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Next Generation Electronic Commerce Promotion Council of Japan

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Message from Chairman

Takuya Goto
Chairman of the Next Generation Electronic Commerce
Promotion Council of Japan (ECOM)
(Chairman of the Board of Kao Corporation, retired June 2008)

Three years have passed since the start of the activities of the Next Generation Electronic Commerce Promotion Council of Japan (ECOM), which was established in April, 2005. After repeated discussions over the course of six months, we decided to continue our ECOM activities beyond the next fiscal year. Over the past three years, we have received a great deal of guidance and support from all concerned parties, including the members of ECOM as well as the Ministry of Economy, Trade and Industry and Vice Chairman Etsuhiko Shoyama. I would like to take this opportunity to express my sincere gratitude.

In order to contribute to the development of electronic commerce (EC) in Japan, with the participation of member companies, ECOM has focused its activities on the promotion of the use of RFID tags. In addition to studying specific issues in the fields of safe and secure EC, IT utilization, and information sharing infrastructure, ECOM has also been actively involved in international relations and public relations.

Individual groups have produced good results in their respective activities, including the promotion of RFID tag utilization. But since they are mostly isolated "points," we strongly recognized the need for the lines to connect these points, and the need to develop these points and lines into a plane. I believe this recognition led to the conclusion to continue the activities of ECOM.

In our country, productivity improvement is one of the pillars of public policy, and in order to accomplish productivity improvement, the promotion of electronic commerce is absolutely necessary. For that reason, the Ministry of Economy, Trade and Industry takes the lead in developing cross-industrial e-SCM in particular. In addition to such a movement, we also need to address the resolution of issues left unsolved by past activities and the resolution of new issues that have emerged from new movements that surround electronic commerce.

Reflecting such a situation, as a key organization for electronic commerce promotion, ECOM will promote its activity in close coordination with the JIPDEC and the Japan Electronic Data Interchange Council.
Since the foundation of the Electronic Commerce Promotion Council of Japan in 1996, knowledge, experience and an advantageous network have been accumulated through organizational activities, and by making effective use of these irreplaceable assets, I would like to see the new ECOM, which will start in the next fiscal year, grow further as a place for members to solve common problems and exchange information.

Finally, I gratefully acknowledge the immense support you have provided us throughout the past three years with deepest appreciation.

For the Future Development of the Next Generation Electronic Commerce Promotion Council of Japan

Shuichi Okada
Director-General, Commerce and Information Policy Bureau,
Ministry of Economy, Trade and Industry

I would like to express my heartfelt gratitude to the member companies of the Next Generation Electronic Commerce Promotion Council of Japan (ECOM) and other concerned parties for their continued support for, and cooperation in the policies of the Ministry of Economy, Trade and Industry.

Three years have already passed since the start of ECOM's activities, and twelve years have passed since the foundation of the original ECOM. During these twelve years, ECOM has worked for the full-scale dissemination of RFID tags and electronic commerce, playing a leading role in the introduction of information technology in Japan. As a result, Japan has become one of the world's top broadband powers, and electronic commerce has been adopted all across the country.

I believe we are now in a new phase in which we are transforming our strength in information technology into the strength of industry and society as a whole, and in close coordination with ECOM, it is time to enhance efforts in the following three areas.

The first area is the use of information technology to strengthen industrial competitiveness. The use of information technology, such as information systems and EDI, greatly contributes to productivity improvement in companies in terms of cooperation across organizational walls during development and production. However, because the specifications of information networks between companies, such as EDI, vary by each corporate group or industry, the networks do not necessarily provide a mechanism for a wide spectrum of related companies to cooperate with each other. In order to strengthen the industrial competitiveness of Japan, therefore, we need to advance the standardization and dissemination of information networks between companies, such as EDI, and develop an environment to promote cooperation across corporate and national borders.

The second area is the use of information technology to address such social needs as environment, safety and security. In order to efficiently address environmental issues, such as the management of chemical substances, environment and recycling, and safety and security issues, such as product safety and food safety, it is imperative that we have a mechanism to provide information to consumers while allowing concerned parties to share necessary information. Therefore, we need to enhance the functions of EDI, which has been mainly used to manage production and sales such as receipt and placement of orders, and build new information networks and databases that can address such social needs as environment, safety and security.

