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Annual Letter of CS Technical Committee

Technical Meetings, 18th Communication Systems Workshop

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Yoichi Maeda, Chair

1. Introduction

The activities of the Technical Committee on Communication Systems (CS) in the past and coming year are reported below. Our principal work is planning and holding technical meetings and workshops.

2. Scope of CS technical committee

The CS technical committee covers the major technologies for communication networks. Examples of the technical interests of this committee are optical access networks, broadband services, Ethernet technologies, transport networks, and communication theory. We have held many productive discussions in these areas. We plan discussions regarding new technology fields, such as sensor networks and next generation networks (NGNs).

3. CS technical meetings

We hold CS technical meetings six or seven times every year. In 2005, we held seven meetings. In 2006, we have also scheduled seven meetings, as shown in Table 1.

Table 1 Technical meetings scheduled for 2006–2007.

Date	Place	Theme	Partners
Apr. 17–18	Akita Univ.	Quality of NGN, etc.	CQ
May 25–26	Shizuoka Univ.	Photonic networks, etc.	OCS, PN
Sep. 14–15	Tohoku Univ.	VPN, etc.	IN, NS
Nov.	TBD (Hokkaido)	Broadband access, etc.	CSWS
Dec.	Nagoya Univ.	Video coding, etc.	AVM, IE, BCT
Jan. 2007	TBD (Okinawa)	NGN, etc.	
Mar. 2007	TBD	Network processors, etc.	CAS, SIP

Participating committees:

The CS technical committee maintains relationships with other technical committees, such as

Information Networks (IN), Network Systems (NS), Optical CS (OCS), Photonic Network (PN), Communication Quality (CQ), Audio Visual and Multimedia Information Processing (AVM (of the Information Processing Society of Japan)), Image Engineering (IE), Broadcasting and Communications (BCT (of the Institute of Image Information and Television Engineers)), Circuit and Systems (CAS), and Signal Processing (SIP).

Submission rules:

An application to our committee must be submitted with a short abstract two months before the meeting date. It should be camera ready, on 4 to 6 full-sized sheets of A4 paper, three weeks before the meeting date.

At most meetings, social gatherings are planned to share information among the participants. Moreover, last year, a poster session was held at the September meeting. We welcome your submissions to and participation in these meetings.

4. The 18th CSWS and CS technical meeting

We held the 18th Communication Systems Workshop (CSWS) at the Prince Hotel, Nagisatei, at Yunokawa hot springs in Hakodate, Hokkaido, from November 16 to 18. Professor Koichiro Wakasugi, the committee vice chair, organized this workshop.

The workshop provided current technical and market surveys and suggestions for next-generation technologies from a variety of perspectives. This year's theme was "Next Generation Broadband Services and Supporting Key Technologies". This workshop consisted of four sessions: service, technology, fellow, and special. Twelve invited presentations from various subject areas were given.

In the service session, five presentations were given concerning FTTH, web searches, and robots by Mr. Yasuhiro Kawata (K-Opticom), Dr. Manabu Okumura (Tokyo Institute of Technology), Mr. Shuji Asakawa (Microsoft Japan), Mr. Toshikazu Inoue (Yahoo! Japan), and Dr. Masashi Yamashita (Toyota Motor Corporation).

The technical session treated key issues for NGN such as standardization, QoS, P2P, grid computing, and

sensor networks. Five presentations were given by Mr. Tatsuhiro Murakami (NTT), Dr. Shuji Tasaka (Nagoya Institute of Technology), Dr. Akitoshi Yoshida (Asahikawa Medical College), Mr. Keita Watanabe (Cisco Systems), and Dr. Tomoaki Ohtsuki (Keio University).

The speaker of the fellow session was Dr. Koichi Asatani, an IEICE fellow and a professor at Kogakuin University (Fig. 1). His talk was entitled “Broadband, Optics and NGN—Japan in the world”.

The last session of this workshop was a special session. Dr. H. Nakashima, president of Future University, Hakodate, gave a presentation about the Cyber Assist Project (Fig. 2).

This workshop was jointly held with CS technical meetings on the same dates. At the meetings, 15 presentations were given, including two invited presentations by Mr. Katsuaki Kikuchi (Mitsubishi Electric) and Mr. Tomonori Takeda (NTT). Mr. Kikuchi’s talk was entitled “Today and tomorrow of broadband ubiquitous services”, and he proposed product features and key technologies for broadband ubiquitous services. Mr. Takeda gave a presentation about the statuses of layer 1 private network standardization and of the standardization activities of bodies such as ITU-T, IETF, and OIF.

A special event at this workshop was the Japanese-style banquet shown in Fig. 3. Traditionally, the Japanese have dinner and drinks *after* bathing to relax. Yunokawa hot springs is one of the most famous hot springs in Japan. After going to the hot spring, all the participants enjoyed a good dinner while wearing traditional Japanese “yukatas”. This is a wonderful way to release stress!

5. Other events

The CS technical committee organized some special events, such as a symposium, tutorial, and panel discussion at the IEICE societies’ and general conferences.

For example, at the IEICE general conference in March 2005, a panel discussion was held on developments in optical and radio convergence services, and a tutorial session was held on the trends of next-generation Ethernet technologies. At the IEICE society conference in September 2005, issues of gigabit PON systems were discussed at a symposium. A panel discussion was held on next-generation security technologies, and a tutorial session was held on trends of wireless PAN/LAN technologies.

6. Web page

We have provided a Web page for announcements, paper submissions and applications, and registration for technical meetings. Please visit the following URL.

<http://www.ieice.org/cs/cs/>

General information about the CSWS can be read at:

<http://www.ieice.org/cs/cs/jpn/csws/index-e.html>

7. In conclusion

We have introduced some of the activities of the CS technical committee. We welcome your requests and comments. We promise to continue planning interesting, useful, and enjoyable events, and we are looking forward to seeing you all at the 19th CSWS!



Fig. 1 Dr. K. Asatani, fellow session speaker.



Fig. 2 Dr. H. Nakashima, special session speaker.



