. Education Theory and Vertical Curricular Organization Based with Individual RFID Integrated Game-Learning for Primary Education	582
{Ming-Shen Jian, Tzu-Yao Chien, Sin-Han Chen, Chia-Yu Liu, Che Chuan Ku}a, {Shu Hui Hsu}b National Formosa University Yunlin County -a, Taiwan, Sanchi Elementary School Hsinchu County -b, Taiwan	
Session F4: Poster II	
 Implementation of an OpenFlow Network Virtualization for Multi-Controller Environment Seokhong Min, Seungju Kim, Jaeyong Lee, Byungchul Kim*, Wontaek Hong, Jonguk Kong** * Chungnam National University, Korea, ** Korea Institute of Science Technology and Information, Korea 	589
2. A Multicast Service Scheme for Various Wireless Access Networks	593
 Classification of N-Screen Services and its Standardization Changwoo Yoon, Taiwon Um, Hyunwoo Lee * ETRI(Electronics & Telecommunications Research Institute), Korea 	······ 597
4. Analysis of TCP performance over the PBB-TE during the protection switchover time	603
 5. Strategies for Giga-Internet Stimulation Hyongsoon Kim*, Kwang-Taek Ryu*, Sang-Yong Ha*, and Eunyoung Lee** * National Information Society Agency, Korea, ** Dongduk Women's University, Korea 	607
6. The Distributed Service Network Architecture Approach for Russian Networks Planning	611
7. Performance Analysis of Un-coded Multiband OFDM UWB System	615
 8. IPTV2.0 Demonstration Test-bed in Daegu Kang-Woon Hong*, Won Ryu*, Chong-Won Park**, Hyun-Woo Lee* * Electronics and Telecommunications Research Institute, Korea, ** Mobile Technology Convergence Center, Korea 	620
9. User Preference based Selection Method to provide Personalized Multimedia Service with Service Quality	623
KyeongGonHam,HyunJongKim,SeongGonChoi* Chungbuk National University, Korea	
10. Implementation of PREP (P2P-based streaming Protocol) Client	628
11. A Seamless Multicast Scheme for supporting Global Mobility in Proxy Mobile IPv6 Networks Hwan-giKim*,Jong-minKim*,Hwa-sungKim* *KwangwoonUniversity,Korea	632
12. The Multipurpose IP Phone Architecture for Home Service	637
13. Investigating Image Super Resolution Techniques:What to Choose? Shahryar Shafique Qureshi, Xue Ming Li, Toufeeq Ahmad Beijing University of Posts and Telecommunications, China.	642

14	 A Watch-type Human Activity Detector for the Aged Care Chankyu Park*, Jaehong Kim*, Ho-Jin Choi** * ETRI(Electronics and Telecommunications Research Institute), Korea, ** KAIST(Korea Advanced Institute of Science and Technology), Korea 	648
15	5. A Development of Order Processing System: BPMN Model	653
Se	ession A5: WirelessCommunicationTechnology V	
1.	Blind Equalization and Characteristic Function Based Robust Modulation Recognition	660
2.	An Improved Scheme Based on Physical-layer Network Coding LIU Qin-yong*, PENG Hua** National Digital Switching System Engineering Technology Center, China.	665
3.	Intensity Reflection Coefficient based Min-Sum Decoding for Low Density Parity Check Codes	669
4.	A GTS Allocation Scheme for Emergency Data Transmission in Cluster-Tree WSNs	675
5.	MIMO-OFDM Scheme Based on Permutation Spreading Sherif Moussal,2, Adel Omar Dahmanel, Claude D'Amours3 and Habib Hamam4 1 Elec. and Comp. Eng. Dep., Université du Québec à Trois Riviéres, Canada, 2 Canadian University of Dubai, UAE, 3 U of OttawaOttawa, Canada, 4 University of Moncton, Canada	
Se	ession B5: NGN&FutureNetwork I	
1.	Enhanced Mobility Control in Mobile LISP Networks Moneeb Gohar, Ji In Kim, Seok Joo Koh Kyungpook National University, Korea	684
2.	VSCCN: CCN with a Very Simple Control Plane	690
3.	IPv6 Rapid Deployment in Taiwan Academic Network (TANet) Po-Kang CHEN, Chia-Wen LU, Quincy WU National Chi Nan University, Taiwan	694
4.	A Closer Look at Content-Centric Internet Research Projects	698
5.	Concept Statements for Russian Telecom Development till 2015	703

