IEICE Communications Society GLOBAL NEWSLETTER *Vol. 37, No.2*
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http://www.ieice.org/cs/pub/global_news.html

Inauguration Address:

Enjoy Active Participation to IEICE-CS

Iwao Sasase
President, IEICE Communications Society

1. Introduction

It is my great honor and privilege to serve as the President of IEICE Communications Society (IEICE-CS). First, I would like to express my gratitude for all of the past IEICE-CS officers as well as many earnest volunteers involved in the activities. I promise to do my best to activate the functions in IEICE-CS in the following five aspects.

2. Technical Activities and Emerging Technologies

The technical scope of IEICE-CS covers wide areas in communications and networking, and main function is to serve the needs of its more than 13,000 members by providing access to technical information and opportunity to discuss state of the art communication and networking technologies from various aspects as well as establishing and keeping human networks of professionals through the world. We are fortunate to have experienced and dedicated groups and individuals who help lead and guide the various technical activities. However, we always welcome new volunteers to join us and make our activities even better. Especially, in order to disseminate timely technical information in emerging technology areas which are of high interest to members in our field, I encourage members with common interest in a new technology area to form a small activity group with the expectation that such a group may eventually evolve into a technical committee. You may write a proposal to me, if you identify a new emerging area that should be of interest to IEICE-CS.

3. IEICE Knowledge Discovery (I-Scover)

IEICE has Transactions Online system in electronic publication including 8 Transactions (English and Japanese), Communications Express (ComEX), Electronics Express (ELEX) and Nonlinear Theory and Its Applications (NOLTA), as well as Proceedings Archives of IEICE-sponsored conferences. Last year, we started a project to make a new document archiving and navigation system named “IEICE Knowledge Discovery (I-Scover)” with many convenient functions, such as linked data. For example, when we look for some papers on a specific topic, various kinds of information related to the topic such as the relation of the papers, recent news on the topic, etc. can be easily obtained. The IEICE Knowledge Discovery as a first stage is now available this year and we are collecting more useful contents such as tutorial articles, surveys, international and domestic conference papers which are related in our fields.

4. Attractive Activities to Industry Members

Although industry membership still remains a major portion of IEICE-CS, I feel that we have to strengthen the “practical” contents more in our conferences, journals, and magazines to be more attractive and useful to members in industry. Also, we need to take an action to consider more support for standards activities attractive to industry, such as hot-topic tutorials and latest reports for standards activities in publications and conferences.

5. Young Leaders and Globalization

In order to open up involvement with the IEICE-CS to Asia, in particular, we should look at providing more opportunities for young members to participate in various IEICE-CS activities; for example, through proposing special editions of transactions and special sessions in the IEICE-CS sponsored conferences and workshops. I think that “Open calls” mechanism may be useful to seek and foster young leaders. Also, it is necessary to introduce a new program for students and younger members to encourage keeping their IEICE-CS memberships during their first 10 years after graduation from university by providing more timely and useful services they need. Especially, I believe that we should take care of foreign student members who came and study in Japan to make their careers by continuing various IEICE activities after graduation.

6. Awards and IEICE Fellow Nominations

Awards as well as Fellow evaluation are key functions for technical activities by recognizing distinguished achievements. There are achievement awards, paper awards, encouragement award, etc. IEICE Fellow status is granted to a person with an extraordinary record of accomplishments. We should look at providing more opportunities for overseas members to be award winners and IEICE Fellows. If you know someone worthy, please take the initiative and nominate him/her. Detailed descriptions are available at http://www.ieice.org/eng/awards/index.html, and http://www.ieice.org/eng/fellow/suisen_e.html.

7. In Closing

I expect your strong support and active participation to IEICE-CS, and I sincerely hope you enjoy working with us.

Discover IEICE Contents Using I-Scover

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1. Introduction

The IEICE launched new metadata search system called I-Scover (http://i-scover.ieice.org) from April 3rd, 2013. I-Scover provides metadata search of the IEICE transactions papers (from its first edition published in 1968), Technical Reports (from 2006) and international conference papers of ISPA and EMC. The total of the contents that can be searched is more than 150,000.

Publication/event	Coverage	Number of articles
IEICE Transactions (including Japanese Editions)	Papers published since January 1968	About 68,000
IEICE Technical Reports	Conferences/Symposia /Workshops/Colloquia held since June 2004	About 50,000
IEICE General/Society Conferences	IEICE General/Society Conferences held since 2005	About 40,000
ISAP (International Symposium on Antennas and Propagation)	Symposia held in 1971, 1978, 1985, 1989, 1992, 1996, 2000, 2002, 2004, 2007 and 2012	About 3,100
EMC (International Symposium on Electromagnetic Compatibility)	Symposia held in 2004 and 2009	About 400

Figure 1 shows the top page of I-Scover.

This article briefly introduces I-Scover. Before going to detail, let me start with a quiz. What phrase do you guess if you say I-Scover for three times?

2. What is I-Scover?

I-Scover is officially designated the IEICE Knowledge Discovery. But we add a little more meaning to it; a fortunate stroke of serendipity. Using I-Scover, you can discover an article that may be difficult by the ordinary Web search.

What distinguishes I-Scover from search systems like Google or Yahoo is that I-Scover does not search across whole contents, well known as a full-text search, but it provides metadata searches of the IEICE articles. Further, all the metadata is stored as Linked Data DB in I-Scover.

I-Scover connects not only related metadata within stored ones, but also to related data through the Web.

Fig. 1 Top page of I-Scover

This feature is known as Linked Data. According to Wikipedia, the term is used to describe a recommended best practice for exposing, sharing, and connecting pieces of data, information, and knowledge on the Semantic Web using URIs and RDF.

At the current release of I-Scover, such a function, known as SPARQL query, is not supported yet. But all data is stored in Linked Data format, or more precisely in RDF. Please refer to the related article by Dr. Nishino [1].

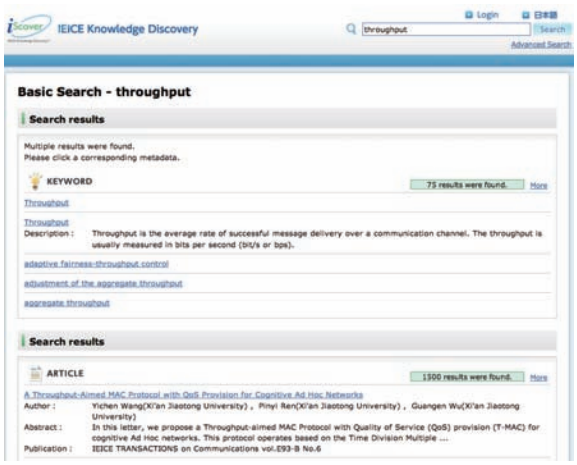

Fig. 2 I-Scover showing multiple search results

3. How does I-Scover search?

Figure 1 shows the top page of I-Scover. The search window provides a basic search that accepts a single search word. If you wish multiple terms search, then push "Advanced search" link.

I-Scover first estimates through six metadata, article, author, organization, keyword, event, and publication. If I-Scover finds multiple search results, then it shows results along with related articles as shown in Figure 2. By clicking your requested term, I-Scover displays the results in four different windows; Metadata detail, Related metadata, Related articles, and External website search results windows. Figure 3 and 4 illustrate examples of keyword metadata and author metadata. I-Scover outputs not only detail description of the search results, but also it exposes links to the other data. Thanks to the Linked Data feature of I-Scover, the provided links are connected within I-Scover providing continuous exploration of related data. This enables the following searches;

- Keywords of a designated author's article(s)
- Authors of articles having a designated keyword
- Keywords given to each of articles presented in a designated event
- Keywords of other articles having one of keywords of a designated article

The above usages may lead serendipity; i.e., when you looking for something, find something of value talent in another.

Moreover, the external website search let you search from CiNii (Scholarly and Academic Information Navigator) by National Institute of Informatics, Google, IEEE Xplorer, ACM Digital Library, and DBpedia.

4. Enjoy using I-Scover

I-Scover is available for free of charge for anyone. I-Scover works as usual web search systems. Please note, however, I-Scover does not provide multiple search in the basic search. The search box located at the center of the I-Scover top page or in the upper right corner of other pages, I-Scover does not supply AND query. If you would like to search with multiple words, please click "Advanced search".

For a person who has an IEICE membership, we recommend to login. I-Scover advances some of privileges to IEICE membership.

5. What's next?

A minor upgrade is planned in October 2013. And subsequent plans are under discussions. We welcome your idea and suggestions for a new I-Scover function. Please inform us of your idea via the "Contact" link in the bottom (footer) page.

By the way, the answer to the question in Introduction is "I discover." We hope you discover treasures of IEICE articles; a fortunate stroke of serendipity.

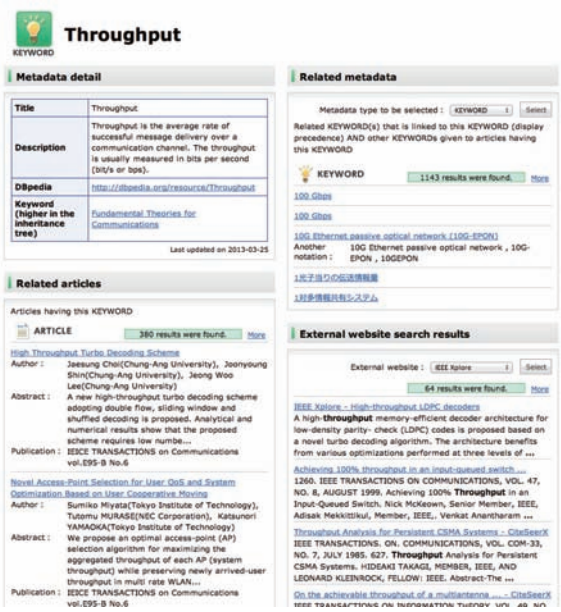

Fig. 3 Search results of keyword metadata

Fig. 4 Search results of author metadata

6. Reference

[1] F. NISHINO, "Linked Data to support I-Scover system," IEICE Communication Society Global Newsletter, Vol.37, No.2, June 2013 (This issue).

Linked Data to Support I-Scover System

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1. Introduction

I-Scover®(IEICE Knowledge Discovery) is not merely a database service which can be searched across multiple publication of the IEICE(Institute of Electronics, Information and Communication Engineers), but is a website that delivers IEICE's metadata on Linked Data including article, person, organization, publication, event and terminology. Linked Data is an approach taken to linking data such that it becomes more useful/accessible than it would be in isolation. Recent years show that Linked Data became a suitable way of building the Web of Data that offers new opportunities for addressing the traditional problems of too many silos of content, too little precision and too much ambiguity in search results. Here we will explain the basics of Linked Data and how Linked Data technologies were applied within the I-Scover.

2. Movement of Linked Data

The term Linked Data was coined by Tim Berners-Lee, inventor of the Web, in his note[1]. The goal of Linked Data is to enable people to share structured data on the Web as easily as they can share documents today. Linked Open Data(LOD) is Linked Data which is released under an open license. To promote Linked Open Data, a pragmatic and informal set of metrics "the 5 Stars of Linked Open Data" has been introduced by him. Basically, it's a set of incremental characteristics that published data sets should have.

☆ make your stuff available on the Web (whatever format).

☆☆ make it available as structured data (e.g. Excel instead of scanned image of a table).

☆☆☆ non-proprietary format (e.g. CSV instead of Excel).