Fig. 3 Banquet after sessions.

New organization of Space, Aeronautical and Navigational Electronics (SANE) and Workshop for Space, Aeronautical and Navigational Electronics 2006 of IEICE (WSANE2006)

Yoshiaki Suzuki (NICT)

Chair of the Space, Aeronautical and Navigational Electronics Technical Group

(1) New organization of SANE

New organization of Space, Aeronautical and Navigational Electronics (SANE) of IEICE were established in May and first committee was held on Oct. 31, 2005 (Photo 1). New chairman of SANE is Yoshiaki Suzuki, a member of National Institute of Information and Communications Technology (NICT) following Korehiro Maeda (JAXA). Vice-chairs of SANE are Yoshio Kosuge (Nagasaki University) and Toneo Kawanishi (JAXA). Secretary of SANE Takashi Miwa (Gunma University) and Sonosuke Fukushima (ENRI) (new secretary).

(2) Results and plan

[Regular Meeting in 2005]

Mar. 3 (Thu.)-5 (Sat.) Korea Aerospace Research Institute (KARI) Joint Workshop (WSANE 2005) Program JAXA, NICT, KARI, ETRI

Apr. 28 (Thu.) Nippon Institute of Technology Radar signal processing and General Program

May 27 (Fri.) Kochi University of Technology Remote sensing and general Program

Jun. 29 (Wed.)-30 (Thurs.) Tsukuba Space Center (JAXA) Space applications symposium Program

Jul. 29 Electric Navigation Research Institute Navigation, Traffic control and General Program

Aug. 26 (Fri.) Kashima Space Research Center Satellite applications and General Program

Oct.25 (Tue.), 26 (Wed.) Nagasaki University Workshop on Subsurface Electromagnetic Measurements Program

Nov. 25 (Fri.) The institute of Space and Astronautical Science (JAXA) Sensing and measurement of space, and general Program

Nov. 25 (Fri.) Okinawa Subtropical Environment Remote Sensing Center (NICT OKINAWA) Guidance and control by radar and general Program

[Regular Meeting in 2006]

Date Place Themes Registration deadline/Program Co-organizer

Jan. 27 (Fri.) Kansai Advance Research Center Positioning, navigation and general registration

Feb. 27 (Mon.) Nippon Institute of Technology Radar and its applications

Apr. 9 (Sun.)-12(Wed.) Xidian University Joint workshop WSANE2006 *English session*

May 26 (Fri.) Kochi University of Technology Remote sensing and general



Photo 1: New chairman of SANE, Yoshiaki Suzuki (the third from the right in the front row) and committee, IEICE Headquarters office, Oct. 31, 2005.

June 30 (Fri.) Tsukuba Space Center (JAXA) Space application symposium

Jul. 28 (Fri.) Electronic Navigation Research Institute Navigation, traffic control and general

Aug. 25 (Fri.) IEICE Headquarters Office Guidance and control by radar and general

Oct. 27 (Fri.) Niigata University Environmental measurement

Nov. 24 (Fri.) Institute of Space and Astronautical Science (JAXA)

Dec. 22 (Fri.) Kashima Space Research Center (NICT) Satellite application and general

(3) Space Application Symposium

-Disaster monitoring satellites-

Space application symposium was successfully held during June 29 and 30, 2005. This symposium was held organized by SANE, sponsored by JAXA and co-organized by IEEE AES and GRSS. Four invited speakers from USA, Canada and Australia and are shown below. Invited presentation was held in Jun 29, 2005. (Photo 2)

[Invited Talk]

-Application of Spaceborne Remotely Sensed Data in Support Natural Disasters T. J. Pultz, V. Singhroy, R. Landry, J. Sokol (CCRS)

[Invited Talk] Supporting Disaster Monitoring with Near-Real Time SAR data Jeremy Nicoll, Rudiger Gens (Alaska Satellite Facility)

3-D SAR measurements of crustal deformation due to earthquake and volcanic activity in California, USA Yuri Fialko, David Sandwell (UCSD)

The Potential Role of Space Based Polarimetric SAR Interferometry (SB-POLInSAR) in Disaster Monitoring Shane Cloude, Zheng-Shu Zhou (Univ. of Adelaide)

(4) Special presentation BK-1

Special presentation BK-1 was held on Sep. 22, 2005 in 2005 Society Conference in Hokkaido University. Chairman of this event are Okura Hiroshi (National Research Institute for Earth Science and Disaster Prevention) and Korehiro Maeda (JAXA). There were 9 presentations concerning observation and communications for disaster monitoring. Volcano, earthquake, flood, tsunami are treated in BK-1. Observation of land deformation using interferometry and example of tsunami observed by radio altimeter was reported.

(5) Satellite Design Contest

13th satellite design contest for students coorganized by societies including IEICW was held on Oct.30, 2005 (Photo 3). There are three sections for design, idea and Junior and the following proposals were awarded:

Prize for Design:

Observation satellite of gas flowing from the Earth into space (Tohoku University)

Prize for idea:

Washing machine in the space station

(Toba National College of Maritime Technology)

Prize for IEICE:

Plasma Observation Satellite PON de SAT

Mr. Yoshiaki Suzuki (NICT) and Dr. Korehiro Maeda (JAXA) are members of review committee and organizing committee of satellite design contest where Prof. Tomonao Hayashi (Chiba Institute of Technology) is chairman of organizing Committee.

(6) WSANE 2006

WSANE 2006 will be held in Xidian University during

April 9-12, 2006. Details will be shown in the following Internet web site (Figure 1).

<http://www.ieice.org/cs/sane/WSANE2006/index.html>



Photo 2: A reception party of Space applications symposium in Tsukuba Space Center (JAXA), Jun. 29, 2005.



Photo 3: 13th satellite design contest for students, Oct. 30, 2005.