Session C5: NetworkManagement I

1.	A simple approach for minimal jitter in Ethernet for real-time control communication	·· 710
2.	Enhanced Forwarding Strategy in Metro Ethernet Networks	·· 716
3.	New Forwarding Strategy for Metro Ethernet Networks Based on Hierarchical Addressing	
4.	A Method on Reducing Processing Time Using Signature Matching in a Router	·· 726
5.	Network Traffic Mitigation Method Using TCP Signalling Delay Algorithm	·· 730
Se	ession D5: InformationSecurity V	
1.	An Inaudible Pseudonoise Sequence Generation for Digital Audio Watermarking	735
2.	Secure Forensic marking in DWT-DFRNT Dual Domain	·· 740
3.	Survey on malware evasion techniques: state of the art and challenges	•• 744
4.	Security Weaknesses of an Improved Biometrics-based User Authentication Scheme without Concurrency System Young-HwaAn* *KangnamUniversity,Korea	·· 750
5.	Convex Analysis Based Beamforming of Decode-and-Forward Cooperation for Improving Wireless Physical Layer Security Hui MA, Piming MA Shandong University, China	754
Se	ession E5: e-Government&DigitalHomeNetwork II	
1.	Mobile Learning Collaboration for State Universities and Colleges in the Philippines	•• 760

	into the Etamining contraction for state children and contegets in the ramppines	
	Melvin Dela Cruz Roxas*, Yoshiyori Urano*	
	* Waseda University, Japan	
•		
2.	A Practical Service in Assuring and Managing e-Government Projects	766
	HyungJin KWON*, ByungMan, LEE*, Shinae, SHIN*	

* National Information Society Agency, Korea

3.	Research on the Power Information Collector of Optical Fiber Based on EPON Technology	770
4.	MIMO-OFDM based Broadband Power Line Communication with Maximum Ratio Combining Jeonghwa Yoo, Sangho Choe The Catholic University of Korea, Korea	774
5.	Spreading Technique of Satellite Beacon to Avoid Jamming Attacks Kikeun Kim *, MinWoo Lee ^ and JaeSung Lim ^ * ADD (Agency for Defense Development), Korea, ^ Ajou University, Korea	778
Se	ession A6: WirelessCommunicationTechnology VI	
1.	Outage Performance of Multi-Antenna Cooperative Incremental Relaying Systems in the absence of Direct Link Lu Tat Thang*, Luu Pham Tuyen† and Vo Nguyen Quoc Bao‡ * Dong Thap Telecom., (VNPT), Vietnam, † Binh Dinh Telecom., (VNPT), Vietnam, ‡ Posts and Telecommunications Institute of Technology (PTIT), Vietnam	783
2.	Performance Evaluation of $\pi/4$ DQPSK Wireless Communication System with Direct-conversion Yuji YOKOTA, Takuro YOSHIDA, Daisuke NOJIMA, Yuhei NAGAO, Masayuki KUROSAKI, Hiroshi OCHI Kyushu Institute of Technology, Japan	788
3.	Joint Detection and Evaluation of MODEM and CODEC for Multi-Mode DSRC System Juinn-Horng Deng+, Yi-Hsin Lin, Chuan-Shun Lin Yuan Ze University, Taiwan	794
4.	Use of Fuzzy Logic for Networks Selection in Heterogeneous Wireless Environment	798
5.	Performance Evaluation for Multi-User MIMO IEEE 802.11ac Wireeless LAN System Daisuke Nojima, Leonardo Lanante Jr., Yuhei Nagao, Masayuki Kurosaki and Hiroshi Ochi Kyushu Institute of Technology, JAPAN	804
Se	ession B6: NGN&FutureNetwork II	
1.	Hierarchical Load Balancing for Distributed Content Delivery Network	••••• 810
2.	Improvement of High-availability Seamless Redundancy (HSR) Traffic Performance	••••• 814
3.	An Integrated Scheme for Static Network Codes Man Liang*, Chen Yuan * , Bin Wang* * Fudan University, China	820
4.	A Method for Assessing Quality of Service in Broadband Networks	826
5.	RLS-Based Frequency Synchronization and Channel Estimation in OFDMA Systems	832