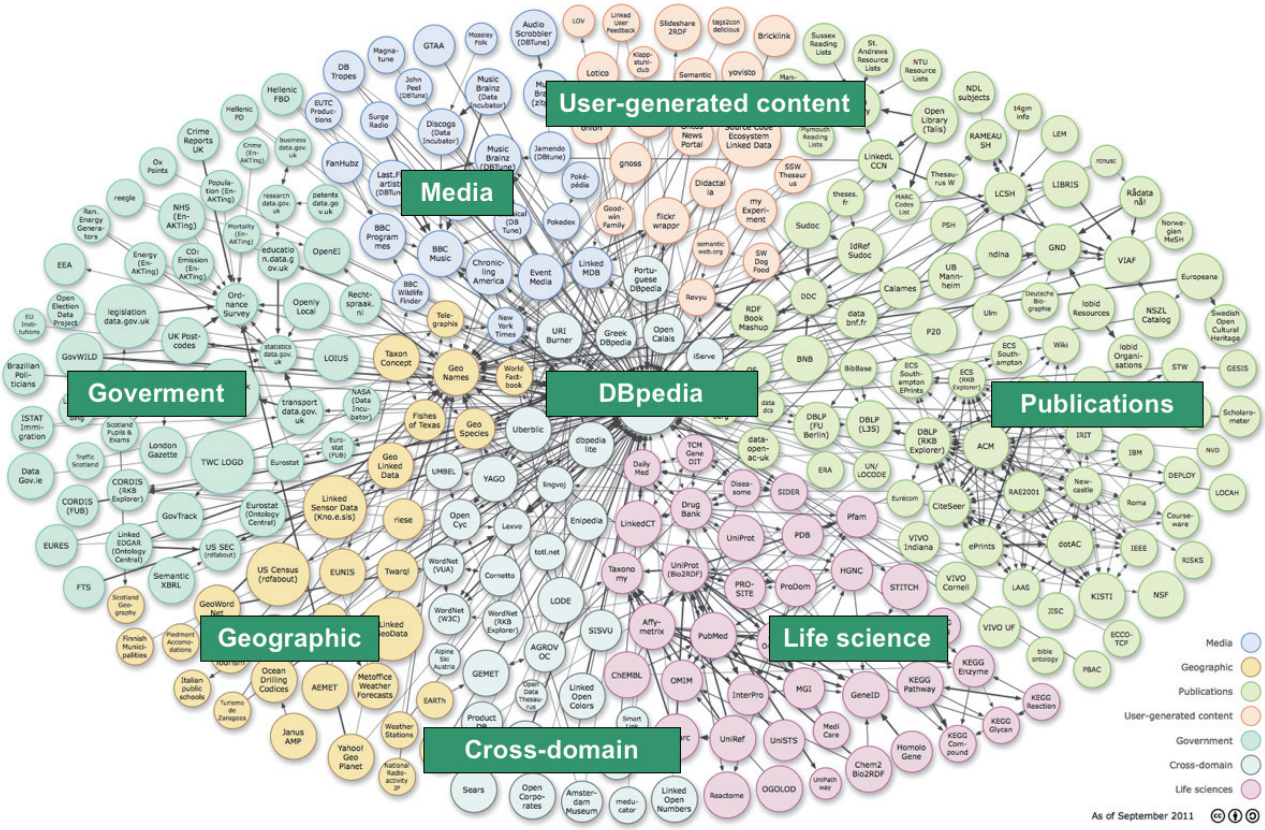

Fig. 1 The November 2011 scale of "Cloud diagram" made by Richard Cyganiak and Anja Jentzsch

☆☆☆☆ use open standards from the W3C(RDF and SPARQL) to identify things, so that people can point at your staff.

☆☆☆☆☆ link your data to other people's data to provide context.

The Linking Open Data Project[1] became one of the main Data which refers to a set of best practices for publishing and connecting structured data on the Web. There are already various interesting open data sets available on the Web. Examples include DBpedia[2], Geonames[3], MusicBrainz[4], the DBLP bibliography[5] and many more. Figure 1 shows datasets that have been published in Linked Data formats and classifies the datasets by topical domains: geographic, government, media, libraries, life science, retail and commerce, user-generated content, and cross-domain datasets. Each node in the diagram represents a distinct data set published as Linked Data. The arcs indicate the existence of links between items in the two data sets.

3. I-Scover inspired by BBC

One of the first large organizations to recognize the potential of Linked Data and adopt the principles and technologies into the publishing and content management workflows has been the British Broadcasting Corporation (BBC) , which would greatly affect the designing of I-Scover. Just as IEICE runs some communities and uses separate retrieval systems, the BBC runs numerous radio stations and television channels as well as uses separate content management systems. The BBC has thus started to use Linked Data technologies together with DBpedia and MusicBrainz as controlled vocabularies to connect content about the same topic residing in different repositories and to augment content with additional data from the Linking Open Data cloud. Based on these connections, BBC Programmes and BBC Music build Linked Data sites for all of its music and programmes related brands[2] .

4. What is Linked Data?

The Linked Data principles which were introduced by Tim Berners-Lee in his Web architecture note Linked Data[1] are the following:

1. Use Uniform Resource Identifiers(URIs) as names for things. For example: http://i-scover.ieice.org/iscover/resource/AUTHOR-800FB584-7A68-526D-2684-5E4A7EB5A673 is the URI for my personal data in I-Scover.
2. Use HTTP URIs so that people can look up those names.
3. When someone looks up a URI, provide useful information.
4. Include links to other URIs so that they can discover more things.

The first Linked Data principle advocates using URIs as globally unique identification mechanism to identify, not just Web documents and digital content, but also real world objects and abstract concepts. Moreover, using HTTP URIs, which is inherently designed for use at a global scale, enables anybody to refer to anything. In order to enable a wide range of different applications to process Web content, it is important to agree on standardized content formats. The Linked Data principle advocates use of the Resource Description Framework(RDF), a simple node-and-arc-labeled directed graph-based data model that has been designed for use in the context of the Web[3]. To represent data in RDF, each statement is broken into a <subject, predicate, object> triple. The subject of a triple is the URI identifying the described resource. The object can either be a simple literal value, like string, number, or date; or the URI of another resource that is somehow related to the subject. The predicate indicates what kind of relation exists between the subject and object. Figure 2 shows a sample of RDF graph. Within the figure, the subject and object are modeled as nodes, and the predicate (or property) as a directed link that describes the relationship between the nodes. The direction of the link points towards the object. URI references are shown as ellipses, while literals are depicted as rectangles. The graph describes an article identified by the URI http://example/resource/X, e.g. its title is "Linked Data to support I-Scover system" and the creator of this paper is the person identified by Y. The predicate is also identified by a URI. These predicate URIs come from vocabularies, collection of URIs that can be used to represent information about a certain domain. If suitable terms can be found in existing vocabularies, these should be reused to describe data wherever possible, rather than reinvented. I-Scover uses the vocabularies which are in widespread usage such as Dublin Core Metadata Initiative(DCMI) Metadata Terms[6], Friend-of-a-friend(FOAF)[7], vCard[8],

[1] http://www.w3.org/wiki/SweoIG/TaskForces/CommunityProjects/LinkingOpenData
[2] http://dbpedia.org DBpedia is extracted information from Wikipedia, republished as linked data.
[3] http://geonames.org/ Geonames is a geographical database that publishes Linked Data about 10 million locations.
[4] http://musicbrainz.org MusicBrainz is an open music encyclopedia.
[5] http://www.informatik.uni-trier.de/~ley/db/ DBLP Bibliography is a Web service with bibliographic information on computer science publications in major journals and conference proceedings.
[6] http://dublincore.org/documents/dcmi-terms/ defines general metadata attributes such as title, creator, date and subject.
[7] http://xmlns.com/foaf/spec/ defines terms for describing persons, their activities and their relations to other people and object.
[8] http://www.w3.org/TR/vcard-rdf/ defines electric business card profile.

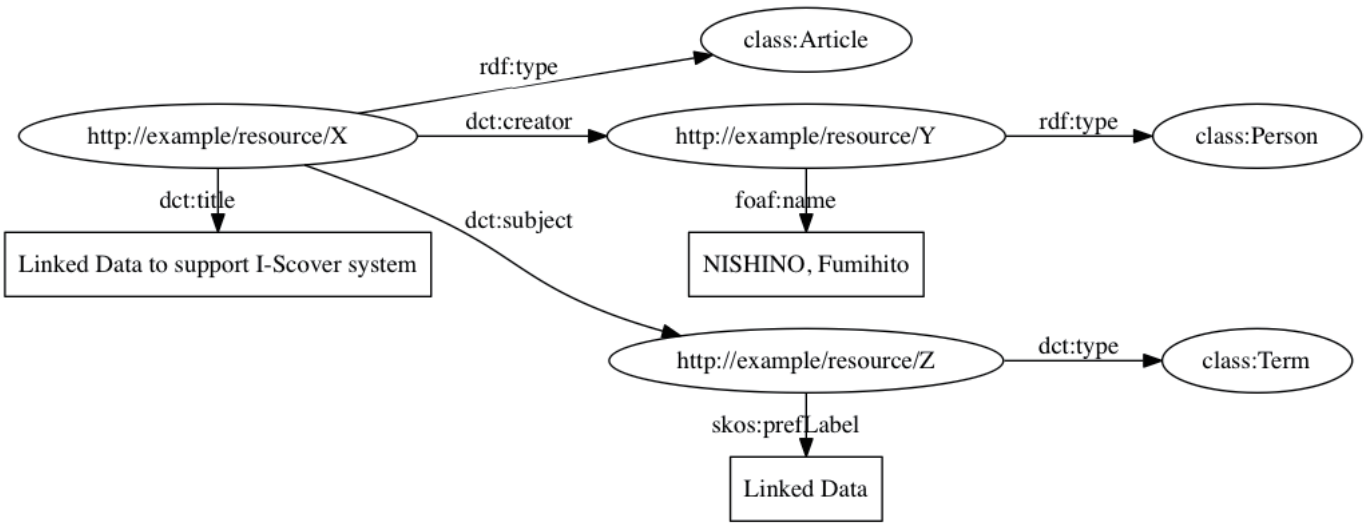

Fig. 2 Sample of RDF Graph

Publishing Requirements for Industry Standard Metadata(PRISM) [1], SKOS(Simple Knowledge Organization System)[2], RDFS[3], OWL[4], et al.

5. Conclusions

Linked Data is the new de-facto standard for data publication and interoperability on the Web. We believe that I-Scover can act as a hub of information and communication community and we hope that more and more people will join us on that road of building Linked Data, and in particular to build and cleanse metadata.

6. Reference

[1] Tim Berners-Lee, "Linked Data - Design Issues", 2006. http://www.w3c.org/Designissues/LinkedData.html

[2] G. Kobilarov et al., "Media Meets Semantic Web– How the BBC Uses DBpedia and Linked Data to Make Connections", In European Semantic Web Conference, 2009

[3] Graham Klyne and Jeremy J. Carroll, "Resource Description Framework (RDF): Concepts and Abstract Syntax", W3C Recommendation, 2004. http://www.w3.org/TR/rdf-concepts/.

[1] http://www.prismstandard.org/resources/mod_prism.html defines a standard for interoperable content description, interchange, and reuse in both traditional and electronic publishing contexts.

[2] http://www.w3.org/TR/skos-reference/ defines a common data model for sharing and linking knowledge organization systems via the Web.

[3] http://www.w3.org/TR/rdf-schema/ is a general-purpose language for representing information in the Web.

[4] http://www.w3.org/2004/OWL/ is a Web Ontology language.

Traffic Control in Cellular Mobile Communication Systems

Hideaki Yoshino
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1. Introduction

Because of the recent market growth of cellular mobile communication services, the major use of mobile phones is changing from voice to Internet applications such as multimedia messaging service (MMS), online gaming, and music/video streaming. These changes have led to increased demand for mobile multimedia communication and resulted in pressing technological problems that require much more sophisticated traffic engineering solutions. In particular, traffic control that can handle variable and multimedia traffic is essential in operating cellular systems efficiently and robustly.

In this letter, we review the traffic control technologies applicable to cellular mobile communication systems. In Sect. 2, we classify general traffic control schemes in communication systems. In Sect. 3, we categorize the traffic control schemes by the three-layer structure of cellular system architecture.

2. Classification of traffic control schemes

Traffic control is defined as a mechanism that efficiently allocates limited system resources to communication requests satisfying quality-of-service (QoS) requirements under variable traffic conditions. A typical resource in cellular systems is radio frequency. Other examples of resources are switching nodes and communication links (paths) in transmission networks. Because communication requests occur stochastically, traffic control that takes into account the probabilistic behaviors of the request-generation process is significant. In cellular systems, a bias of requests caused by mobile terminal concentration at a specific time or place occasionally occurs.

From the perspective that "traffic" means *flow* of communication requests, traffic control of *flow* can be classified broadly into the following three categories (see Fig. 1):

1. Volume control

Volume control is a restrictive control that regulates offered load (flow volume) to the system at a certain level, prevents ineffective resource holding, and restrains performance degradation.