The third area is the use of information technology to provide new added values to consumers. Computerization of automobiles opens up new possibilities for the Japanese manufacturing industry through cooperation between the automobile industry and the electric and electronics industry to provide consumers throughout the world with new products and services previously unheard of. In order to provide this kind of new added values to consumers, we need an environment where different kinds of cross-industrial cooperation can be formed one after another, and we also need to make information networks and databases a shared infrastructure utilized by the concerned parties from wide-ranging industries.

The Ministry of Economy, Trade and Industry will continue to promote these three efforts together with ECOM. We have strong expectations that ECOM will lead the industrial world through these activities.

ECOM Activity Results Report

RFID Tag/Traceability Group

EC Safety & Security Group

IT Utilization Group

Information Sharing Infrastructure Group

International Relations Group

Public Relations Group

Next Generation Electronic Commerce Promotion Council of Japan

-ECOM Activity Report for FY 2007-

The Next Generation Electronic Commerce Promotion Council of Japan (ECOM) was founded in April 2005 for the purpose of leading the world in taking the use of IT one stage further, with a view to: (1) creating and promoting electronic commerce (EC) with high-added value, (2) developing a safe and secure EC environment, and (3) establishing an international system for electronic commerce. This is the third year of the ECOM activities.

ECOM projects were carried out with the participation of 154 member companies (board members: 22 companies; regular members A: 40 companies; regular members B: 90 companies; and special members: two companies, as of March 21, 2008. See the appended material). Working groups, each composed of ten-odd to several tens of ECOM members, were organized to examine problems concerning the project themes, hold free discussions and to exchange opinions with the government, business groups and consumers (Figure 1).

Group Activities

The RFID Tag/Traceability Group set up WGs (working groups) and carried out the following projects: the summary activity of the RFID tags/traceability project, the project of the RFID Tags Technology Study WG (changed the title to "RFID Tags Technology Study Committee" from November 2007), the RFID Tag International Standardization Support Team project, the project of the Sensor Network Application Study WG and the project of the Study Team for Enhancement of Logistics Efficiency and use of RFID in Supply Chain in Asia.

The EC Safety & Security Group set up the Personal Information Protection WG, the Electronic Signature Dissemination WG and the Information Security WG, and carried out various projects as well as implemented the Interpretative Guideline Revision Support project.

The IT Utilization Group set up the IT Utilization WG and the e-Government & Business Collaboration WG, and carried out the Survey on the Current Status and Market Size of Electronic Commerce and the Survey on the Current Status of Electronic Commerce in the United States and Japan.

The Information Sharing Infrastructure Group set up the Information Sharing Technology Promotion WG (changed the title to "Information Sharing Technology Promotion Committee" from November 2007), the Next Generation EDI Technology Promotion WG, EC Infrastructure WG (changed the title to "EC Infrastructure Committee" from November 2007) and the Information Sharing Rule Study Committee, and promoted the projects to develop information sharing infrastructure.

Cross-sectional Activities

The International Relations Group, which promotes wider collaboration with related overseas organizations, and the Public Relations Group, which widely disseminates information, was established as EC promotion organizations in Japan,

The Secretariat of ECOM is comprised of the General Affairs Section and the Accounting Section, which support the entire ECOM activities, and is operated by the Electronic Commerce Promotion Center of the JIPDEC.

In the following sections, we will report on the activities of the Planning Committee and outline the activity results of each of these WGs.