The 19th symposium on Optical Communication Systems “Optical communication and networking technologies supporting Photonic IP network era”

Technical Committee on Optical Communication Systems

1. Overview

The 19th OCS symposium was held on Dec. 1st and 2nd 2005, hosted by the IEICE Technical Committee on Optical Communication Systems (IEICE TC-OCS) and joint-hosted by the IEEE LEOS Japan Chapter and the IEICE Technical Committee on Photonic Networking. This was the first time to hold the symposium at TORAY SOGO KENSYU CENTER in Mishima, 120-km west of Tokyo in Shizuoka. Most of the 190, an increase from last year, participants traveled one hour by Shinkansen from Tokyo to join the symposium.

The main theme of the symposium was “Optical communication and networking technologies supporting Photonic IP network era”. It consisted of a keynote speech, two parallel workshops, a reception, and a rump session on the first day, the three invited talks and a workshop on the second day, and product exhibitions. The two day symposium was opened by Dr. Hideo Kuwahara, the committee chair of IEICE TC-OCS.



Fig.1 Dr. Hideo Kuwahara (FUJITSU Lab.), the committee chair of IEICE TC-OCS, opening the symposium.

2. Keynote speech

The keynote speech titled “The impacts and subjects of Photonic IP networks” was given by Prof. Ken-ichi Sato from Nagoya University (Fig.2). The topics of his speech were the wide-ranging services integrated by IP such as video on demand, the present state of regionally varying access networks and the prospects and subjects for future photonic networking technologies. Prof. Sato’s excellent speech gave

direction to the theme of the symposium while giving us an overview of the technical topic to be discussed so we could thoroughly follow each session.



Fig.2 Prof. Ken-ichi Sato (Nagoya Univ.) presenting the keynote speech

3. Workshop 1

After the keynote speech, the two parallel workshops (WS1-A and WS1-B) covering photonic IP technologies were held. WS1-A was for next generation node technologies and WS1-B was for technologies from IP to optical components. The titles and the panel members in both workshops were as follows:

WS1-A: “The next generation node technologies supporting Photonic IP networks”

Chair: Mr. Akira Chugo (FUJITSU Lab.)

A1: Architectures of next generation routers and CISCO’s IP+Optical strategy, Mr. Eiji Kodera (CISCO Japan)

A2: Leading-edge optical IP transport systems, Mr. Shinya Nakamura (NEC)

A3: Leading-edge trend of Photonic Networks applying OTN technologies, Dr. Hideaki Tsushima (Hitachi COM)

A4: Node technologies required by Photonic IP networks, Dr. Yoshiaki Yamabayashi (NTT)



Fig.3 Panel members in WS1-A. Mr. Kodera (CISCO), Mr. Nakamura (NEC), Dr. Tsushima (Hitachi COM), Dr. Yamabayashi (NTT) from the right.

WS-1B: “Elemental technologies opening up future Photonic IP networks”

Chair: Dr. Naoya Wada (NICT)

- B1:** Technical trends for Photonic IP network interfaces, Mr. Osamu Ishida (NTT)
- B2:** 100Gbps data transport technologies for Ethernet, Dr. Shinji Nishimura (Hitachi)
- B3:** Leading-edge trends for controlling optical paths, Dr. Wataru Imajuku (NTT)
- B4:** Leading-edge optical devices for dynamic optical path routing, Mr. Kazuyuki Mori (FUJITSU Lab.)



Fig.4 Panel members in WS1-B. Mr. Ishida (NTT), Dr. Nishimura (Hitachi), Dr. Imajuku (NTT), Mr. Mori (FUJITSU Lab.) from the top-left.

As you can see from the above titles and panel members, these sessions were well-organized to cover the whole area of future Photonic IP networking technologies. The numbers of participants in both sessions were almost the

same and there were enthusiastic discussions in both sessions. The interests in the sessions were so great that some participants had trouble choosing which one to attend.



Fig.5 The capacity participants (WS1-B)

4. Rump session

In the rump session, authorities, whose specialties were optical communication, power line communication and wireless communication, talked about home networking technologies. Dr. Tomita of NTT was the chairperson. After a brief introduction to the session, Dr. Kurashima of NTT talked about optical home networks with flexible optical code. Mr. Minamidani of Preminet talked about power line communication technologies including the relaxation of domestic regulations. Prof. Ando of the Tokyo Institute of Technology talked about home wireless networks with UWB and MMW technologies. The relaxed atmosphere of the casual rump session allowed the participants to join in the lively discussions with the speakers.



Fig.6 Lively discussions were made in the relaxed atmosphere (Rump session)

5. Invited talks

Every year, the second day of the symposium starts with invited talks focused on state-of-the-art, applications and industry trends

on optical communication systems or devices, and social trends surrounding the optical communication industry. For this symposium, three leading-edge technologies, broadcasting technologies on optical networks, optical coherent technologies for communications and signal processing, high index contrast optical devices, were selected as the topics. Three speakers, the leading authorities in each topic, were invited, Dr. Yoshihiro Fujita (NHK), Dr. Kazuro Kikuchi (Univ. of Tokyo) and Dr. Toshihiko Baba (Yokohama National Univ.)

In Japan, Fiber-to-the-Home (FTTH) is going to spread rapidly and broadcasting on FTTH has been expected to boost up the expansion of FTTH drastically. Dr. Fujita of NHK gave the invited talk entitled “Broadcasting technologies on Communication Networks”. In his talk, high expectations for ultra high speed optical network in broadcasting were able to be sensed.

The second invited talk entitled “Future Prospect of Coherent Optical Communications and Signal Processing” was given by Prof. Kikuchi of Univ. of Tokyo who established the coherent optical communication theory in 1980’s. After an introduction to the basic principle and a brief history of the optical coherent communication technologies, his recent experimental results were demonstrated. His excellent talk was meaningful for the participants to understand the state-of-the-art of the recent coherent optical communication technologies.

The last invited talk was entitled “High Index Contrast Optical Functional Devices” and given by Prof. Baba of Yokohama National Univ. He was nominated by IEEE LEOS Japan chapter for this invited talk. His talk was focused on photonic nanostructures, especially on Si-based photonic wire waveguides and photonic crystals. His talk gave some indication of the possibilities to realize very small optical integrated circuits based on Si-Photonics, or optical buffers based on “Slow Lights” in the photonic crystal structures.

