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Choong Seon Hong (Eds.)

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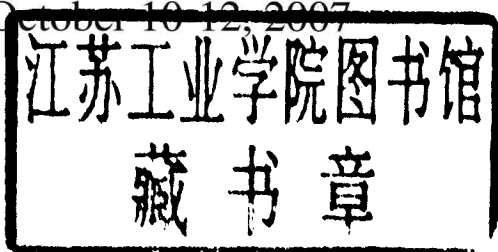
Managing Next Generation Networks and Services

10th Asia-Pacific Network Operations
and Management Symposium, APNOMS 2007
Sapporo, Japan, October 2007, Proceedings

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Managing Next Generation Networks and Services

10th Asia-Pacific Network Operations
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Proceedings



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Preface

We are delighted to present the proceedings of the 10th Asia-Pacific Network Operations and Management Symposium (APNOMS 2007), which was held in Sapporo, Japan, on October 10–12, 2007.

The Organizing Committee (OC) selected the theme of this year's symposium to be "*Managing Next Generation Networks and Services.*" Recently, various convergences in wired and wireless networks, as well as the convergence of telecommunications and broadcastings, have taken place for ubiquitous multimedia service provisioning. For example, broadband IP/MPLS wired networks have been actively converged with IEEE 802.11e wireless LAN, IEEE 802.16 Wireless MAN, 3G/4G wireless cellular networks, and direct multimedia broadcast (DMB) networks. For efficient support of service provisioning for ubiquitous multimedia services on broadband convergence networks, well-designed and implemented network operations and management functions with QoS-guaranteed traffic engineering are essential.

This year, the APNOMS call for papers resulted in 161 paper submissions from 24 different countries, which included countries outside the Asia-Pacific region (from Europe, the Middle East, and North and South America). Each paper was carefully reviewed by at least three international experts. Based on review scores and the discussions that followed, APNOMS 2007 Technical Program Committee reached the consensus that 48 high-quality papers (29.8% of the submissions) should be selected as full papers and 30 as short papers. Accepted papers were arranged into 10 technical sessions and 2 short paper sessions (poster presentations). These sessions focused on the management of distributed networks, network configuration and planning, network monitoring, and especially the area of management of wireless networks and security.

The Technical Program Committee (TPC) Co-chairs would like to thank all the authors who contributed to the outstanding APNOMS 2007 technical program. We also thank the TPC, OC members and reviewers for their support throughout the paper review and program organization process. Also, we are grateful to IEICE TM, Japan, and KICS KNOM, Korea, for their sponsorship, as well as IEEE CNOM, IEEE APB, TMF, and IFIP WG 6.6 for their support of APNOMS 2007.

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Design of a Digital Home Service Delivery and Management System for OSGi Framework^{*}

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Abstract. Digital home services have been provided separately by each service provider who has a closed service delivery infrastructure for delivering home services. Because of this, 3rd party service providers who do not have the infrastructure to deploy home services have difficulties in participating in the home network market. Also, it is difficult for 3rd party service providers to provide a control-device-specific graphic user interface to service users due to the limitation of home gateway resources. In order to solve these problems, we propose a digital home service delivery and management system for small business companies that need to provide various home services to users. Also, this system supports functions for providing a user friendly graphic user interfaces dedicated to mobile device. By using the proposed system, the service aggregator can lead the competition of 3rd party service providers in the home network service market, and help it grow rapidly.

1 Introduction

Traditional service providers such as the telephone and the cable TV companies all have dedicated wires into the home. However, this configuration will be unmanageably complex in the networked homes of the future. Furthermore, diversified portfolio of services such as home security, health monitoring, telephony, and audio/video media may employ different communication technology protocol, which will complicate the configuration. To mitigate this potentially chaotic situation, developers have proposed the home gateway; a centralized device that interfaces between the external Internets and internal home device and appliance networks. Some common hardware components of a home gateway include a processor, persistent storage, networking, and device interfaces, which are typically powered by an operating system or real-time operating system [1,2]. Home devices can be connected to the Internet via the home gateway that supports many network interfaces such as Power Line Communication (PLC), Ultra Wide Band (UWB), Wireless Local Area Network (WLAN), Fast

^{*} This work was supported by the IT R&D program of MIC/IITA[2006-S068-01, Development of Virtual Home Platform based on Peer-to-Peer Networking].