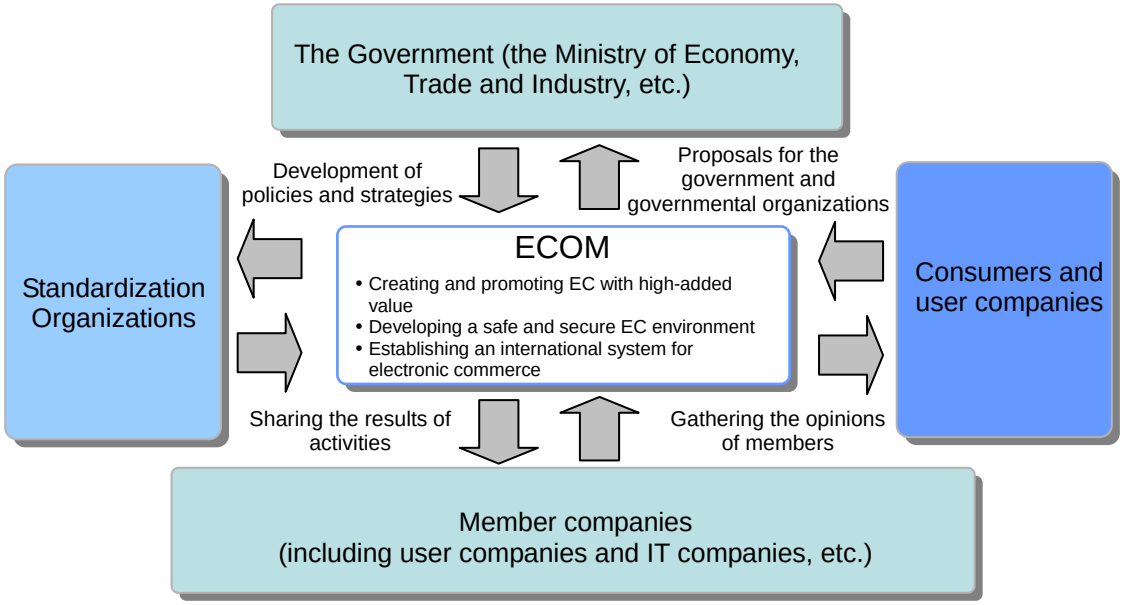

Figure 1. Purpose of ECOM and Overview of Activities

Planning Committee

Planning Committee

The Planning Committee is an organization that makes decisions for operational activities for ECOM. The committee, which is composed of board members, is engaged in various activities to promote the management of ECOM projects, including examining general strategies, approving project plans and recruiting project members. Led by Mr. Akikazu Sato (Kao Corporation), the Chairman, and Mr. Akinori Sakamoto (Hitachi, Ltd.), the Vice Chairman, the Planning Committee held meetings 10 times in 2007 (Table 1). We will summarize the results of the activities of the Planning Committee below.

Deliberations on the Project Report for FY 2006 and the Project Plan for FY 2007

At its first and second meetings, the committee deliberated on a report on the project for FY 2006 and the project plan for FY 2007, and reported the financial results for FY 2006 and the budget plan for FY 2007.

Recruitment of Project Members and Commencement of Activities

Based on the FY 2007 project plan (draft), the committee recruited working group members from among board members and regular members A during the period from May 7 through May 18, 2007. At the second committee meeting, the committee reported that 142 members including project managers and experts were registered for eleven working groups and that they had commenced their group activities.

At the committee meeting in November (fourth meeting), the committee presented a report for the first half of the year (interim project report). As of the end of March 2008, approximately 200 members including experts were registered for working groups.

Examination of General Strategies

Since FY 2007 is the last year of the activity period scheduled at the time of the foundation of ECOM, the committee set up the Planning Committee Task Force (TF) for "ECOM Activities after FY 2008" and worked intensively from May to June. In view of the result of a questionnaire survey of board members and the opinions gathered at the second committee meeting, the Planning Committee TF made a recommendation to the committee to continue the activities of ECOM and reported that deliberation was being made for the "continuation of the activities of ECOM" at the general meeting in July.

Examination of the Post-ECOM

To draw up the concrete themes for "ECOM Activities after FY 2008," the Secretariat made proposals at the third committee meeting on the outline of what the activities of post-ECOM should be, current state and issues, and organizational system and collaboration with related organizations and major activities, and the committee had discussions on these topics at the fourth, fifth and sixth committee meetings. At the seventh committee meeting, the committee had discussions on "themes which evoke sympathy of member companies and motivate them to action." At the meeting, the committee discussed the form of the continuation of the activities (dissolution and formation, or continuation) as well as details of activities, and decided to keep ECOM with its current objectives and main purpose and continue the activities in the field of RFID tags and electronic commerce, and the field of electronic commerce safety and security.

Formulation of the Project Plan for FY 2008

At the eighth committee meeting, the committee decided to solicit projects for FY 2008 from January to February 2008 and presented the projects submitted at the ninth committee meeting. In February, with the participation of experts outside of the Planning Committee, the committee set up the Business Planning TF for two separate fields (the field of RFID tags and electronic commerce, and the field of electronic commerce safety and security infrastructure), and experts, government officials, proposers and the Secretariat exchanged opinions in regard to the activities for FY 2008. Based on these discussions, the committee drew up a draft of the project plan at the ninth and tenth meetings.