6. Workshop 2

The second workshop entitled “Photonic IP networking technology and its applications” was held in the afternoon of the second day of the symposium. In the workshop, a panel discussion was organized focusing on the following subjects: What is requested from the viewpoint of network applications and users.

Also, what would be possible and be problems after photonic IP networks have been established.



Fig.7 Dr. Yoshihiro Fujita (NHK) presenting the 1st invited talk on broadcasting technologies on optical networks.



Fig.8 Prof. Kazuro Kikuchi (Univ. of Tokyo) presenting his research on coherent optical communications



Fig.9 Prof. Toshihiko Baba (Yokohama National Univ.) giving the last invited talk for this symposium

The workshop, which was chaired by Prof. Yoshiaki Nakano (Univ. of Tokyo), started with the following four invited talks.

WS2-1: 10G fire wall and network security, Dr. Masaru Katayama (NTT)

WS2-2: Broadband service and home networking, Dr. Tetsuya Yokotani, (Mitsubishi Electric)

WS2-3: Toward realization of 4K SHD digital video service, Prof. Tomonori Aoyama, (Univ. of Tokyo)

WS2-4: Trans-layer issues in a photonic IP network era, Prof. Minoru Sugaya (Keio Univ.)

In the last part of the workshop, a panel discussion was held with panel members and attendees. Based on the aforementioned talks, issues related to photonic and IP-based networks were intensively discussed, especially focusing on security, present social system, and application-related issues.



Fig.10 Panel members in WS2. Dr. Katayama (NTT), Dr. Yokotani (Mitsubishi Elec.), Prof. Aoyama (Univ. of Tokyo), Prof. Sugaya (Keio Univ.) from the top-left.

7. Exhibition

Small exhibition is given with the symposium every time. In this symposium, fourteen companies joined the exhibition and demonstrated their products or services to the participants. Their booths were at the lobby, right in front of the main conference room. The drinks were also served there every coffee break. This arrangement allows the participants to visit the exhibition booths easily and frequently. As the most participants are active

in the front-line of optical communication field in Japan, we believe that this small exhibition was meaningful for all participants including the exhibitors.



Fig.11 Scenes from the exhibition site. The participants met together and lively exchanged information.

8. Conclusion

All in all, we, the technical committee on optical communication systems, have taken that the 19th symposium was successful. We hope, we meet together again in the 20th anniversary of the symposium at the end of 2006 and contribute to the future of the optical communication systems and its related fields via lively discussions.

Toward Managed Ubiquitous Information Society:

A Note from APNOMS2005

Nobuo Fujii, Hiroshi Uno and Kouji Yata
NTT Laboratories

The 8th Asia-Pacific Network Operations and Management Symposium (APNOMS2005) was held during September 27-30, 2005 in Okinawa, Japan. APNOMS2005 has continued to play an important role in exchanging and discussing all aspects of telecommunications management among academic and telecommunication industries at large in the Asia-Pacific region. The past activities in APNOMS can be found through <http://www.apnoms.org/>.

APNOMS2005 was organized by IEICE TM and KICS KNOM (The Korean Institute of Communication Science, Korea Network Operations and Management Committee). Supporting organizations were IEEE CNOM, IEEE, APB, IEEE ComSoc Japan Chapter and TMF (TeleManagement Forum). Authors of this report were General Chair, TPC Co-chair and Secretary of the symposium. The preparation of the symposium started in December 2004.

Under the symposium title “Toward Managed Ubiquitous Information Society”, about 170 people from nine countries attended the symposium. Pictures attached to this report indicate how the symposium attracted participants. The first picture shows a conference room where key note speeches and regular technical sessions took place. The second picture shows a poster session. Two poster sessions were made for two days. Eighteen people reported their study results in each day. The third picture shows a social event. Participants experienced some Okinawan culture. The last picture shows “Distinguished Expert Panel” discussions.

APNOMS 2005 was a very successful symposium. It was well attended and feedbacks on all aspects of the symposium organization were all positive. From operators’ networks to home networks and environments, the range of networks are expanding, the conference itself identified that there are still many management issues including QoS, scalability, security, privacy, etc. to be tackled so as to establish “Managed Ubiquitous Information Society”.

As the next opportunity, APNOMS2006 will be held in September 2006 in Busan, Korea. The organizing committees for APNOMS2006 were set up in December 2005. The information for APNOMS2006 will be soon available through <http://www.apnoms.org/2006>.



Report on 6th Asia-Pacific Symposium on Information and Telecommunication Technologies (APSITT 2005)

Noriaki Kamiyama*, Masato Matsuo*, Hiroshi Saito**

*Secretary of the conference, NTT

**Organizing Committee Vice Chair of the conference, NTT

1. Introduction

The Technical Committee on Information Networks and the Technical Committee on Network Systems successfully organized the 6th Asia-Pacific Symposium on Information and Telecommunication Technologies (APSITT), held at Myanmar Info-Tech in Yangon, Myanmar on Nov. 9-10, 2005, sponsored by IEICE Communications Society.

2. Concept and Brief History of APSITT

APSITT was established with the aim of raising the prosperity of the Asia-Pacific region by presenting opportunities for academic forums for mutual understanding and friendship among researchers and leaders in the information and telecommunication field. The 6th APSITT followed the five conferences shown below.

- 1st: Nov. 1993, Bangkok, Thailand
- 2nd: Mar. 1997, Hanoi, Viet Nam
- 3rd: Aug. 1999, Ulaanbaatar, Mongolia
- 4th: Nov. 2001, Atami, Japan / Kathmandu, Nepal (held by video conference)
- 5th: Nov. 2003, Noumea, New Caledonia

3. Overview

In Total, 78 papers were accepted from Asian countries. We had 26 accepted papers from the host country, Myanmar, which is the highest number since the 1st conference was held. We could deepen friendships with researchers and students of the host country. The key facts and statistics on APSITT 2005 are as follows.