Session C6: NetworkManagement II

1.	Automatic Event-Driven System for Network Management	· 838
2.	Performance Study on SNMP and SIP over SCTP in Wireless Sensor Networks	· 844
3.	QoS Fault Detection and Localization Mechanisms (FDLM) in Multi-domain Networks Adapted to Export Methods	· 848
4.	Performance Analysis of IEC 61850 based Substation	· 854
Se	ession D6: DistributedComputing I	
1.	The Construction of Cloud Data Analysis Platform and Its Application in Intelligent Industrial Park Ning LI*, Pengzhan FAN**, Houlei LV* Guodiantong Corporation, China	• 860
2.	Deploying hybrid methodology in enhancing large file transfer Ng Kar Hoong, Poo Kuan Hoong, Wong Chee Onn Multimedia University, Malaysia	· 864
3.	An Improved Genetic Algorithm for Load Balance in Multiprocessor Systems	· 870
4.	A Trace Study of BitTorrent P2P File Distribution with Downloading-Side Performance Measurement and Analysis Chih-Lin HU* and Zong-Xian LU National Central University, Taiwan	· 875
5.	A Real-world-Like Evolutionary Algorithm on the Cloud-Computing Environment Ming-Shen JIAN a, Ta-Yuan CHOU b a National Formosa University, Taiwan, b National Sun Yat-sen University, Taiwan	· 881
Se	ession E6: ITS, LBS, Telematics, Network Robotics	
1.	Online Adaptive Fuzzy Logic Controller Using Neural Network for Networked Control Systems Pooya Hajebi*, Seyed Mohammad Taghi AlModarresi** *,** Yazd University, Iran	· 888
2.	GPS-Tag for Indoor location Information and Additional User Information Providing M.H. PARK*, W.H. KIM**, S.J. LEE*, H.C. KIM*** * ETRI (Electronics and Telecommunications Research Institute), KOREA, **UST (University of Science & Technology), KOREA *** OCube CO., LTD. , KOREA	[,] 894
3.	Message Scheduling Optimization for FlexRay Protocol	· 898

Huabin Ruan a, Renfa Li a, Yong Xie a Hunan University, China

4.	A Novel Non-payment Vehicle Searching Method for Multilane-Free-Flow	0.0.4
	Electronic-Toll-Collection Systems L.R. LIN a, G.H. HSU b, R.H. JAN a, C. CHEN a a National Chiao Tung University, Taiwan, b ITRI(Industrial Technology Research Institute), Taiwan	904
5.	An Optimal Viewable Area Searching Method for Supporting User Mobility	910
	Kyeong Gon Ham*, Hyeon Yang*, Dong Geun Yun*, Kee Seong Cho**, Seong Gon Choi* * Chungbuk National University, Korea, ** ETRI(Electronics and Telecommunications Research Institute), Korea	
Se	ssionF6: Poster III	
1.	ZigBee Based Energy Efficient Outdoor Lighting Control System	916
	Adeel A. Siddiqui*, Arbab Waheed Ahmad*, Hee Kwon Yang* and Chankil Lee* * Hanyang University, Korea.	
2.	Efficient Interference-aware Channel Allocation in Multi-radio Wireless Mesh Networks	920
	Yonggyu Kim*, Doyoung Jung†, Youngdoo Kim‡, Sungchang Choi†, and Joongsoo Ma†	/ _ 0
	*,†,‡ SK Telecom, Korea, † Korea Advanced Institute of Science and Technology, Korea	
3	An Open, Flexible and Multilevel Data Storing and Processing Platform for Very Large Scale	
5.	Sensor Network	926
	Jing LIU*, Jing CHEN*, Li PENG**, Xixin CAO*, RenChun Lian***, Ping WANG*	/
	* Peking University, China, ** Jiangnan University, China, *** Inspeed Communication Co.,Ltd, China	
1	A Study for Hop Count on the Ad-Hoc of Wireless Communication	031
4.	KyoungGyu Lee*, SangJin Lee*, YoungGoan Kim**, KooHyung Kwon***, WonGi Lim***	33 1
	* Telecom R&D Center, AddWIN Co.,Ltd.,Korea, ** Samsung Thales Co.,Ltd., Korea, *** Agency for Defense Development,	Korea
5.	A USN based Automatic Waste Collection System	936
	Waheed Ahmad Arbab1, Faheem Ijaz2, Tae Min Yoon3, Chankil Lee4 Hanyang University, Korea	
6.	Remote management and control system for LED based Plant Factory using ZigBee and Internet Faheem Ijaz*, Adeel A. Siddiqui*, Byung Kwan Im*, Chankil Lee* * Hanyang University, Korea	942
7.	A study for Vehicle-IT convergence services development using repository integration tool	947
	*ETRI(Electronics and Telecommunications Research Institute), Korea	
8.	Design and Implementation of ME-VPNS	951
	Byeongsik Kim, Seunghyun Yoon, Youhyeon Jeong, Hoyoung Song	
	ETRI(Electronics ans Telecommunications Research Institute), KOREA	
9.	A Scientific Workflow Service with Intuitive Problem Solving Environment for Aerodynamics Seoyoung Kim*, Kyoung-a Yoon*, Yoonhee Kim**, Chongam Kim*** * ** Sookmyung Women's University, Korea, *** Seoul National University, Korea	955
10	. SaaSpia Platform: Integrating and Customizing On-Demand Applications Supporting Multi-tenancy Kyounghyun PARK, Heesun WON, Sungjin HUR Electronics and Telecommunications Research Institute, Korea	961
11	. Smart Separated Software Execution System for Software as a Service	965
-	Su-Min Jang, Won-Hyuk Choi, Won-Young Kim	
	Cloud Computing Research Department, Electronics and Telecommunications Research Institute, Daejeon, Korea	
12	. A Variable Structure Compensation Fuzzy Neural Network and Identification	971
14	Jing LIU*, Yalu CAO*, Ping WANG*, Li PENG**, RenChun Lian***, Xixin CAO*	711
	* Peking University, China, ** Jiangnan University, China, *** Inspeed Communication Co.,Ltd, China	