Volume control is further classified into two categories: total flow volume control and individual flow volume control. The control target of the total flow volume control is the entire traffic flow of the system. Origination restriction control in the case of traffic congestion and connection admission control in the case of normal traffic are examples. On the other hand, TCP window flow control is a typical example of individual flow volume control.

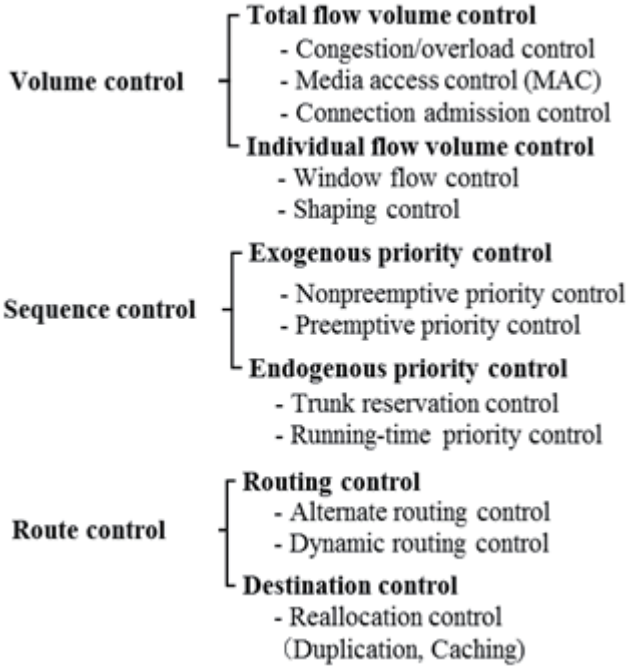

Fig. 1 Classification of traffic control

2. Sequence control

Sequence control is traffic control that changes the sequence of transmission or processing of flow in the system. Sequence control is further classified into two categories: exogenous priority control such as priority queuing and endogenous priority control such as state-dependent trunk reservation control.

3. Route control

Route control is an expansive control that alters the transfer route according to the traffic load in the system. This control also includes destination control that reallocates content using duplication or caching servers.

The various traffic controls classified above could be applied to each layer of the cellular system architecture. We summarize the traffic control mechanisms in each layer in the next section.

3. Traffic controls in cellular system architecture

The main components of cellular systems are categorized into a three-layer structure: (1) radio access, (2) transmission network, and (3) signaling network and database. According to the classification of traffic control schemes described above, traffic controls applied to each layer of the cellular system architecture

Table 1 Classification of traffic control in cellular systems

Traffic controls / Components	Volume control		Sequence control		Route control	
	Total flow volume control	**Individual flow volume control**	**Exogenous priority control**	**Endogenous priority control**	**Routing control**	**Destination control**
Signaling network and database	- Congestion / overload control	Transport layer control for individual flow - Window flow control - Shaping control	- Nonpreemptive priority control - Preemptive priority control	- Trunk reservation control - Running-time priority control	- Alternate routing control - Dynamic routing control	- Content reallocation control (Duplication, Caching)
Transmission network	- Congestion / overload control - Connection admission control (CAC)		- Nonpreemptive priority control - Preemptive priority control	- Trunk reservation control - Running-time priority control	- Alternate routing control - Dynamic routing control	
Radio access	- Congestion / overload control - Connection admission control - Media access control (MAC)		- Nonpreemptive priority control - Preemptive priority control	- Trunk reservation control for handoff calls - Running-time priority control	- Traffic offload	

are summarized in Table 1. With reference to this table, we describe the traffic control schemes in each layer in the following subsections.

3.1. Traffic controls in radio access network

Resource competition in sharing the radio channel is a peculiar problem in the radio access layer. We first describe the radio channel concept and multiple access techniques briefly. The word *channel* refers to a system resource allocated between a given mobile terminal (MT) and a base station (BS), enabling the user to communicate with the network with tolerable interference from other users.

The radio channels consist of a traffic channel and two types of control channels, forward and reverse. The forward control channel is used for transmission of information, such as a paging signal for a called mobile user, from the BS to the MTs. The reverse control channel is used when the MT sends control signals such as the connection setup signal and the location registration signal to the BS. After completion of the connection setup, a traffic channel is assigned and dedicated to the user.

Volume control schemes applied in the radio access layer are as follows:

Media access control for reverse control channel

To obtain permission to transmit, a user must first access the BS indicating a desire to use the system. Media access control (MAC) provides these first addressing and channel access control mechanisms on the reverse control channel.

MAC makes it possible for several MTs to share the reverse control channel. Therefore, MAC is consequently based on the random access scheme and can be classified as total flow volume control. Sharing radio channels according to the random access scheme causes a throughput decrease due to the collision of the signals. Therefore, traffic controls for random access are important for using the channel effectively by suppressing throughput decrease.

Congestion control

Congestion at the radio access layer occurs according to a spatial and time concentration of the mobile users' traffic. The establishment of a congestion control method, which is scalable and adaptable for handling increasing traffic loads, is a pressing need. A situation in which many mobile users simultaneously request connections, for example, a large-scale disaster or new-year calls, increases the collision of the connection setup signals and leads to a rapid decrease in the throughput of the reverse control channel. The decrease in throughput of the reverse control channel causes a high number of connection blockings at the connection setup phase, which leads to inefficient utilization of traffic channels. Therefore, congestion control for random access is essential from the viewpoint of effective use of the precious resource of radio frequencies.

Connection admission control

Connection admission control (CAC) is an important feature of CDMA systems, which further distinguishes them from FDMA and TDMA systems. The number of connections in FDMA and TDMA systems simultaneously carried in the cell is absolutely specified by the number of frequency channels and time slots, respectively. On the other hand, it is possible to perform a tradeoff between transmission quality and the number of connections carried in the cell with soft overload in CDMA. That is, CAC is necessary to provide improved blocking performance for new connections at the expense of some slight degradation in transmission quality. This CAC mechanism is also categorized as the total flow volume control.

The sequence control schemes applied in the radio access layer are as follows:

Priority control at BS queues

Resource allocation in cellular systems designed for packet transmission, such as 3G and LTE, requires appropriate priority scheduling control of packet transmission at the BS. The purpose of priority control is to satisfy the appropriate QoS objectives such as packet loss probability and packet delay for each class of services. For example, packets for continuous-time services such as VoIP are prioritized for transmission over those for non-real-time data services. This priority control is categorized as sequence control.

Trunk reservation control for handoff connections

Handoff is essential to cellular systems. From the viewpoint of QoE, forced connection termination of an on-going connection caused by handoff blocking is less desirable than blocking a new connection. Therefore, the handoff blocking probability should be less than the blocking probability of a new connection request.

Trunk reservation control, which reserves some channels for handoff connections, is effective for prioritizing the handoff connection over a new connection. This trunk reservation control is a typical endogenous priority control classified in sequence control.

3.2. Traffic controls in the transmission network

The transmission network also plays an important role in determining the overall performance of cellular systems. Thus, congestion control in transmission networks is also important, as in radio access networks. CAC is also necessary for a transmission network if we use a connection-oriented and packet-based network such as NGN.

In addition to these traffic volume controls, traffic control for efficient transmission of multimedia is also important. The controls are classified into two levels: packet-level control and connection-level control. Packet-level control indicates the control in the information transfer phase after the connection is established, and connection-level control indicates the control in the connection establishment phase. The following two level traffic controls are important.

Packet-level priority control

In integrated packet transmission networks, packets for delay-sensitive services such as voice packets usually have priority at switching nodes over other delay-insensitive media packets such as data packets. For such priority control networks, it is essential to evaluate the overall end-to-end delay characteristics for each media service and develop traffic dimensioning methods for system resources by taking into account priority control effects.

Connection-level reservation control

Reservation controls are efficient for solving the following problems that arise when multimedia traffic with different bandwidths joins a transmission network.

1. Imbalance of blocking probabilities: multiclass traffic with different bandwidths encounters different blocking probabilities at the connection setup phase. For example, a service requiring a wide bandwidth is more frequently blocked than one requiring a narrow bandwidth.

2. Network instability: the end-to-end blocking probabilities exhibit bistable behavior in nonhierarchical networks. That is, the network operates in two states for certain loads: a low network blocking state and a congested state. This bistable behavior causes a high blocking rate during overload.

3.3. Traffic controls in a signaling network and database

Mobility has a critical impact on the design and engineering of cellular systems. User location and tracking are major activities related to mobility support, and the efficiency with which the related procedures are performed has a direct bearing on the network costs as well as QoE. To achieve this objective, the cellular system maintains user information such as location and account information in the database on the transmission network. The system must query and update this information when users make either connection setup or location registration requests. The method for managing this mobility support information is called *mobility management*.

Increasing the number of mobile users and evolving personal communication in the future could trigger an order-of-magnitude increase in signaling traffic for both querying and updating user information. Thus, mobility management that reduces the signaling traffic load is essential for designing future cellular systems.

Content reallocation control

A distributed database architecture rather than a centralized one is usually applied for mobility management. In a distributed database environment, content reallocation control among databases using duplicating and/or caching of stored information is effective for reducing traffic load.

4. Conclusion

The evolution of both the cellular systems and the Internet has reached the point of their convergence. Future-generation cellular systems are expected to achieve higher-speed data-transfer services with multiple traffic classes. Such a scenario requires much more sophisticated traffic control in operating cellular systems. We expect that further studies of traffic controls will provide a solution for such a future scenario.

Report on NS English Session at 2013 IEICE General Conference – BS-1 Network Control and Management Technologies for Next Generation Applications –

Kazuhiko Kinoshita[*], Yutaka Arakawa[**], Takashi Kurimoto[***], Atsushi Hiramatsu[***], and Shigeo Urushidani[+]
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1. Introduction

IEICE Technical Committee on Networks Systems (NS)[1] provided a complete English Session as one of the Symposium Sessions of Communications Society at the 2013 IEICE General Conference. It was entitled "BS-1 Network Control and Management Technologies for Next Generation Applications."

2. Background

NS has continued such an English Session since 2005, and has improved it gradually. The purpose of this Session is to promote the globalization of IEICE by providing the participants staying in Japan or joining from overseas with more opportunities of presentations and discussions in English.

In this year, the Session included 17 consecutive subsidiary sessions. The participants enjoyed the sessions only in English for three and a half days during the conference. The number of papers in the Session has increased year by year and reached 62 in total this year. Table 1 shows the historical theme and the number of presented papers.

Table 1 History of NS English Session

Year	Theme	#
2005	Network Controls for High-Quality Communications	11
2006	Technologies and Architectures for Ubiquitous Network Systems	19
2007	Traffic Measurement, Analysis and Network Controls for Comfortable Network	12
2008	Network Management Technologies for Next Generation Network	20
2009	System, Control and Design Technologies for Emerging Network	34
2010	Emerging Network Technologies for Ambient Information Society	34
2011	Network Design, Management and Control for Future Networked Systems	43
2012	Management and Control Technologies for Innovative Networks	43
2013	Network Control and Management Technologies for Next Generation Applications	62

Fig. 1 Presentation

3. Topics and Statistics

The Session includes many kinds of technical topics such as wireless networks, photonic networks, sensor networks, SDN, QoS/QoE, green ICT, social networks and network security.

Mostly twenty to thirty participants attended at each sub-session. Every speaker and audience discussed and exchanged opinions each other after the presentation very actively and in detail. Since the time assigned for questions passed quickly, presenters and audience continued their heated discussion here and there even into the break periods.

4. Conclusion

NS English Session was very successful due to many excellent papers and active discussions. The organizer believes that this activity is fruitful for all attendees and effective for the globalization of IEICE.

In addition, NS will select the best papers and award a prize of the session in the near future to encourage their continuous activities. The best papers will be awarded in the upcoming NS Technical Committee meeting in October 2013.

Finally, special thanks to Prof. Yoshiaki Tanaka, who made a great contribution in call for papers, utilizing his nation-wide academic authority and human relations.

5. Reference

[1] IEICE Technical Committee on Network Systems web site, http://www.ieice.org/cs/ns/.