- Sponsor:
 - IEICE Communications Society
- Technical Co-Sponsor:
 - IEEE Communications Society
- Organizers:
 - Technical Committee on Information Networks
 - Technical Committee on Network Systems
 - University Computer Studies, Yangon (UCSY)
- Conference Date:
 - Nov. 9-10, 2005
- Conference Venue:
 - Myanmar Info-Tech, Yangon, Myanmar
- Participants:
 - 200
- Contributed Papers:

Submitted: 133

Accepted: 78

4. Opening Session

We had three speeches in the Opening Session following the two opening addresses by H. E. Lt.Gen. Thein Sein, Secretary (1) of the State Peace and Development Council and Prof. Tomonori Aoyama, University of Tokyo, Vice General Chair of the conference.

- Keynote Speech:
 - "Management for Knowledge Accumulation and Creation - Generic analysis of the mechanism and its application to the Myanmar situation"
 - Prof. Makoto (Mike) Takei, Waseda University
- Guest Speech 1:
 - "Toward dependable broadband networks"
 - Prof. Tetsuya Miki, University of Electro-Communications
- Guest Speech 2:
 - "Viewpoints to determine regulations for the enforcement of energy-saving laws in case of router systems in Japan"
 - Prof. Yutaka Matsushita, Tokyo University of Technology

H. E. Lt.Gen. Thein Sein stressed the importance of the information and telecommunication technologies and gave a welcome message to all the participants. Prof. Tomonori Aoyama touched on the concept and brief history of the conference and expressed gratitude to the host country on behalf of the conference organizer. Fig. 1 shows the opening address by Prof. Aoyama.

Prof. Makoto Takei addressed how to accumulate knowledge through the mechanism and showed lessons from Japanese industry.

Prof. Tetsuya Miki, who is a member of the International Advisory Board of the conference, explained the progress of information communication systems and the requirements for next-generation networks.

Prof. Yutaka Matsushita, who is also a member of the International Advisory Board of the conference, explained the energy-saving laws in Japan to reduce CO2 emission levels.



Fig. 1 Opening session in the main hall.

5. Technical Sessions

78 papers were presented in 21 sessions covering various areas on information and telecommunication. Below is the list of the technical sessions and the numbers of presentations in each session.

- Traffic & QoS (10)
- Content Delivery & Multicast (4)
- Content Delivery & Data Mining (4)
- Home Network, FMC & Social Infrastructure (4)
- Mobile IP & Information Technology (4)
- Ubiquitous (8)
- Wireless & Mobile (8)
- Mobile Agent (6)
- Security (8)
- Network Service (8)
- Information Technology (4)
- Human Interface (6)
- Human Interface & Information Technology (4)

6. Best Paper Award

Four papers among the 78 papers were selected for the best paper awards.

- H. Koto, H. Furuya, and H. Nakamura, "Adaptive Control Method for Massive and Intensive Traffic in Communication-Broadcasting Integrated Services"
- T. Moriya, H. Ohnishi, T. Ogawa, T. Ito, "Method of improving bandwidth and connectivity with multiple links in nomadic network environment"
- K. Yamanegi, T. Hama, G. Hasegawa, M. Murata, H. Shimonishi, and T. Murase, "Implementation Experiments of TCP Proxy Mechanism"
- C. Siriakkarap, P. Sethawong, and S. Tantertdid, "RSVP Based Critical Services Path Recovery in MPLS Network"

7. Activities with Local Entities

Myanmar government, State Peace and Development Council, has regarded information technology as

important and has promoted international technical exchanges in the IT field. They highly evaluated the conference, and many top government officials attended the opening session and the conference banquet. The Japanese Ambassador to Myanmar also attended the opening session and the conference banquet. Journalists from TV and newspapers visited us and interviewed Prof. Tomonori Aoyama.

Many UCSY students attended the technical sessions to observe the presentations. We felt their strong enthusiasm to learn IT technologies. We believe that this conference was a valuable chance for them and us to promote academic exchange between the two countries.

At the conference banquet, H. E. U Thaug, Minister of Science and Technology, expressed his gratitude for having the opportunity to hold the APSITT 2005. Prof. Iwao Sasase, Keio University, Organizing Committee, made a speech on behalf of IEICE. Prof. Masayuki Murata, Osaka University, Technical Program Committee Chair, hosted the best paper award ceremony. Fig. 2 shows H. E. U Thaug, Prof. Pyke Tin, Rector UCSY, General Chair of the conference, Mr. Odano, the Japanese Ambassador to Myanmar, Prof. Aoyama, Prof. Murata, Prof. Sasase, Prof. Miki, and Prof. Matsushita. We felt we were welcome guests. We hope that the academic exchange between Japan and Myanmar will continue to progress after this start at the APSITT 2005.



Fig. 2 Conference banquet.

8. Information

Further information on APSITT2005, including the presentation slides of keynote and guest speeches, is available at the following URLs.

APSITT 2005:
<http://www.ieice.org/cs/in/APSITT/2005/>

Information Networks Technical Group:
<http://www.ieice.org/cs/in/jpn/>

Network Systems Technical Group:
<http://www.ieice.org/cs/ns/jpn/>

Japan-Korea Joint Conference on Satellite Communications (JC-SAT 2005) Report



Kazuhiro Kimura
Secretary of the Satellite Telecommunications
Technical Group

Satellite Telecommunications Technical group of IEICE organized a two-day conference, 2005 Joint Conference on Satellite Communications (JC-SAT 2005), with KOSST (Korea Society of Space Technology) on October 13-14, 2005 at Hotel Rubura Ohzan, Nagoya, Japan. About 80 researchers and engineers from Japan and Korea participated in the conference. Including two keynote speeches delivered by the leading researchers from Japan and Korea, 28 state-of-the-art technical papers were presented. The conference was successfully closed with the promise of JC-SAT2006 in Korea.

The Joint Conference on Satellite Communications has provided an opportunity to exchange technical information and the latest research activity between Japan and Korea researchers annually since 2000. The sixth conference, JC-SAT 2005, was held in Nagoya, Japan.