13.	Methods to Improve Stereo Matching Algorithm for Object Segmentation JeongMok Ha*, Hong Jeong*, JunSeo Lee** * POSTECH (Pohang University of Science and Technology), Korea, ** CNU (Chungnam National University), Korea	• 976
14.	Performance Analysis on Wireless Unicast with Network Coding	• 981
15.	RFID Infrastructure Management Based on Event Correlation Analysis	· 985
Se	ssion A7: WirelessCommunicationTechnologyVII	
1.	An Improvement on LEACH Protocol (Cell-LEACH)	
2.	Design and Simulation Based Studies of a Dual Band U-slot Patch Antenna for WLAN Application Md. Nazmul Hasan*, Syed Waqar Shah*, Mohammad Inayatullah Babar*, Zeeshan Sabir* * University of Engineering and Technology Peshawar, Pakistan	• 997
3.	Programming Graphics Processing Units for the Decoding of Low-Density Parity-Check Codes F. C. M. Lau! and L. Shi Hong Kong Polytechnic University, Hong Kong	1002
	An Effective Joint Source-Channel Coding with Unequal Error Protection using Asymmetric Turbo Codes	1006
5.	Enhanced indoor propagation model for WLAN System ······ A. D. KORA, S. A. OSSOUBITA POUKA, J. K. TAMGNO Ecole Supérieure Multinationale des Télécommunications, SENEGAL	1011
Se	ssion B7: OpticalNetwork I	
	Energy Efficient Shared WDM-PON	1017
2.	Analytical Evaluation of the Effect of Raman Amplifier Induced Crosstalk in a WDM System	1021
3.	3RIS for 4G: A New Approach for Increasing Availability and Reducing Costs for LTE Networks VENMANI Daniel Philip *†, Yvon GOURHANT *, Djamal ZEGHLACHE ** * France Telecom R&D, France, ** TELECOM & Management SudParis, France, † University Pierre and Marie CURIE, France	
4.	Millimeter-wave Photonic Techniques For Radio-over-Fiber Systems	1031
5.	Iterative dynamic bandwidth allocation for XGPON	1035