Report on 29th NS/IN Research Workshop

Kazuyuki Tasaka†, Kenji Hori†, Hiroto Nomura††, Yuminobu Igarashi††, Hidetsugu Kobayashi††, Tohru Asami†††, Tomonori Takeda††, Kazuhiko Kinoshita††††, Takashi Kurimoto††, Atsushi Hiramatsu†† and Shigeo Urushidani†††††

†KDDI R&D Laboratories Inc., ††NTT Corp., †††The Univ. of Tokyo, ††††The Univ. of Osaka and †††††NII,

1. Introduction

The 29th NS/IN Research Workshop took place in Okinawa, Japan, on March 6-7, 2013. The workshop was sponsored by the technical committee on Network Systems (NS) and Information Networks (IN) of the IEICE Communications Society. The workshop's aim was to discuss the technical direction and research topics for future networks. A record showing of 206 participants testified to the success of the workshop. The overall theme was "Beyond Cloud – Defining Directions for Research and Development in the SDN (Software Defined Network) age – using the experiences of Japan." The workshop featured three sessions of the invited talks.

Fig. 1 Opening speech of the workshop

2. Invited speakers

The general chair of the workshop, Shigeo Urushidani (NII), invited ten distinguished experts in cloud computing industries (Figure 1). These speakers addressed new challenges in globalization of new strategy from the viewpoint of defining new directions for research and development in the SDN age from industrial perspectives. Figure 2 and Figure 3 show photographs of the speakers in each session.

(a) Session I: Current technology related to Cloud and SDN

- Mr. Yasuhiro Horiuchi (Amazon Data Services Japan, K.K) presented the new world of IT - introduction of the Amazon Cloud -
- Mr. Takumi Mori (Juniper Networks, K.K) presented innovation of a network infrastructure derived from SDN and virtualization technology.
- Mr. Kunihiro Ishiguro (Access Co., Ltd.) discussed the latest moves in SDN.

Left : Y. Horiuchi (Amazon Data Services Japan, K.K)
Center : T. Mori (Juniper Networks, K.K)
Right : K. Ishiguro (Access Co., Ltd.)

(a) Session I

Left : K. Tanaka (NTT Data Intellilink Corp.)
Center : J. Ishii (IBM Japan, Ltd.)
Right : K. Shiomoto (NTT Corp.)

(b) Session II

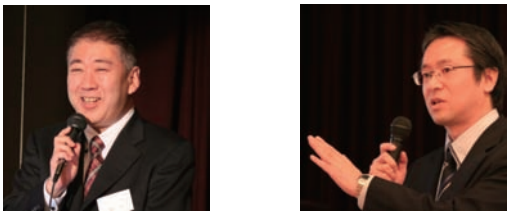
Fig. 2 Invited speakers in Session I and Session II

(b) Session II: Current big data technology

- Mr. Kazuo Tanaka (NTT Data Intellilink Corp.) discussed the latest moves in the big data analysis.
- Mr. Jun Ishii (IBM Japan, Ltd.) presented the nature and practice of the business utilization of the big data quoting the use cases.
- Dr. Kohei Shiomoto (NTT Corp.) presented an application of the big data processing technology for the analysis of network measurement data.

(c) Session III: Directions for future network research toward creation of core competence in Japan

- Mr. Jun Nisikido (NTT Corp.) presented researches and developments for future network.
- Mr. Motoo Nishihara (NEC Corp.) presented the evolution of the network architecture for big data utilization.



Left : J. Nisikido (NTT Corp.)
Right : M. Nishihara (NEC Corp.)

Left : K. Sakamoto (Hitachi, Ltd.)
Right : T. Kato (Fujitsu Laboratories Ltd.)

(c) Session III

Fig. 3 Invited speakers in Session III

- Mr. Kenichi Sakamoto (Hitachi, Ltd.) presented the innovations of the social infrastructure by cloud networking technologies.
- Mr. Tsuguo Kato (Fujitsu Laboratories Ltd.) presented the efforts toward future developments of the network.

3. Conclusion

This year's workshop invited key persons to speak on the R&D strategy of the manufacturing industry from the viewpoint of Japanese experiences. The audience filled the hall (Figure 4). We believe that the presentations given by the invited speakers and the discussion provided fruitful insight into research and development.

The technical committees on IN and NS plan to hold next year's workshop in March 2014. Finally, we would like to express our gratitude to the workshop committee members, particularly to Toshiki Usui (Oki), Naoyuki Saitou (NEC), Hiroshi Kawazoe (Toshiba), Keiichi Nakatsugawa (Fujitsu) and Ryoichi Tanaka (Hitachi) who made this workshop possible.

Fig. 4 Audience-filled hall

Report on Photonic Network Symposium 2013
– Post-100Gb/s Photonic Transport Technologies Supporting Reliable Infrastructure –

Kazushige Yonenaga
Network Innovation Laboratories, NTT Corporation

1. Introduction

Photonic Network Symposium 2013, organized by the Ministry of Internal Affairs and Communications (MIC) and IEICE Communications Society in collaboration and cosponsored by YRP R&D Promotion Committee and National Institute of Information and Communications Technology (NICT), was successfully held at YRP Hall in Yokosuka Research Park (YRP), Japan on March 12, 2013. The subject of the symposium was "Post-100Gb/s Photonic Transport Technologies Supporting Reliable Infrastructure". The cutting-edge photonic and related technologies were introduced by the distinguished guest speakers. The symposium included a panel discussion entitled "Post-100Gb/s Technology and Disaster-Resilient Network" and an exhibition displayed the results of national projects in the lobby adjacent to the conference room. The number of participants reached 205 and they joined in active discussion with speakers.

Mr. Shigeyuki Kubota, Director General of MIC made the opening address and described the national strategy of photonic technology development. Prof. Susumu Yoshida, President of IEICE gave a guest speech and stated the importance of cooperation between industry, academia and government in photonic technology evolution.

Fig. 1 Opening address by Mr. Shigeyuki Kubota (left), and guest speech by Prof. Susumu Yoshida (right).

2. Keynote and special invited speeches

Keynote speech was given by Prof. Akira Mastuzawa, Tokyo Institute of Technology. He presented the historical background, applications and cutting-edge technologies of high-speed digital/analog integrated circuit for ultra-high-speed optical and wireless communications.

Special invited speech was given by Dr. Makoto Iwase, Vice President of NICT. He introduced NICT R&D activities toward the New Generation Network. His speech included background, motivation and recent progress in research on the New Generation Network. He also presented the role of large-scale test beds from the view point of the New Generation Network and concluded with the expectation of photonic technologies.

Fig. 2 Keynote speech by Prof. Akira Matsuzawa.

Fig. 3 Special invited speech by Dr. Makoto Imase.

3. Technical session

Technical session entitled "Future Vision and Research Issues of Network" consisted of five technical lectures given by distinguished guest speakers. The first lecture was entitled "Toward Establishment of Post-100Gb/s Photonic Transport Technologies" and the speaker was Dr. Masahito Tomizawa, Group Leader of NTT Network Innovation Laboratories. He presented the successful results of 100Gb/s digital coherent technology development supported by the MIC-commissioned projects "Research and Development on High Speed Optical Transport Technologies" and "Research and Development on Ultra-high Speed Optical Edge Node Technologies". He also introduced the ongoing 400Gb/s technology development supported by the

MIC-commissioned project "Research and Development Project for Ultra-high Speed and Green Photonic Networks". The second lecture, entitled "The Latest Update of LSI Technologies Supporting Photonic Networks for Post 100Gb/s/ch and Evolving Wireless/Wired LAN Applications," was given by Dr. Lorenzo Longo, Vice President & General Manager of Broadcom Corporation. He introduced a technology roadmap of Broadcom, including 20nm technology for 100Gb/s long-haul and metro coherent transceivers. The third lecture was entitled "Toward Construction of Flexible Photonic Networks" and was given by Dr. Hiroaki Harai, Director of NICT Network Architecture Laboratory. He introduced a flexible network architecture employing optical packet/path integrated nodes. The fourth lecture, entitled "Optical Communication Technologies for Disaster-tolerant Information and Communication Network," was given by Dr. Itsuro Morita, Executive Director of KDDI Laboratories. He introduced a variable-capacity photonic network and enabling technologies for disaster recovery. The fifth lecture, entitled "Future Perspective and Research and Development Activities of Mobile Network," and was given by Dr. Kenichi Arakawa, Managing Director of Research Laboratories, NTT DoCoMo. He introduced the future evolution of the wireless access network including LTE-Advanced and Future Radio Access (FRA).

Dr. Masahito Tomizawa

Dr. Lorenzo Longo

Dr. Hiroaki Harai

Dr. Itsuro Morita

Dr. Kenichi Arakawa

Fig. 4 Technical lectures by 5 distinguished speakers.

4. Panel discussion

Panel Discussion was led by distinguished guests including Prof. Akira Matsuzawa, keynote speaker, Dr. Makoto Imase, special invited speaker, and the above mentioned five distinguished lecturers with guidance by the Moderator, Prof. Kenichi Kitayama, Osaka University, and the Chairperson of Photonic Internet Forum. Title of the panel discussion was changed that instant to "Post-100Gb/s Technology and Disaster-Resilient Network" at Prof. Kitayama's discretion. The topics included what is an ultimate target, issues to be challenged, LSI roadmap, position of Japan in global competition for post-100Gb/s technology, and included what services the survivors want, how the communication infrastructure is changing and cooperation of optical and mobile networks for disaster-resilient network.

Fig. 5 Prof. Kenichi Kitayama, organizing the session.

Fig. 6 The panel discussion moderated by Prof. Kitayama.

5. Exhibition

Eight organizations; NTT, NEL, NEC, Fujitsu, Mitsubishi Electric, Hitachi, Oki Electric and NICT exhibit significant outcomes of photonic transmission technologies as the result of MIC-commissioned research projects.

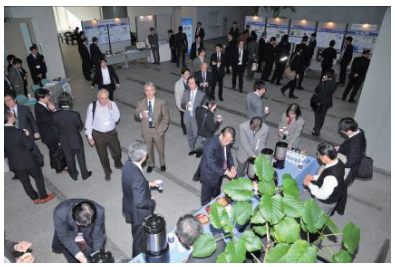


Fig. 7 Participants discussing research outputs at the exhibition sites

6. Conclusion

Photonic Network Symposium 2013 was successfully held at YRP. State-of-the-art technologies for realizing post-100Gb/s photonic transport systems were detailed by the distinguished speakers. Disaster-resilient networks and the other issues were also discussed with eager audience.

Mr. Shingo Omori, Vice President of YRP R&D Promotion Committee gave the Closing Remarks of the Symposium.

Report on the 5th IEICE Communications Society (CS) Welcome Party

Michiharu Nakamura, Shigenori Hayase, Fumio Futami, Satoshi Ohzahata, Hidetoshi Kayama and Tetsuya Yokotani
IEICE-CS Directors, Planning and Member Activities

1. About Welcome Party

Welcome Party is one of IEICE-CS major activities that is held at IEICE General Conference. The objective of this party is to provide for young engineers especially students with a good opportunity to meet and talk friendly with experienced researchers and engineers in various organizations. It had been held at Society Conferences in September since its beginning in 2008 until the last one in 2011. However, considering school year in Japan (starts in April), we moved it at General Conferences in March so that it can help students to think about their possible engineering carrier just before starting their new school year.

2. Welcome Party at 2013 General Conference

The 5th Welcome Party was held on 19th March 2013, the first day of IEICE General Conference at Gifu university. We had 197 participants including 66 students. The party began with a welcome message from CS president, Prof. Yoshiaki Tanaka (Fig. 1). Then it was followed by speeches by industry engineers and IEICE-CS Technical Committees. Speeches from industry engineers gave interesting advices based on speaker's experiences(Fig. 2). IEICE-CS Technical Committee system is briefly introduced by CS Vice President, Dr. Soichiro Araki (Fig. 3) and three Technical Committees (MoMuC(Now MoNA), OCS and ICM) gave presentations on their research fields and activities (Fig. 4). After all speeches and presentations, the second part of the party started with a toast from CS Vice President Prof. Masahiro Umehira (Fig. 5), where foods and drinks were served. During the second part, all participants enjoyed food and drinks as well as free talk and discussion at the poster panels (Fig. 6), which are prepared by 12 companies that are active in IEICE-CS and 17 Technical Committees (Fig. 7). Finally, CS President-Elect (current CS President), Prof. Iwao Sasase concluded the party (Fig. 8).

