

Preface

With the boom of Internet, IP-based applications, such as WWW and multimedia, have been an essential part of our life, and there is an ever-increasing demand for accessing high-speed Internet services anywhere and anytime. This trend unavoidably has huge impact on the design of the next-generation satellite systems. In addition, with its broadcasting nature and global coverage, satellite systems also can play an important role in the next-generation Internet. For example, satellite systems can be a good driver for the deployment of IPv6 in the Internet and can provide a fast way to reach end-users because they do not rely on the construction of high-speed terrestrial networks. Thus satellites have the potential to bridge significant gaps in global connectivity issues.

To the naïve observer, IP over satellite problem has been solved in the past and does not have any new challenges. However, recent satellite research in several EU projects show that there are still many unresolved issues; such as efficient deployment of IPv6 over satellites, interworking with other access technologies such as WLAN and WiMAX, QoS provisioning over multi-segment networks (including satellites), security and On-Board Processing satellites usage for challenging applications such as IP multicast over satellites.

The papers in this book were selected from the ‘International Workshop on IP Networking over Next-generation Satellite Systems (INNSS’07)’, which was held on July 5, 2007 in Budapest, Hungary as a part of the 16th IST Mobile and Wireless Communications Summit conference.

This workshop focuses on the IP networking issues in the next-generation satellite systems and the papers cover the following topics:

- IPv6 over satellites
- Architecture of the next-generation satellite systems
- Satellite and terrestrial network integration
- Quality of Service (QoS) and Resource management
- Mobility management
- Multicast
- Security and privacy
- Communication protocols

- Network monitoring and measurement
- Performance enhancement

It is hoped that this book, which is the proceeding of this workshop, will be found useful as a reference work for engineers and researchers.

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