Man-Soo Han Mokpo National Univ., Korea

Session C7: NetworkManagementIII

1.	Managing Heterogeneous Wireless Sensor Networks with the Session Initiation Protocol (SIP)		
2.	Design and Implementation of Content-based Filter System on Embedded Linux Home Gateway 1046 Li-Der Choul*, Zheng Hel, David Chunhu Lil, Hui-Fan Chenl, Jun-Jie Sul, Ching-Yung Chen2, Hsu-Chuan Wei2 and Chia-Jen Li2 1 National Central University, Taiwan, 2 Proscend Communications Inc, Taiwan		
3.	Building Scalable Fault Tolerant Network 1052 Raheel Ahmed Memon1, Minho Shin1*, Yeonseung Ryu1, Jong-myung Rhee2 and Dongho Lee3 1052 Myongji University 1,2, Korea, Korea Agency of Defense Development 3, Korea		
4.	Direct Erasure-only Decoding for Generalized Reed-Solomon codes		
5.	Optimal RFID Networks Planning Using a Hybrid Evolutionary Algorithm and Swarm Intelligence with Multi-community Population Structure		
Se	ession D7: DistributedComputing II		
1.	A Task Cluster Size Determination in Heterogeneous Distributed Systems 1070 Hidehiro Kanemitsu Waseda University, Japan		
2.	 SPSI: A Hybrid Super-node Election Method Based on Information Theory 1076 Zhiwei Gao1,3, Zhimin Gu1, Wenbao Wang2 1 Beijing Institute of Technology, China, 2 Shijiazhuang Vocational Technology Institute, China, 3 Shijiazhuang TieDiao University, China 		
3.	Hier-DHT: Structured P2P-based Hierarchy Search Model for Time-shifted Streaming		
4.	A Priority Constrained Scheduling Strategy of Multiple Workflows for Cloud Computing		
5.	Stochastic Programming-Based Dynamic Authorization Model for Cloud Services Environments		
Se	Session E7: Syetem Software		
1.	Loader Cart Automation Enhancement ······· 1096 Wei Hoo Chong* * Motorola Solutions Malaysia Sdn., Malaysia.		
2.	Re-engineering Software Education: OSS-aware Software Education in the Era of Utilizing External Resources		

3.	Agent-Based Transformation Architecture for Developing Intelligent Systems
4.	A User-driven Interactive 3D Video Streaming Transmission System with Low Network Bandwidth Requirements Interactive 3D Video Streaming Transmission System with Low Network Ill3 ZhenliZhou,LiZhuo,JingZhang,XiaoguangLi Beijing University of Technology, China
5.	Development of e-Government Standard Frameworkthrough Open Innovation Strategy
Se	ession A8: WirelessCommunicationTechnology
1.	Design and Analysis of Acoustic Data Transmission System for Wireless Multimedia Data Transmission ··· 1124 Heung-Gyoon Ryu and Junyeong Bok Chungbuk National University, Korea
2.	Frequency Offset Estimation and Cell Search Algorithms for OFDMA Based Mobile WiMAX
3.	Performance Analysis of Regenerative Multi-Receive-Antenna Fixed Relay Networks over Nakagami - channels 1132 Luu Pham Tuyen *, Lu Tat Thang† and Vo Nguyen Quoc Bao‡ Posts and Telecommunications Institute of Technology(PTIT), Vietnam
4.	Optimal Sensing Period for the Cognitive Radio Networks
5.	UWB Asynchronous Location Algorithm Based On Variable and Adaptive Step Size
Se	ession B8: OpticalNetwork II
1.	Theoretical Modelling and Analysis on Trapping of Degree of Polarization in Compensation of Polarization Mode Dispersion 1147 Ki Ho Han Kongju National University, Korea
2.	Point-to-Multipoint Services on PBB-TE System
3.	Design of Optical Orthogonal Codes with Variable Chip Rate for Flexible Optical CDMA Systems 1156 Tetsuo Tsujioka*, Hiromi Yamamoto* * Osaka City University, Japan
4.	Design and Performance Analysis of Eight User Spectral Phase Encoding O-CDMA time domain System at Different bit rate for MANET 1162 Savita R.Bhosale* Mr.S. L. Nalbalwar**and Mr. S.B.Deosarkar * Dr. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, India