Fig. 2 Speeches from industry engineers

Fig. 1 Welcome Message from Prof. Yoshiaki Tanaka

Fig. 3 Introduction of IEICE-CS Technical Committees from Dr. Soichiro Araki

3. Conclusion and Acknowledgement

The 5th Welcome Party was successfully held with 197 participants at 2013 IEICE General Conference at Gifu university. We would like to thank all participants, especially from companies and Technical Committee members that gave speeches and/or prepared poster panels to young researchers. We hope to have their cooperation again in the next Welcome Party which will be held in March 2014 at 2014 IEICE General Conference at Niigata university.

Fig. 4 Presentations from Technical Committees

Fig. 5 Toast from CS Vice President Prof. Masahiro Umehira

Fig. 6 Talk and discussion at poster panels

Fig. 7 Enjoying food and drinks

Fig. 8 Concluding remarks from CS President-Elect (current CS President), Prof Iwao Sasase

Annual Report of Technical Committee on Information Networks – 30th Anniversary Year –

Kazuyuki Tasaka† and Kenji Hori†, †KDDI R&D Laboratories Inc.

1. Introduction

The technical committee on Information Networks (IN) is one of technical committees of the Communications Society of the IEICE [1]. The IN addresses a broad spectrum of issues associated with information networks and provides a forum for researchers and engineers to discuss various research and development topics. 2012 is the 30th anniversary year for the IN.

The chairman is Prof. Tohru Asami of the Univ. of Tokyo. The vice chairman is Mr. Hidetsugu Kobayashi of NTT Corporation. The secretaries are Mr. Kenji Hori of KDDI R&D Laboratories Inc. and Mr. Yuminobu Igarashi of NTT Corporation. The assistant secretaries are Dr. Kazuyuki Tasaka of KDDI R&D Laboratories Inc. and Mr. Hiroto Nomura. This document presents the IN's annual report for activities from April 2012 to March 2013.

2. IN Activities

The IN is one of the most active technical committees of the IEICE Communications Society. The IN held technical meetings 10 times from April 2012 to March 2013 as shown in Table 1. Some meetings are co-organized with other technical committees such as RCS, NWS, NV, NS, CS, MoMuC and IA.

Many researchers participated in the meetings and reported their latest technical research and development results. The venues and the main topics of each meeting are shown in Table 1. The proceedings are published as "The Technical Report of the IEICE".

Authors of selected papers have received Information Networks Research Awards, the ceremony of which is held in March every year. This year, the following 3 excellent papers were selected from 220 papers (Figure 1).

- Hiroshi Yoshida and Kozo Satoda, "Stationarity Analysis and Prediction Model Construction of TCP Throughput by using Application-Level Mechanism".
- Masashi Toyama, Hiroto Nomura and Junichi Murayama, "A Study of Paper Attribute Analysis on Information Networks".
- Yusuke Sakumoto and Masaki Aida, "An Autonomous Decentralized Mechanism for Generating System Global Order by Using Deterministic Action-Rule Based on Random Utility Theory".

Fig. 1 Winners of IN Research Award (from left to right) M. Toyama, H. Yoshida, T. Asami (Chairman), H. Kobayashi (Vice chairman), Y. Sakumoto, H. Nomura, J. Murayama

Fig. 2 Dr. Akiyama's Opening Speech for the 30th Anniversary Event

3. 30th Year Anniversary Event

We also hosted special sessions (13 invited talks) for the 30th anniversary of the IN at the University of Tokyo in October 2012 in conjunction with the 5th New-Generation NW symposium [2]. The event was held under the auspices of the NICT. The IN's first chair, Dr. Minoru Akiyama, took a look back over thirty years of IN in the opening speech (Figure 2).

Invited talks in the special sessions are as follows:

- Nozomu Nishinaga and Masahiro Kiyokawa (NICT), "Current Status of New Generation Network Research and Development".
- Ryutaro Kawamura and Atsushi Hiramatsu (NTT), "Flexible Networking Technologies for Future Networks".

- Yoshihiko Uematsu, Akeo Masuda, Takashi Miyamura and Atsushi Hiramatsu (NTT), "Flexible Virtualized Optical Transport Networking Technology".
- Takeshi Fukumoto, Etsuko Katayama and Kiyoshi Ueda (NTT), "Toward future network control nodes".
- Osamu Akashi and Seiki Kuwabara (NTT), "Measurement Technology for Highly Programmable Networks".
- Kazuhisa Yamada, Hiroyuki Tanaka, Noriyuki Takahashi and Ryutaro Kawamura (NTT), "Integrated Management of Networks and Information Processing for Future Networks".
- Shuichi Okamoto, Nobutaka Matsumoto, Keisuke Kuroki, Takahiro Miyamoto, Kenichi Ogaki and Michiaki Hayashi (KDDI R&D Labs.), "Network Resource Control and Management Technologies for the Federation and New Generation Services".
- Katsushi Kobayashi (AICS), "Rethinking network architecture with parallelization".
- Yoshiaki Kiriha (NEC), "Towards Design and Implementation of SDN based Social Cloud Infrastructure".
- Yasusi Kanada, Kei Shiraishi (Hitachi) and Akihiro Nakao (U. Tokyo), "Inter-Virtual-Node and Slice-to-External-Network Connection Function in the Network Virtualization Platform".
- Yoshihiro Nakahira (OKI), "Applications for Software Defined Network Technologies on Edge Networks in the Future Network".
- Motonori Shindo (VMware), "OpenFlow/SDN and Network Virtualization".
- Dan Mihai Dumitriu (Midokura), "Virtual Networking for IaaS Clouds".
- Hisashi Onaga (Ministry of Internal Affairs and Communications), "Future Direction of ICT Research and Development Policies".

We also held an interactive panel discussion regarding the perspective for the information networks and R&D strategies to make improvements to it.

Reference

[1] Technical Committee on Information Networks, http://www.ieice.org/cs/in/eng/.
[2] 5th New-Generation NW symposium, http://www.prime-pco.com/5th_symposium/.

Table 1 Technical meetings in FY 2012

Date,	Venue,	Main topics,	No. of reports,	No. of participants each day,
Apr. 12-13	Kyotofu-Chusho-Kigyo-Kaikan (Kyoto)	Home network (NW), Smart Grid, Saving Energy, M2M, Participatory Sensing, Mobile NW, Ubiquitous NW, etc.	11	25, 19
May. 17-18	Tokyo Institute of Technology (Tokyo)	Wireless Internet, Multi-hop NW, Mesh NW, Network coding, Cross layer technique, Wireless communication, etc.	12	57, 64
Jun. 21-22	Hakodate-Shimin-Kaikan Bldg. (Hokkaido)	Quality Controls, Congestion Control, Reliability Technology, IPTV, Contents NW, etc.	9	32,31
Jul. 19-20	Hokkaido Univ. (Hokkaido)	New/Next Generation NW, NW/System Virtualization, Management/Monitoring for Virtualization Environments, Overlay, IPv6 NWs, Photonic NW, etc.	16	47, 44
Sep. 20-21	Tohoku Univ. (Miyagi)	Post IP Networking, Next Generation NW, NW Model, Internet Traffic, TCP/IP, Multimedia Communication, NW Management, Resource Management, Private NW, NW Security, etc.	26	105, 53
Oct. 10-12	Tokyo Univ. (Tokyo)	Resilient NW, Disaster Recovery, BCP, Temporary NW Construction, Power-Saving NW Technology, TCP/IP, Protocol, Routing, NW Management, Authentication/ID Management, etc.	40	85, 28
Nov. 21-22	Fukuoka Institute of Technology (Fukuoka)	Home NW, Ubiquitous NW, Cloud comp., Context aware, Location aware service, E-commerce, etc.	12	44, 40
Dec. 13-14	Hiroshima City Univ. (Hiroshima)	Internet and Reliability, Quality Controls, Measurement, Monitoring, Security, Traffic Theory, etc.	16	51, 55
Jan. 24-25	Kagoshima-Ken-Sangyo-Kaikan (Kagoshima)	Social NWs, Security Management, Information and Communications for Disaster, Overlay NWs, P2P NWs, Autonomous Distributed NWs, etc.	16	31, 26
Mar. 7-8	Okinawa Zanpamisaki Royal Hotel (Okinawa)	General topics and workshop	62	207, 118

Annual Report of Technical Committee on Information and Communication Management (ICM)

Takeshi MASUDA, Kiyohito YOSHIHARA, Yuji NOMURA
Committee Secretary, IEICE ICM

1. Introduction

The technical committee on ICM (Information Communication Management) is a technical committee of the Communications Society of the IEICE [1]. This article briefly reports the last year's activities of ICM, and introduces the upcoming English Session.

2. Activities

The ICM held two-day technical meetings 5 times from May 2012 to March 2013. The venues and the main topics of each meeting are shown in Table 1. In addition, 3 special sessions were sponsored by ICM as shown in Table 2.

Of particular note, in the English Session in 2012 IEICE Society Conference at University of Toyama, the number of papers reached 47 in total. This session was hosted and presented entirely in English. The purpose of this Session is to promote the globalization of IEICE by providing the participants staying in Japan or joining from overseas with more opportunities for presentations and discussions in English.

Furthermore, ICM Workshop 2013 was held in Yakushima (Kagoshima pref.). In the panel session, five invited speakers presented and discussed the theme, to the obvious interest of the more than 50 attendees. A banquet was held to promote social intercourse, and at the same time, to celebrate the ICM annual award winners in 2012.

Table 1 ICM Technical Meetings in 2012

No.	Date,	Venue,	Main topics,	Joint,
1	May. 10-11	Akita Univ. (Akita)	Service Management, Operation/Administration, Security Management	IPSJ-IOT, IPSJ-CSEC
2	Jul. 12-13	Otaru Citizen Hall (Hokkaido)	Management Function, Management Theory	–
3	Nov. 15-16	Nagahama Inst. of Bio-Science and Tech. (Shiga)	Network Quality, Network Management and Measurement, Network Virtualization	CQ, NS
4	Jan. 17-18	Saga Citizen Hall (Saga)	Applications and Research Opportunities of LifeLog, Office Information System and Business Management	LOIS
5	Mar. 14-15	Yakushima Environmental Culture Village Center (Kagoshima)	Element Management, Management Functionalities, Operations and Management Technologies	–

Table 2 Special Sessions by ICM in 2012

Title	Date,	Remarks	Thema
English Session	Sep. 11-14	as one of Symposium Session in IEICE Society Conference	Network and Service Design, Control and Management
APNOMS	Sep. 25-27	the premier conference in the Asia Pacific region sponsored by ICM	Management in the Big Data & IoT Era
ICM Workshop	Mar. 14	held in conjunction with ICM Technical Committee Meeting 5th	ICT Management of the Mass Contents Service Era
Tutorial Session	Mar. 21	as one of Symposium Session in IEICE General Conference	Realization / Application Case-Study and Management Techniques of SDN

Fig. 1 Annual Award Ceremony at Yakushima

3. Awards and Upcoming Event

The winners are shown in Table 3. The English Session Encouragement Award is given to the author of the best papers of English Session, every year. ICM committee is now calling for submission for the upcoming English Session; the deadline is July 3 [1].