In the opening session of the conference, the opening address from Prof. Hideo Kobayashi of Mie University, Chief of the Satellite Telecommunications Technical Group, and the congratulatory addresses from Dr. Seon Jong Chung, President of KOSST, Korea, were given on October 13, 2005.

The keynote speech presented by Dr. Takeshi Mizuike (KDDI) was on the trend of technology and standardization activities in satellite communications in Japan. The keynote speaker from Korea, Dr. Ho Jin Lee, Director of Electronics and Telecommunications Research Institute (ETRI) presented a paper entitled "Korean Activity along with European Satellite Communications R&D and Standardization".

Twenty-six papers were presented in serial 8 sessions; 2 System Engineering sessions, 3 Advanced Technology sessions, Antenna & Propagations, Applications, and Components.

In the System Engineering sessions, the outline of Korean new mobile satellite broadband system and design concept and operations of mission planning system for COMS were introduced by Korean side. Japanese researchers also spoke the topics related on helicopter-satellite communication experiment for disaster information transmission, traffic congestion avoidance scheme for LEO satellite networks, wideband spread signals overlaid on conventional FDMA signals, high altitude platforms, and quasi-zenith satellite system.

Various kinds of key technologies for satellite communications, such as, transmission technologies,



Fig. 2 Dr. T. Mizuike (Upper) and Dr. H. Lee (Lower) in their keynote speech



Fig. 1 JC-SAT2005 Conference Room

regenerative repeating, modulation & demodulation technique, multi-path fading mitigation, and frequency compensation, were reported in the Advanced Technology sessions and the Components session.

All the manuscripts of technical reports were compiled and pressed as a proceeding of 2005 Joint Conference on Satellite Communications (JC-SAT 2005).

Both Japan and Korea organizing committee member agreed to organize the next conference JC-SAT 2006 in Korea. It was also agreed that we would seek the possibilities of extending the scope of this conference to satellite systems engineering. Details on JC-SAT 2006 will be announced on the home page of the satellite telecommunication technical group of IEICE (<http://www.ieice.org/cs/sat/jp>).

About the 2nd Conference on IP + Optical Network (iPOP 2006)

Shoichiro Seno, iPOP 2006 Organization Committee

1. Introduction

After the successful launching of iPOP 2005 in Tokyo, February 2005, iPOP 2006 will be held again as Asia’s premier conference on IP + Optical network technologies at Meiji Kinenkan (tentative) in the central area of Tokyo, from June 22 to 23, 2006. The conference is intended to share among the industry and the academia communities, the knowledge, new findings, and experience on the state-of-the art of IP and optical networking technologies.

2. The Conference’s Offerings

iPOP 2006 will feature a public demonstration of GMPLS interoperability showcase, GMPLS networking product exhibitions, technical sessions. The Technical Program Committee of iPOP 2006 is working hard to produce a program with eminent key note speakers and technical sessions on latest developments of IP + optical networking technologies including GMPLS, high-bandwidth applications, optical services such L1VPN, Bandwidth-on-Demand and Photonic Grid, network management, and testbed/field trial.

Like iPOP 2005, over 200 attendees from industry and academia around the world are anticipated.

iPOP 2006 is chaired by Prof. Tomonori Aoyama, University of Tokyo, Japan, and Prof. Bijan Jabari, George Mason University and ISOCORE (Isocore Internetworking Lab, <http://www.isocore.com>), USA. It is organized by the Organization Committee chaired by Prof. Naoaki Yamanaka, Keio University, Japan. It is sponsored by PIL (Photonic Internet Lab, <http://www.pilab.org>), ISOCORE and PIF (Photonic Internet Forum, <http://www.scat.or.jp/photonic/english/>).

3. Conclusion

Attendance to iPOP 2006 will be a great opportunity to learn about state-of-the-art IP and Optical Networking technologies. For up-to-date information on venue, access, program and registration, please visit <http://www.ipop2006.com>.



Fig.1 iPOP 2005 Reflections

Exhibition & Showcase Participants





IEICE Overseas Membership Page

The Institute of Electronics, Information and Communication Engineers
 Membership for Overseas Candidates: IEICE has mainly two grades of membership: **Member** and **Student Member**. Member is mainly for people who are not students. Student Member is mainly for students. **Please be noticed that Overseas Membership applies only to candidates who reside outside of Japan and who have non-Japanese citizenship.** OMDP (Overseas Membership development program) is provided for candidates from countries/areas in Asia(except Republic of Korea and Taiwan), Africa, Central America, and South America. This program is designed so that IEICE can contribute to and support the progress of science and technology throughout the world. Scientists and engineers in these countries/areas are encouraged to apply to the program.

IEICE Societies and Publications:

Societies	Transactions	Topical areas covered
A. Engineering Sciences	EA:Trans. on Electronics	Engineering Acoustics, Noise and Vibration, Speech and Hearing, Ultrasonics, Digital Signal Processing, Analog Signal Processing, Systems and Control, Nonlinear Problems, Circuit Theory, VLSI Design Technology and CAD, Numerical Analysis and Optimization, Algorithms and Data Structures, Graphs and Networks, Reliability, Maintainability and Safety Analysis, Cryptography and Information Security, Information Theory, Coding Theory, Communication Theory and Signals, Spread Spectrum Technologies and Applications, Mobile Information Network and Personal Communications, Intelligent Transport System, Image, Vision, Computer Graphics, Language, Thought, Knowledge and Intelligence, Human Communications, Neural Networks and Bioengineering, Multimedia Environment Technology, Communication Environment and Ethics, Concurrent Systems, Measurement Technology, General Fundamentals and Boundaries
B. Communications	EB:Trans. on Commun.	Fundamental Theories, Communication Devices / Circuits, Transmission Systems and Transmission Equipment, Optical Fiber, Fiber-Optic Transmission, Wireless Communication Technology, Terrestrial Radio Communications, Satellite and Space Communications, Optical Wireless Communications, Switching, Wireless Communication Switching, Network, Network Management / Operation, Software Platform, Internet, Antenna and Propagation, Electromagnetic Compatibility (EMC), Sensing, Navigation, Guidance and Control Systems, Energy in Electronics Communications, Terminals, Multimedia Systems, Broadcast Systems, Integrated Systems, Media Compound Method
C. Electronics	EC:Trans. on electron.	Electromagnetic Theory, Lasers, Quantum Electronics, Optoelectronics, Microwaves, Millimeter-Waves, Ultrasonic Electronics, Electronic Circuits, Electronic Materials, Organic Molecular Electronics, Electronic Components, Electromechanical Devices and Components, Semiconductor Materials and Devices, Integrated Electronics, Electron Tubes, Vacuum and Beam Technology, Electronic Displays, Superconducting Electronics, Storage Technology, Electronic Instrumentation and Control
D. Information and Systems	ED:Trans. on Inf. & Syst.	Computation and Computational Models, Automata and Formal Language Theory, Algorithm Theory, Complexity Theory, Computer Components, VLSI Systems, Computer Systems, Fundamentals of Software and Theory of Programs, System Programs, Software Engineering, Database, Contents Technology and Web Information Systems, Data Mining, Networks, Dependable Computing, Application Information Security, Distributed Cooperation and Agents, Artificial Intelligence and Cognitive Science, Human-computer Interaction, Office Information Systems, e-Business Modeling, Educational Technology Rehabilitation Engineering and Assistive Technology, Pattern Recognition, Speech and Hearing, Image Processing and Video Processing, Image Recognition, Computer Vision, Computer Graphics, Multimedia Pattern Processing, Natural Language Processing, Biocybernetics, Neurocomputing, Biological Engineering, Music Information Processing, Kansei Information Processing, Affective Information Processing

Membership Charges (UNIT: YEN):

Membership grades	Entrance Charge	Annual Membership Fee	Additional Society Registration	Additional Transaction Subscription	Journal Subscription
Service coverage for overseas members		Included one Society and its Transaction	Registration of one more Society and its Transaction	Subscription to an additional Transaction of registered Society	(Written in Japanese only)
Member (overseas)	1,400	7,000	3,500(/1 Trans.)	3,000(/1 Trans.)	6,000
Member (overseas) with OMDP*	1,000	5,000	3,000(/1 Trans.)	2,500(/1 Trans.)	5,000
Member (in Japan)	2,600	13,000	3,500(/1 Trans.)	3,000(/1 Trans.)	-
Student Member (overseas)	0	2,000	2,000(/1 Trans.)	1,500(/1 Trans.)	6,000
Student Member (overseas) with OMDP*	0	1,000	1,500(/1 Trans.)	1,000(/1 Trans.)	5,000
Student Member (in Japan)	0	4,500	2,000(/1 Trans.)	1,500(/1 Trans.)	-

***OMDP** is to support members from countries/areas of Asia(except Republic of Korea and Taiwan), Africa, Central America, & South America.

***Affiliate Member** is a person who is not a specialist of fields which IEICE subject to and who have an interest to our fields. And when you want to join IEICE as an Affiliate Member, you need recommendation of the society which you want to belong to.

Notice

1. Annual Membership Fee includes one Society and one Transaction which you choose.

Example : If you want to subscribe to Transaction of EA, please check **Society Registration** as “A”, and your membership fee amounts to 7,000 yen / 5,000 yen.

2. If you want to register other Societies and Transaction, please check “Additional Society registration”.

Example : If you want to subscribe to Transaction of EA, and EB, please check **Society Registration** as “A”, **Additional Society registration (optional)** as “B”, and **Additional Transaction subscription (optional)** as “EB”. Your membership fee amounts to 7,000+3,500 yen / 5,000+3,000 yen.

3. If you want to subscribe to more than one Transaction in the same society which you register, please check “Additional Transaction subscription”.

Example : If you want to subscribe to Transaction of EA and A, please check **Society Registration** as “A”, and **Additional Transaction subscription (optional)** as “A”. Your membership fee amounts to 7,000+3,000 yen / 5,000+2,500 yen.

4. If you want to change membership from “Regular Member” to “Overseas Member”, you don’t need to pay an Entrance Charge.

Optional Rapid Mailing Service: Surface mail charge is included in the Annual Membership Fee. Optional rapid mailing service is available by air mail or surface air lifted (SAL) mail. The additional charge per year periodical depends on the mailing address, as shown in the following table.

Zones	Areas	Air mail	SAL mail
1 st	Asia; Guam; Midway islands	5,600 yen	3,200 yen
2 nd	Oceania; Near & Middle East; North & Central America; Europe	7,800 yen	4,400 yen
3 rd	Africa; South America	11,000 yen	5,600 yen

Further information:

Please contact **IEICE Membership Activities Section;**
Kikai-Shinko-Kaikan Bldg., 5-8, Shibakoen 3 chome,
Minato-ku, Tokyo 105-0011 JAPAN
 Fax +81 3 3433 6659
 E-mail: member@ieice.org
 URL: <http://www.ieice.org/>

IEICE Overseas Membership Application Form

The Institute of Electronics, Information and Communication Engineers

URL <http://www.ieice.org/eng/member/OM-appli.html> E-mail member@ieice.org

◆ Please type or print in English. The deadline for submitting application form is the 1st day of every month.

Personal Information

Full name: _____ Nationality : _____ Male Female
First name Middle name Last name

Prof. Dr. Mr. Mrs. Ms. Miss Place of birth: _____ Date of birth: _____
Day Month Year

Mailing Address Home Office

Name of Company/School/College _____ Department/Section _____

Street _____ City _____ State/Province _____

Postal code _____ Country _____

TEL _____ FAX _____ E-mail _____

Academic Background The highest academic degree: Ph.D. Masters Bachelors Others: _____

University/college/school of the highest academic degree _____ Month & year of graduation _____

(For Student Member) Academic degree which will be conferred on you. _____ Month & year when the degree will be conferred on you. _____

Application Information I want to enter the IEICE from April October year: _____

Membership: I want to apply for the following membership (check one item!)