5.	Approaches to Unification of GPON Broadband Access Service Models for Public Operator's Networks	1168
	Oleg SEMANOV a, Alexey NIKITIN a, Vladislav PYATTAEV b a OJSC "Rostelecom" North-West Branch, Russia, b OJSC "GIPROSVYAZ" North-West Branch, Russia	
Se	ession C8: Internet & Future Web	
1.	Influence of Website Attributes on Consumer Acceptance of Cross-Border Electronic Commerce	1174
2.	ESTABLISHING AN LIFELONG LEARNING ENVIRONMENT USING IOT AND LEARNING ANALYTICS ···· Hsu-Chen Cheng, Wen-Wei Liao(Co-First Author) Chinese Culture University, Taiwan	• 117:
3.	Demographics of Social Network Users - A Case Study on Plurk	1184
4.	A Domain Case-based Knowledge Model for Supporting of High-level Information Retrieval using Reducing Ambiguity in Language Sukyoung Kim, Hyunsuck Seo, Kihong Anh* * Hanbat National University, Korea	1189
5.	Biometric Mechanism for enhanced Security of Online Transaction on Android system: A Design Approach Mangala Belkhede*, Veena Gulhane**, Dr. Preeti Bajaj*** G. H. Raisoni College of Engineering, India.	1193
Se	ession D8: DistributedComputingIII	
1.	Analysis of IPTV User Behaviors with MapReduce	1199
2.	High-speed transmission and Control plan on highdefinition video file using Parallel TCP	1205
3.	Grid Architecture for ALICE Experiment ····································	1209 la
4.	Heuristic Neighbor Selection Algorithm for Decentralized Load Balancing in Clustered Heterogeneous Computational Environment Jay W.Y. Lim, Poo Kuan Hoong, Eng-Thiam Yeoh Multimedia University, Malaysia	1215
5.	Customizable Online Application Development Environment and Online Marketplace System Byeong-Thaek OH*, Sung-Ik JUN*, Sung-Jin HUR* * ETRI(Electronics and Telecommunications Research Institute), Korea	1220

Session E8: Game & Multimedia

1.	Virtual-World Alchemy: Implications for Service Engineering from Mobile Social Games in Japan Toshihiko Yamakami ACCESS, Japan	1227
2.	Revenue-Generation Pattern Analysis of Mobile Social Games in Japan Toshihiko Yamakami ACCESS, Japan	1232
3.	An Efficient Visual Classification Based Approach to Decision Tree Construction	1237
4.	Grid Analysis of MISO Image Super resolution Techniques Toufeeq Ahmad, Shahryar Shafique Qureshi Beijing University of Posts and Telecommunications, China	1242
5.	The optimized pre-processing algorithm for hardware design implementation	1247
Se	ession F8: PosterIV	
1.	A Time-Domain Channel Equalizer using Sample Matrix Inversion for T-DMB E-DOCR Systems JaehyeonBae*,SunghoJeon],JeongminChoi*,andJong-SooSeo* *YonseiUniversity,Korea, ** Korean Broadcasting System (KBS), Korea	1252
2.	Vehicle Location Service Scheme using the Vehicle Trajectory for VANETs	1256
3.	Effects of Shadow Fading in Indoor RSSI Ranging	1262
4.	A TDoA-Based Localization Using Precise Time-Synchronization	1266
5.	MOST Network System Supporting Full-Duplexing Communication	1272
6.	Golf Ball Detection from Multi-Exposure Images under Heavy Occlusion Jong-Sung Kim, Myung-Gyu Kim ETRI(Electronics and Telecommunications Research Institute), Korea	1276
7.	Development of Digital Multimedia Player based on Mobile Network Sever Sung-Il Hong*, Hyen-Sik Lyu**, Chi-Gook In*, Ji-Chul Park**, Chi-Ho Lin*, Dal-Hwan Yoon** *,** Semyung University, Korea	1280
8.	SFML: Screening Form Markup Language for Healthcare Service	1284
9.	Research and Application on Multi-mode Energy Storage System Smart Control	1289

Beijing Guodiantong Network Technology Company Ltd., China

- 11. Personalized Advertisement Recommendation System based on user profile in the Smart Phone 1300 Jong-Hyuk Roh and Seunghun Jin ETRI(Electronics and Telecommunications Research Institue), Korea
- 13. Web-based Development Framework for Customizing Java-based Business Logic of SaaS Application … 1310 Jihyun Lee, Sungju Kang, Sung Jin Hur ETRI(Electronics and Telecommunications Research Institute), Korea

Mg{pqvgu≺'

••

Vwqt kn<

- **18.** Hwwwt g'Kpwgt pgv'/'Qr gpHuy 'Uqhy ct g'F ghpgf 'P gw qt minimum min minimum min