4. Reference

[1] ICM, http://www.ieice.org/~icm/eng/

Table 3 Winners of ICM Awards in 2012

Award	Awardess	Title
Research Award	Manabu Nishio, et al.	A Study on TM Forum SID-based Data Modeling
	Masanori Yamazaki, et al.	A Service Provision Method for Service Platform Unified with Network Control
English Session Encouragement Award	Yunlong Feng	Evolution of Eye Movement Classification for Interactive Streaming System

IEICE-CS Related Conferences Calendar

Date	Conference Name	Location	Note
13 May - 16 May 2014	2014 International Symposium on Electromagnetic Compatibility (**EMC'14/Tokyo**)	Tokyo Japan	Submission deadline: 31 Aug. 2013
12 Dec. - 15 Dec. 2013	2013 IEEE Electrical Design of Advanced Packaging & Systems (**EDAPS2013**)	Nara, Japan	Submission deadline: 25 June 2013
23 Oct. - 25 Oct. 2013	2013 International Symposium on Antennas and Propagation (**ISAP2013**)	Nanjing, China	Submission deadline: 10 June 2013
14 Oct. - 17 Oct. 2013	17th International Conference on Intelligence in Next Generation Networks (**ICIN2013**)	Venice, Italy	Submission deadline: Closed
14 Oct. - 16 Oct. 2013	International Conference on Information and Communication technology Convergence 2013 (**ICTC2013**)	Jeju Island, Korea	Submission deadline: 5 July 2013
30 Sep. 2013	TeleManagement Forum Tokyo Spotlight 2013 (**TM Forum Tokyo Spotlight 2013**)	Tokyo, Japan	To be held **soon**
25 Sep. - 27 Sep. 2013	Asia-Pacific Network Operations and Management Symposium 2013 (**APNOMS 2013**)	Hiroshima, Japan	To be held **soon**
29 Aug. - 31 Aug. 2013	The 19th Asia-Pacific Conference on Communication (**APCC2013**)	Bali Island, Indonesia	To be held **soon**
08 Jul. - 10 Jul. 2013	IEEE Photonics Society 2013 SUMMER TOPICALS Meeting Series Space-Division Multiplexing for Optical Communication (**IEEE Summer Topicals 2013**)	Hawaii, USA	To be held **soon**
01 Jul. - 05 Jul. 2013	18th OptoElectronics and Communications Conference / International Conference on Photonics in Switching 2013 (**OECC/PS2013**)	Kyoto, Japan	To be held **soon**
30 Jun. - 05 Jul. 2013	The Pacific Rim Conference on Lasers and Electro-Optics 2013 (**CLEO Pacific Rim 2013**)	Kyoto, Japan	To be held **soon**
29 May - 31 May 2013	2013 IEICE Information and Communication Technology Forum (**2013 IEICE ICTF**)	Sarajevo, Bosnia and Herzegovina	Done
20 May - 23 May 2013	URSI Commission B 2013 International Symposium on Electromagnetic Theory (**EMTS2013**)	Hiroshima, Japan	Done
19 Feb - 22 Feb 2013	The third ENRI International Workshop on ATM/CNS (**EIWAC2013**)	Tokyo, Japan	**Reported** on this issue
28 Jan - 30 Jan 2013	The 27th International Conference on Information Networking (**ICOIN2013**)	Bangkok, Thailand	**Reported** on this issue

Please confirm with the following IEICE-CS web site for the latest information.
http://www.ieice.org/cs/conf/calendar.html

Report on ICOIN2012 and 2013

Hiroshi Yamamoto † and Kohta Ohshima ‡
† Nagaoka University of Technology
‡ Saitama Institute of Technology


1. Introduction

The International Conference on Information Networking (ICOIN), http://www.icoin.org, is an international conference sponsored by Korean Institute of Information Scientists and Engineers (KIISE). ICOIN has been held for more than 20 years and keeping a good presentation as an international conference in network and application area. Technical Committee of Internet Architecture (IA) was advised by KIISE members to support ICOIN activities, and has decided to have technical co-sponsorship of IEICE Communications Society to ICOIN from 2012. Support of IA members to ICOIN includes a distribution of Call For Papers, paper reviews and so on.

The 26th ICOIN (ICOIN2012) was held in Bali, Indonesia, for 1-3 February 2012, and the 27th ICOIN (ICOIN2013) has held in Bangkok, Thailand, for 27-30 January 2013.

2. ICOIN2012

The ICOIN2012 was originally planed to be held in Bangkok, Thailand. However, the Organizing Committee decided to change the conference location to Bali, Indonesia during the review process because of the floods in Bangkok. As a result, the attendees have enjoyed the conference in the beautiful Bali Island.

Statistics of the conference is summarized in Table1. As shown in this table, many papers were submitted to the conference from all over the world, and each paper was reviewed by at least three expert researchers. The review process was carefully managed by EDAS (http://edas.info). After the review, total 104 papers were accepted for the oral and poster presentation, hence total acceptant ratio of the ICOIN2012 was 45%. The accepted 53 oral papers were categorized into 10 technical sessions, and the sessions were held in two parallel tracks. The tracks covered a wide variety of topics including “Mobile/Wireless and Sensor Networks”, “Internet and Web Applications”, “Network and Service Management”, etc.

Table 1 Statistics of ICOIN2012

Total number of submissions	230 (28 countries)
Number of accepted papers (oral)	53 (23%)
Number of accepted papers (poster)	51 (22%)

The conference was started with the three tutorial sessions. In the first tutorial, Prof. Souhwan Jung, Soongsil University, introduced key security issues on WLAN access and presented recent research trends for detecting rogue APs. The second tutorial by Prof. Xu Huang, University of Canberra, addressed resent research topics about controllable resiliency of WSNs for protecting from internal attacks. The third tutorial by Prof. Kyung-Joon Park, DGIST, addressed an overview of Cyber Physical Systems. After the tutorials, the keynote speech was given by Prof. Yanghee Chot, Seoul National University. The keynote was about an “OEPN” strategy for innovation in the future Internet.

The oral and poster presentations were performed for three days. The presentations were taken by not only Korean researchers but also many non-Korean researchers (As shown in Table 1, the papers were submitted from 28 countries). Therefore, I felt that the ICOIN has been recognized by the researchers as one of the international conferences in the ICT field.

On the second day, we enjoyed the banquet where Indonesian cuisine was offered and Indonesian traditional dance was performed. However, the banquet was held outside as shown in Fig. 2 and February is the rainy season in Bali. Unfortunately, the banquet was suddenly finished because of a squall. This was only one regrettable thing in the ICOIN2012.


Fig. 1 Conference room of ICOIN2012


Fig. 2 Banquet in ICOIN2012

3. ICOIN2013

The ICOIN2013 was held from January 27th to 30th, 2013 at Chatrium Hotel Riverside Bangkok in Bangkok, Thailand with 173 attendees (Fig.3). Since the ICOIN2012 could not be held at Bangkok, the venue was selected for this year.

Statistics of the conference is summarized in Table 2. As shown in this table, many papers were submitted to the conference from all over the world, and each paper was reviewed by at least three expert researchers. The review process was carefully managed by EDAS. After the review, total 128 papers were accepted for the oral and poster presentation (from 22 countries such as Thailand, USA, Japan, Korea, Australia, Tunisia, China, Germany, Brazil, Finland, South Africa, Singapore, Taiwan, Libya, Slovakia, Portugal, India, Egypt, Turkey, Bangladesh, France, and Saudi Arabia), hence the total acceptant ratio of the ICOIN2013 was 44%. 67 accepted oral papers were categorized into 12 technical sessions, and the sessions were held in two parallel tracks.

The tracks covered a wide variety of topics including Wireless, Mobile, Sensor Network, Cloud Computing, Internet, QoS, Security, etc. The half of tracks mainly focuses on the issues of wireless.

Table 2 Statistics of ICOIN2013

Total number of submissions	294 (31 countries)
Number of accepted papers (oral)	67 (23%)
Number of accepted papers (poster)	61 (21%)

The conference started with Welcome Meeting on the first day. Following two tutorials and one keynote speech were conducted from the second day:

Tutorial 1:

- Spectrum Sharing and Aggregate Interference in Wireless Networks, Prof. Seong-Lyun Kim, Yonsei University, Korea

Tutorial 2:

- Participatory Sensing: Crowdsourcing Data from Urban Spaces using Mobile Phones, Prof. Salil Kanhere, University of New South Wales, Australia

Keynote

- Towards WiFi Services using TV White Space, Prof. Choongseon Hong, Kyung Hee University, Korea (Fig.4)

Fig. 3 Conference venue in ICOIN2013

The tutorial 1 was argued in regard to efficient spectrum sharing for maximizing the area capacity in wireless network. The tutorial 2 was discussed in respect to the participatory sensing of urban area users with smartphones in wireless sensor network. The presenter also argued that smartphones are suitable for the urban sensing with high performance, programmability, application distribution and cloud sourcing data. He introduced EarPhone for noise map facilitates monitoring of environmental noise pollution in urban areas. In the keynote speech, Prof. Hong talked about utilizing TV white space for off-loading mobile Internet traffic, and also introduced the activities of IEEE and IETF.

The oral and poster presentations were performed for three days. It seems to me that the ICOIN2013 has become more significant, international conference where the latest information on a wide range of research themes being discussed.

The best paper awards of ICOIN2013 are as follows:

- Movement Path Estimation for Multiple Humans in a Room Using Binary Infrared Sensors, Yuki Kasama (The University of Aizu, Japan), et al.
- Energy-efficient Flow Control and Routing for Clustered Wireless Sensor Networks, Soo-Hoon Moon (Yonsei University, Korea), et al.

On the third day, we also enjoyed the banquet where Thai cuisine was offered and Thai traditional dance was performed (Fig.5). All participants enjoyed food and dance and talking about research.

Fig. 4 Keynote speech in ICOIN2013

Fig. 5 Banquet in ICOIN2013

4. Conclusion

ICOIN2014 is announced to be held in Ho Chi Minh City, Vietnam. The Technical Committee of IA will continue to support ICOIN technically and hope more submissions from Japan, particularly from members of Communications Society.

EIWAC2013 - Drafting future sky

Shigeru Ozeki
Electronic Navigation Research Institute

1. Introduction

The third ENRI International Workshop on ATM/CNS 2013 (EIWAC 2013) was held at Miraikan Tokyo Japan from February 19th to 22nd, 2013, in cooperation of Communication Society of IEICE. After successful meetings in 2009 and 2010, ENRI organized this conference with its theme as "Drafting future sky".

Fig. 1 Presentation by Ms. Nancy Graham, ICAO

There is worldwide activity in research and development of modern air traffic management (ATM) and its enabling technology in Communication, Navigation and Surveillance (CNS). In the Asian countries, pioneering work is necessary to contribute to the global harmonization of all air-transportation services as well. At this workshop, leading experts from research, industry and academia met to share their ideas and their approaches.

Finally, 539 participants with including 77 international participants have enjoyed discussion at conference.

The workshop is kindly supported by Japan Civil Aviation Bureau (JCAB), Japan Society for Aeronautical and Space, Science (JSASS), the Japan Institute of Navigation (JIN), the Institute of Positioning, Navigation and Timing (IPNTJ), and Japan Aerospace Exploration Agency (JAXA).

In preparation for EIWAC2013, the international members for technical program committee, Mr. Jean-Marc Loscos (DSNA, French Air Navigation Service Provider), and Dr. Dong-Ming Kim (Korean Aerospace Research Institute, KARI) made great contributions to assign papers for technical sessions with considering the activation of discussion on site.

2. Opening Ceremony and Plenary sessions

EIWAC2013 started with the opening address by Mr. Chikayoshi Hirasawa, the president of ENRI, and the greeting words from Mr. Masashi Omoda, Director of Air Navigation Services Department, Japan Civil Aviation Bureau.

The plenary sessions are organized with invited speakers to provide a forum for exchanging opinions for future air traffic management and to introduce the background information of technical requirements to researchers.

This time, Ms. Nancy Graham, Director of Air Navigation Breau, International Civil Aviation Organization (ICAO/ANB), had her presentation on the results of the 12th Air Navigation Conference (AN-Conf/12), as well as what we view as a series of next steps to bring this new vision into operational reality (Fig.1). The AN-Conf/12 is one of the largest conferences organized by ICAO to exchange the opinions on directions to harmonize the future improvements of civil aviation internationally. This presentation suggests various research topics in such as improvements of airspace management, aircraft operations and supporting automations with including communications, navigation, surveillance and information technologies.

There are presentations on the projects in the world to modernize radio or information systems for the future air traffic services. Mr. Mel Reeves (Federal Aviation Administration), Mr. Patrick Souchu (EUROCAE) and Dr. Kazuo Yamamoto (ENRI) reported on the status for each projects, NextGEN in USA, SESAR in Europe and CARATS in Japan.

Mr. Martin Eran-Tasker, Association of Asoa Pacific Airlines, introduced the opinions from airlines and pilots in Asian region with requesting the seamless air traffic managements.