- Member (Overseas) Student Member (Overseas)
- ◆ If you want to apply for OMDP, please check; OMDP (Overseas Membership Development Program)

Society registration (It includes one Transaction in English):

- A: Engineering Sciences B: Communications C: Electronics D: Information & Systems

Additional Society registration (optional): A: Engineering Sciences B: Communications C: Electronics D: Information & Systems

Additional Transaction subscription (optional): EA: Fundamentals EB: Communications EC: Electronics ED: Information & Systems

- A (Japanese) B (Japanese) C (Japanese) D (Japanese)

Journal subscription (optional) (Japanese)

Remittance Remittance is available only in Japanese yen by a credit card. (UNIT:YEN)

Entrance charge.....¥_____ Journal subscription (optional).....¥_____

Annual charge..... ¥_____ Mailing option: Air mail..... ¥_____

Additional Transaction (optional).....¥_____ SAL mail.....¥_____

Total remittance.....¥_____

Credit Card: MasterCard VISA AmericanExpress Card number: _____ Expiry date (Y/M) / _____

Credit Card Holder: _____ Signature: _____

Endorsement Endorsements by two IEICE Regular Members for Regular/Affiliate Member application and by one Regular Member for Student Member application is required. If it is difficult to find endorsers, please contact the IEICE Membership Activities Section by sending this sheet, and we will help you.

I recommend this applicant for IEICE membership.

Endorser's name	Membership number	Endorser's signature	Date

Send this form to: The Membership Activities Section, IEICE Headquarters Office, Kikai-Shinko-Kaikan Bldg., 5-8, Shibakoen 3 chome, Minato-ku, Tokyo 105-0011 JAPAN

From Editor's Room

● IEICE General Conference in Tokyo

The IEICE General Conference is right around the corner. The next conference is to be held at Kokushikan University in Tokyo from March 24(Fri) to 27(Mon), 2006.

In Tokyo, after having experienced a hot summer in 2005, and despite the long range weather forecast for a warm winter, we have gone through an unusually cold winter. One weekend, snow paralyzed the traffic network in metropolitan Tokyo area, inconveniencing a lot of people.

Coming back to the General Conference, end of March to beginning of April is Cherry Blossom season in Tokyo, but nobody knows when it will bloom. I remember that in my elementary school, every year, we had a contest for predicting the blooming date. I myself never won a prize on this contest, always missing by few days. But for this year, I hope that a beautiful array of cherry trees will welcome you in Tokyo.

IEICE Global News Letter Editorial Staff

Editorial Staffs of this issue

No special order is observed.



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<Call for Papers> IEICE Special Issue on Networks Software

IEICE Special Issue on Networks Software

The IEICE Transaction on Communications announces a forthcoming IEICE special issue on “Networks Software” to be published in **April 2007**.

Dissemination of the Internet has brought telecommunication network innovation in design ideas for function assignments between networks and terminals, networks configuration, reliability, security, etc. Study issues on interaction functions with existing networks and service control function for providing various services have been raised.

The objective of this Special Issue is to discuss technical issues on software which provides next generation networks services, managing and operating networks and controlling networks, and to discuss problems on the development, test and evaluation of networks software. It is also to present future networks software technologies and existence of networks services widely.

Scopes

Suggested topics include but are not limited to the followings. However, topics should be focused on networks software technologies.

- **Networks service control software**
Ubiquitous services, Real time multi-media streams, Social-ware, E-commerce, Authentication, Security, Copyright protection, E-learning
- **Core technologies for networks software**
Bandwidth On Demand, IP securities, Mobile IP, IPv6, Protocol conversion, SIP, 4th generation mobile telecommunication, Ad-hoc network, Overlay network, P2P, Home-network, CDN, Grid, Web Services, NGN (Next Generation Network), FMC (Fixed Mobile Convergence)
- **Specific networks software technologies**
Agent (Personal, Mobile, Network), Programmable network, Progressive software, Component, Open API (JAIN/Parlay), Java/EJB, Real time system, Highly reliable system, Distributed objects, Aspect oriented software, Distributed processing platform, Development environment, Design paradigm, Specification description, Specification verification

Submission Instructions

Papers must be submitted by **July 20, 2006**. Manuscript should be prepared according to the guideline given in the “Information for Authors”. The latest version of it is available at the web site,

<http://www.ieice.org/eng/shiori/mokuji.html>, or you can refer its brief summary attached to IEICE Transactions. The length of the paper should not exceed 8 printed pages

in principle. The term for revising the manuscript after acknowledgement of conditional acceptance for this special issue could be shorter than that for other issues (60 days) because of the tight review schedule. In this special issue, only the electric submission is adopted. Prospective authors are requested to follow carefully the submission process described below.

[IMPORTANT NOTICE] At least one of the authors must be an IEICE member when the manuscript is submitted for review. Invited papers are an exception.

1. Submit papers using the IEICE Web site https://review.ieice.org/regist_e.aspx. The acceptable format of the file is PDF file. Other any files, e-mail submission, and postal mail are NOT acceptable. Authors should choose the [Special-EB] Networks Software as a “Type of Issue/Category of Transactions” on the online screen. Do not choose [Regular-EB] Communications or other special sections.
2. “Copyright Transfer and Page charge Agreement” and “Confirmation Sheet of Manuscript Registration” must be sent by postal mail to the following address (secretariat of this issue). Please mark “Special Issue on Networks Software” on the envelope.

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**Workshop for Space,
Aeronautical and Navigational Electronics
WSANE 2006**

Updated on Jan. 17, 2006

*This page is optimized for Internet Explorer.

Venue: Conference room at Xidian University,
Xi'an, China
Date: April 9-12, 2006

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Organized by
Technical Group on Space, Aeronautical and Navigational Electronics (**SANE**),
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What's new
The [template](#) of the camera-ready manuscript was uploaded on Jan. 17, 2006
[First Call for Paper](#) was uploaded on Sep. 4, 2005.
[Home page](#) was opened on Sep. 2, 2005.

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E-mail : sane_ac-chair@mail.ieice.org

Figure 1: WSANE2006 Internet Web Site

<http://www.ieice.org/cs/sane/WSANE2006/index.html>