Mr. Yoichi Nakamura introduced the challenges to develop a regional jet aircraft, MRJ, with its features and his perspectives for future onboard systems.

Participants enjoyed the chance for discussions with these opinion leaders after each presentation.

3. Panel Discussion

"Future ATM: centralized, decentralized or best mix" is the theme of panel discussion for this time (Fig.2). I, as the moderator, introduced the back ground information with some research topics on the airborne surveillance application for self-separation control for flexible operation and the centralized air traffic

trajectory control for efficient operation. Four panelists discussed on the future air traffic management methodology.

Dr. Shin-ichi Suzuki had his short presentation about the effect of wind speed variance on to aircraft dynamics. His key word was “ask the wind on future trajectory” with pointing out the problem of uncertain result of estimated trajectory.

Mr. Patrick Souch, EUROCAE, explained the various aspects of design balance for future ATM. He also explained some thoughts as one of the project leaders in DSNA, the French Air Navigation Service Provider, as that the balance of design of infrastructure for air traffic managements will depend on the property

Fig. 2 Panel Discussion on future ATM

of considering airspace such as density of aircraft, flight phase, complexity of air routes crossings and so on. In addition, operational safety analysis will be required to assure that the airspace management meets the safety requirements by ICAO or by local civil aviation authority.

Mr. Blair Cowles, International Air Transport Association, IATA, had a short talk on the requirements for future air traffic managements from aircraft operators. The maximum utilization of existing avionics is required by the most member operators of IATA.

Dr. Todd Lauderdale, NASA, introduced the related researches and trials in NASA. He mentioned that local optimization is not always the solution for global optimization and that localization of any unexpected failure of management is essential.

Questions from floor and very active discussions gave us the opportunity to exchange with the opinion leaders in the world.

4. Technical Sessions

There are 42 presentations in 12 technical sessions with including a tutorial session and a poster session. In addition, a special session is organized to have 3 presentations by invited speakers from IATA, NASA and the French Civil Aviation Authority. Even under the hard economic conditions, 32 international presenter show for this conference with their colleagues. They came from USA, Europe, Korea and Thailand.

The papers and presentations for technical sessions are in the research areas with including ATM Modeling and Performance, Trajectory Management, Airport Management, Communication/Navigation/Surveillance, Safety, Human Factors, Avionics, Traffic Capacity & Congestion Management, GNSS and related topics, Performance-based Operations UAV/UAS, Aviation Weather and so on. Especially, two special sessions were organized for the effect of anomalies in ionosphere on the satellite navigation performance and for the innovative technologies for future ATM such as Radio on Fiber.

EIWAC2013 is organized to encourage the students in related areas.

Prof. Daniel Delahaye, ENAC, French National Aviation University, kindly proposed to have tutorial session on the mathematic models for aircraft trajectory design. The tutorial session is filled with participants to discuss on the recent survey by lecturer.

EIWAC organizing committee thanks for the contributions at exhibitions by many research groups manufacturers and Japan Civil Aviation Bureau.

5. For Future Meetings

EIWAC2013 was closed successfully. The conference provided the chance for technical discussion and, in addition, for exchanges on the future cooperative research with various groups in the world.

The papers are distributed onsite by electronic means with attached the printed program and abstracts [1].

ENRI plans to publish the selected papers from this conference material under the contract with Springer for worldwide distribution.

The next EIWAC will be in 2015 with hoping that our activity will contribute for providing the chance of researcher’s exchanges in air traffic management, communication, navigation and surveillance related studies.

Fig. 3 Discussions after Presentation

6. Reference

[1] ENRI, “Abstracts of EIWAC2013”, February, 2013.

Special Section Calendar of IEICE Transactions on Communications

Issue	Special Section	Note
Mar. 2014	Information and Communication Technology for Medical and Healthcare Applications in Conjunction with Main Topics of ISMICT2013	Submission due**:** 1 July 2013 **See page 28**
Feb. 2014	Technologies for Effective Utilization of Spectrum White Space	Submission due**:** 5 June 2013 **See page 27**
Jan. 2014	Management for Flexible ICT Systems and Services	Vol. E97-B, No. 1
Dec. 2013	Network and System Technologies for Sustainable Society	Vol. E96-B, No. 12
Nov. 2013	Progress in Information Network Science	Vol. E96-B, No. 11
Oct. 2013	Recent Progress in Antennas and Propagation in Conjunction with Main Topics of ISAP2012	Vol. E96-B, No. 10
Sep. 2013	No special section	
Aug. 2013	No special section	
Jul. 2013	Internet Architectures, Protocols, and Management Methods that Enable Sustainable Development	Vol. E96-B, No. 7
Jun. 2013	Heterogeneous Networks for Future Cellular Systems	Vol. E96-B, No. 6
May 2013	No special section	
Apr. 2013	No special section	
Mar. 2013	No special section	
Feb. 2013	Quality of Communication Services Improving Quality of Life	Vol. E96-B, No. 2
Jan. 2013	Network Virtualization, and Fusion Platform of Computing and Networking	Vol. E96-B, No. 1
Dec. 2012	Coding and Coding Theory-Based Signal Processing for Wireless Communications	Vol. E95-B, No. 12
Nov. 2012	Satellite Communication Technologies in Conjunction with Main Topics of JC-SAT2011	Vol. E95-B, No. 11
Oct. 2012	Medical Information Communication Technology for Disaster Recovery and Human Health Care Support	Vol. E95-B, No. 10

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---- Special Section on Technologies for Effective Utilization of Spectrum White Space ----

The IEICE Transactions on Communications announces that it will publish a special section entitled "Special Section on Technologies for Effective Utilization of Spectrum White Space" in **February 2014.** Spectrum scarcity is one of the significant problems for emerging wireless services, and it requires urgent solution. Among the approaches proposed to tackle this problem, cognitive radio techniques have been paid much attention for enabling the utilization of the television (TV) white space. In this approach, for the effective utilization of TV white space and protection of TV receivers, high accuracy/reliable environment recognition techniques, and dynamic spectrum management/allocation technique have been investigated. In addition, for enabling TV white space utilization by cognitive radio network, development of laws, and discussions among TV operators, regulatory agencies and emerging wireless service providers are required. For utilizing the white spaces also in other bands than the TV bands, fundamental investigations from information theoretic aspects, investigations of applications of white space and implementation/experiment techniques are also required. Because of these reasons, a special section is being planned (scheduled to appear in the February 2014 issue) to further promote research and development of technologies for effective utilization of spectrum white space which is not limited to TV white space.

1. Scope

The general scope of this section includes, but is not limited to, the following:

- Experimental prototypes/Measurement results/Modeling for effective utilization of spectrum white space
- Architecture and Implementations/Hardware issues/Software defined radio
- Spectrum sensing/measurement for effective utilization of spectrum white space
- White space database/Radio environment map
- Resource management/sharing/allocation for effective utilization of spectrum white space
- PHY/MAC layer techniques for effective utilization of spectrum white space
- Network issues for effective utilization of spectrum white space
- Security issues for effective utilization of spectrum white space
- Information theory for effective utilization of spectrum white space
- Applications of white space (sensor network, intelligent transportation system, cellular system)
- Regulations and standardizations (IEEE 802.22, 802.11af, 802.19, P1900.4a)

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The IEICE Transactions on Communications announces that it will publish a special section entitled "Special Section on Information and Communication Technology for Medical and Healthcare Applications in Conjunction with Main Topics of ISMICT2013" in **March 2014**).
Recently information communication technologies for medical and healthcare applications have been recognized as an emerging area in an ageing society. In February 2012, the IEEE 802.15 task group (TG) 6 for body area networks (BAN) has finalized a standard for various short range wireless applications in the vicinity of humans. The BAN commercial products are being developed and currently coming out to the market. The 2013 International Symposium on Medical Information and Communication Technology (ISMICT2013) will be held in Tokyo, Japan during March 6~March 8, 2013, which aims at providing an international forum for exchanging information on recent progress of research and development in information and communication technology in medical and healthcare applications. In conjunction with main topics of ISMICT2013, the special section is planned to publish papers on the related fields. The special section particularly calls for submission from, but not limited to, the authors of ISMICT2013.
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- Healthcare remote monitoring and wireless medical telemetry services
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Academic Background

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

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

Application Information

Membership: I want to apply for the following membership*:

☐Member ☐Member (including Japanese Journal subscription)
☐Student Member ☐Student Member (including Japanese Journal subscription)

**Membership applies only to applicant who reside outside of Japan and who have non-Japanese citizenship.*

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

Society registration (Membership fee** includes one Society of Transaction of Online version.):

☑B: Communications

***Discount rate is applied to this IEICE-CS Sister Society Member's application.*

---------- *Discount rate is not applied for the following optional items.* ----------

Additional Society (optional): ☐A: Engineering Sciences ☐C: Electronics ☐D: Information and Systems

Additional Transactions of paper version (optional):
☐EA: Fundamentals ☐EB: Communications ☐EC: Electronics ☐ED: Information and Systems
☐A: Fundamentals (Japanese) ☐B: Communications (Japanese) ☐C: Electronics (Japanese) ☐D: Information and Systems (Japanese)

Remittance

Remittance is available only in *Japanese yen* by a *credit card*.

Admission charge……¥_____ Journal subscription (optional)……..¥ _____
Annual charge…… ¥_____ Mailing option: ☐Air mail……..……¥_____
Additional Society (optional) …… ¥_____ ☐SAL mail……¥_____
Additional Transactions (optional)……..…¥_____ **Total……....……¥** _____

Credit Card: ☐UC ☐Master Card ☐VISA ☐JCB ☐American Express

Card number: | | | | | | | | | | | | | | | |

Expiry date: _____/_____ Credit Card Holder: _____ Signature: _____
Year Month

Endorsement

The following endorsement for this Sister Society member's application will be given by an IEICE-CS director (any related action of endorsement by applicant is not necessary if a copy of your Sister Society Membership certificate or card is indicated).

I recommend this applicant for IEICE membership.

(Director of Planning and Member Activities, IEICE-CS)

Endorser's name Membership number Endorser's signature Date

IEICE Communications Society - GLOBAL NEWSLETTER Submission Guideline

First version in only Japanese: May 30, 2008
Second version in only Japanese: Feb. 13, 2009
Third version in only Japanese: Jul. 22, 2010
Forth version in English and Japanese: Mar. 8, 2011

1. About GLOBAL NEWSLETTER

The Institute of Electronics, Information and Communication Engineers Communications Society (IEICE-CS) GLOBAL NEWSLETTER has been established since 2002. We quarterly publish an English newsletter every March, June, September, and December.

1.1. Goal

Our goal is to share information between overseas/foreign members and other members in IEICE-CS as a global activity, and to show IEICE presence internationally.

1.2 Articles

This newsletter includes many articles such as messages from IEICE-CS President/Vice President, IEICE-CS activities, IEICE-CS sponsored conferences reports, essays, laboratory activity reports, technology reports, messages from overseas/foreign members, call for paper/participation, and etc.

1) Messages from President/Vice President
- An inaugural message from CS President is published once per year in June. That from CS Vice President is published properly.

2) IEICE-CS activities now
- IEICE General/Society Conference participation/reports
- Technical committee reports
- International activities on society

3) IEICE-CS Sponsored Conferences Report
- IEICE-CS sponsored/co-sponsored/technically cosponsored/cooperated conferences reports
- IEICE-CS Conferences Calendar (*)

4) Others
- Essays, Laboratory activity reports, Technology reports, Messages from overseas/foreign members, etc.
- Information from Sister Societies
- Special topics (*)

5) IEICE Information
- Call for papers
- From editor's desk (*)

*: planned / written by IEICE-CS Directors, Planning and Members Activities

2. Major notes for contribution

Basically welcome IEICE-CS members and readers to contribute newsletters. IEICE-CS Directors, Planning and Members Activities can ask them to contribute newsletters as special topics. The content should be fruitful and profitable for IEICE-CS members, **NOT** for particular organization.

2.1 Newsletter format

Please use a sample format in English for your newsletter.
http://www.ieice.org/cs/pub/docs/gnl_sample.doc

2.2 Number of pages
Two to four pages are preferable. One page is also acceptable, and the maximum number of pages is eight. When you try to entry a contribution with five to eight pages, you need to negotiate with IEICE-CS Directors, Planning and Members Activities.

3. Copyright
This signed statement must be received by the IEICE when your manuscript is first submitted to an IEICE publication. By signing this statement, the author(s) are agreeing to be bound by the IEICE Provisions on Copyright. Please see a web site related to IEICE provisions on copyright.
http://www.ieice.org/eng/about/copyright.html

4. Publication fee / Manuscript fee
No publication fee and no manuscript fee for all articles.

5. Schedule
Main schedule (deadline)

Publication date	1st , Mar.	1st, Jun.	1st, Sept.	1st, Dec.
Call for newsletter	1st Fri., Dec.	1st Fri., Mar.	1st Fri., Jun.	1st Fri., Sept.
Contribution entry	4th Fri., Dec.	4th Fri., Mar.	4th Fri., Jun.	4th Fri., Sept.
Submission of Manuscript/Copyright	3rd Fri., Jan.	3rd Fri., Apr.	3rd Fri., Jul.	3rd Fri., Oct.

5.1 Call for newsletters
IEICE-CS Directors, Planning and Members Activities will give you the information on call for newsletters.

5.2 Contribution entry
You should send **information on title, summary and number of page** to IEICE-CS Directors, Planning and Members Activities by e-mail.
E-mail: cs-gnl@mail.ieice.org

5.3 Submission of Manuscript and COPYRIGHT TRANSFER
You can download formats from the Internet.
http://www.ieice.org/cs/pub/global_howto.html
You should send a manuscript [word file and pdf] and COPYRIGHT TRANSFER FORM [including signature, pdf] to IEICE-CS Directors, Planning and Members Activities by e-mail.
E-mail: cs-gnl@mail.ieice.org

If you cannot send IEICE-CS Directors COPYRIGHT TRANSFER by e-mail, you can send it to IEICE–CS office by facsimile or mail.

Name: IEICE-CS Office
Address: Kikai-Shinko-Kaikan Bldg., 103, 5-8, Shibakoen 3 chome, Minato-ku, Tokyo, 105-0011 Japan
Facsimile: +81-3-3433-6616, Phone: +81-3-3433-6692

Contact point: IEICE-CS Directors, Planning and Members Activities in charge of IEICE CS - GLOBAL NEWSLETTER, cs-gnl@mail.ieice.org (End of document)

From Editor's Desk

● I-Scover, IEICE Knowledge Discovery, has started its service in April

As you may know, in Japan the new academic and fiscal year began in April. This season brings new encounters. New faces have joined your laboratory or company, and they started studying or working. I-Scover is also a brand-new system, which we hope the readers will get to know. As introduced in articles in this issue, I-Scover, IEICE Knowledge Discovery, is a database service which can be searched across multiple publications of the IEICE. It delivers IEICE's metadata on Linked Data including articles, authors, publications/events and keywords. Consequently, you can utilize I-Scover when you need information on a person or a technological word as well as when you want information on an article. It is available free of charge for anyone. Please visit the following site for more details.
http://i-scover.ieice.org/?lang=en
We wish I-Scover helps your work and research advance.

One thing we would like to remind readers is to consider submitting a paper to IEICE Society Conference 2013 to be held in Fukuoka Institute of Technology, Fukuoka, for September 17-20, 2013. Complete English Sessions will be scheduled in the Conference for the globalization of IEICE's academic activities. Please check out the latest information on the IEICE web site at:
http://www.toyoag.co.jp/ieice/E_S_top/e_s_top.html

IEICE GLOBAL NEWSLETTER Editorial Staff

Editorial Staff of this issue

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CALL FOR PAPERS

ICTC is the unique global premier event for researchers, industry professionals, and academics interested in the latest developments in the emerging industrial convergence centered around the information and communication technologies (ICT). More specifically, it will address challenges with realizing ICT convergence over the various industrial sectors, including the infrastructures and applications in wireless & mobile communications, smart devices & consumer appliances, mobile cloud computing, green communication, healthcare and bio-informatics, and intelligent transportation. The conference is organized by KICS with the technical co-sponsorship of IEEE Communications Society and IEICE Communications Society. The conference will include plenary sessions, technical sessions, and invited industrial sessions. Accepted papers will be published in the proceedings with an assigned ISBN number and submitted to IEEE Xplore, SCOPUS, and EI Compendex. You are invited to submit papers in all areas of infrastructures, services, and applications for ICT convergence.

RELATED TOPICS:

Potential topics in this conference include, but are not limited to:

- Wireless & Mobile Communication Systems and Infrastructure
- Communication Networks and Future Internet Technologies
- Information & Communication Theory, and Their Applications
- Mobile Cloud Computing & Communication System and Applications
- Smart Media & Broadcasting, and Smart Devices/Appliances
- Green Communication Technologies and Solutions
- Smart Grid Infrastructure and Applications
- Maritime Communications Systems & Networks
- Vehicular Information and Communication Technologies
- u-Healthcare Systems, and Bio-informatics & Its Applications
- Military and Defense Technologies
- Public Protection & Disaster Relief (PPDR) Communication
- Internet of Things (IoT)
- Machine-to-machine Communication Infrastructure and Applications
- Encryption and Security for ICT Convergence
- Other Services and Applications for ICT Convergence

SUBMISSIONS:

ICTC 2013 invites the submission of original, unpublished research work (including position papers) that is not currently under review elsewhere. Authors may submit either a 6-page full paper for selected journal publication or a 2-page short paper via https://edas.info/N14061.The submissions should be formatted with single-spaced, two-column pages using at least 10 pt (or higher) size fonts on A4 or letter pages in IEEE style format. The camera-ready version for an accepted paper cannot exceed 6 pages for a full paper. Detailed formatting and submission instructions will be available on the conference web site (http://www.ictc2013.org).

PRESENTATION:

The accepted paper will be presented either in an oral session or poster session. All accepted papers will appear in the ICTC 2013 proceedings and will be submitted to IEEE Xplore only if at least one of the authors attends the conference to present the paper.

JOURNAL PUBLICATION:

Selected papers will be invited for publication in SCI-indexed journals such as Journal of Communications and Networks, ETRI Journal, and other journals after an express review and further revisions.

BEST PAPER AWARDS:

ICTC 2013 will present the Best Paper Awards to the authors of selected outstanding papers.

IMPORTANT DATES

- Submission Deadline: July 5, 2013
- Notification of Acceptance: August 23, 2013
- Camera Ready Deadline: September 6, 2013

For any inquiries on ICTC 2013, please contact TPC Chair:

Prof. Seong-Ho Jeong (Hankuk University of Foreign Studies, Korea, shjeong@hufs.ac.kr)

Organized by KICS The Korean Institute of Communications and Information Sciences · JCN · ETRI Electronics and Telecommunications Research Institute · IEEE COMMUNICATIONS SOCIETY · IEICE Communications Society

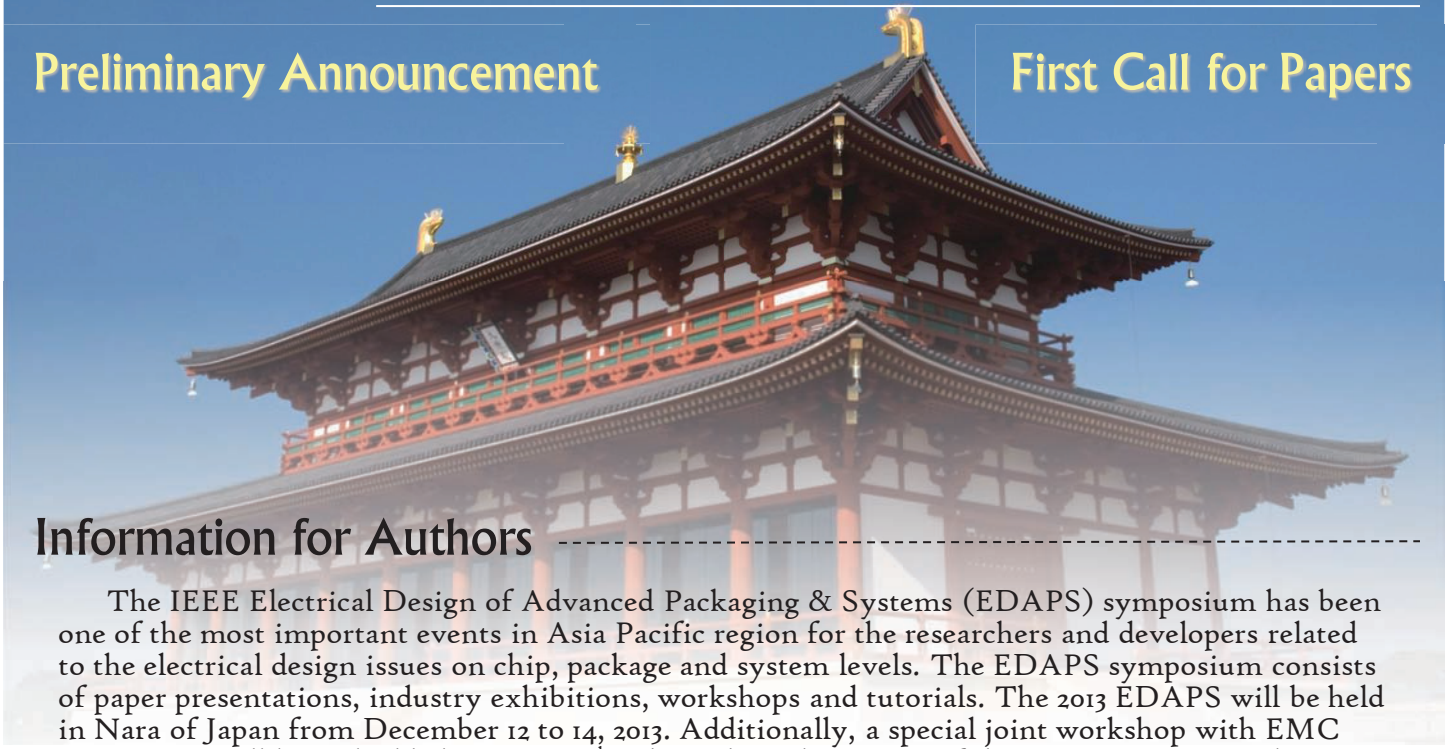
EDAPS 2013

2013 IEEE Electrical Design of Advanced Packaging & Systems Symposium

December 12-14 & 15, 2013. Nara, Japan

Preliminary Announcement

First Call for Papers



Information for Authors

The IEEE Electrical Design of Advanced Packaging & Systems (EDAPS) symposium has been one of the most important events in Asia Pacific region for the researchers and developers related to the electrical design issues on chip, package and system levels. The EDAPS symposium consists of paper presentations, industry exhibitions, workshops and tutorials. The 2013 EDAPS will be held in Nara of Japan from December 12 to 14, 2013. Additionally, a special joint workshop with EMC Compo2013 will be embedded on Dec. 15th. The technical program of the symposium not only addresses the current technical issues but also brings out the challenges facing IC design, SiP/SoP packaging, EMI/EMC, and EDA tools and most importantly the challenge issues in advanced 3-D IC and packaging design. The symposium provides a major platform for researchers, designers and developers from diverse fields to exchange knowledge and build up network and community.

Paper Topics of Interest

- Signal Integrity
- Substrate Technology for Package and PCB
- Power Integrity / Ground Noise
- Time/Frequency Domain Measurement Techniques
- 3DIC / 3D-Stacked IC
- SiP/SoP
- Embedded Passives
- Electromagnetic Compatibility (EMC)
- Design and Modeling for High-speed Channels and Interconnects
- Package Reliability
- RF/Microwave Package
- Advanced Simulation Tools and CAD
- Testing on 3DIC and SiP
- Others

Important Dates

Deadline for Regular Paper Submission: June 25, 2013

Tutorial, Workshop, and Special Session Proposal Submission: June 25, 2013

Acceptance Notice: August, 2013

IEEE

CPMT IEEE COMPONENTS, PACKAGING AND MANUFACTURING TECHNOLOGY SOCIETY

EIC

Emj

JIEP

Organized by Shizuoka University

See web site for more details http://www.edaps2013.org