Table 1. Details of the Project Committee Meetings

Meeting	Agenda	Date
First Meeting		May 21, 2007
	• Recruitment of working group members and project plans for FY 2007 • Examination of progress of the promotion of the "New RFID and E-Commerce Initiative' • Examination of progress of the Project Committee Task Force	
Second Meeting		June 25, 2007
	• Status of WG activities, and project report and financial results • Project plan and budget plan (revised) for FY 2007 • EC promotion activities after FY 2008	
Third Meeting		September 19, 2007
	• Post-ECOM (discussion)	
Fourth Meeting		November 12, 2007
	• Project report (interim report) for the first half of FY 2007 • Post-ECOM (Report on questionnaire/hearing, what the post-ECOM should be)	
Fifth Meeting		November 22, 2007
	• What the post-ECOM should be	
Sixth Meeting		December 6, 2007
	• Themes which evoke sympathy of member companies and motivate them to action • Organization (dissolution, formation, continuation, etc.)	
Seventh Meeting		December 20, 2007
	• Post-ECOM (continuation of activities and active organizations) • Projects for FY 2008	
Eighth Meeting		January 15, 2008
	• Prospectus for continuation of activities (report) • RFID tags and e-commerce-related status (report) • Projects for FY 2008	
Ninth Meeting		February 29, 2008
	• Project plan and budget plan for FY 2008 • Revision of committee rules and regulations; ECOM Forum 2008	
Tenth Meeting		March 18, 2008
	• Project plan (draft) and budget plan (draft) for FY 2008 • Revision of committee rules and regulations; extraordinary general meeting and board meeting	

Summary Activity of the RFID Tags/ Traceability Project

Kazuhiko Wakaizumi, Research Director
Next Generation Electronic Commerce Promotion Council of Japan

Summary Activity

Overview of Activities

Initially ECOM set its activity period as three years, and carried out survey research on the application of RFID tags, concentrating on traceability. FY 2007 is the last year of the scheduled activity period. Therefore, when the activity plan was formulated in early FY 2007, it was unclear as to what form ECOM would take after the next fiscal year and beyond. The group planned this activity aiming to conclude the past survey research for now, organize the current state of affairs and challenges, and report the current state without adding or leaving out anything to user companies that were contemplating the adoption of the application system of RFID tags, and at the same time to compile some sort of reference guide.

The project's main activity was to gather information concerning facts about three years of ECOM activities, such as RFID tag-related field trials, case examples of actual implementation, technology development, formulation of international standards and changes in related regulations such as the Radio Law, and put it together in an easy-to-understand manner for those who were interested in RFID tags.

In view of the fact that ECOM's survey research was focused on passive UHF RFID tags and we did not have the opportunity to discuss RFID tags of other frequency bands in a report as such, the group decided to survey and report on the recent trend of RFID tags other than the passive UHF RFID tags.

In addition to the survey research in which ECOM was directly involved, the group collected information through published reports and hearings about matters that might be useful to know when introducing RFID tags, from the activities of organizations with which ECOM had collaborated in various ways. For users who were contemplating the introduction of RFID tags, the group put together preliminary material which would provide background knowledge about what kind of studies had been conducted before the users study in more detail about RFID tags.

Also about the survey research concerning social acceptability that ECOM worked on, the group added the background information on privacy issues associated with RFID tags, which was not previously reported in detail out of consideration that the possible threat posed by RFID tags should not be emphasized unnecessarily. The group also addressed changes in situations that occurred due to technological innovation thereafter and summarized matters which could not be mentioned when the projects were being implemented.

Activity Results

The result of this project was put together in the activity results report called "Survey Research on RFID tags: Summary Report for Three Years." The initial project plan included the creation of a guideline for the introduction of RFID tags and a road map for RFID tag dissemination; however, since excellent documents had been already provided to users about EPCglobal, and since insufficient information was available to create a guide for users who would like to conform to ISO standards because of the timing establishing standards and making revisions, the group gave up the idea of creating a guideline for the introduction of RFID tags. As for a road map, in consideration of the fact that no industry made a clear commitment to the timing of actual implementation and also that it would be difficult to make a responsible estimate for the future at this time because the discrepancy between the estimated market size of RFID tags published in FY 2004 and the current state was significant, the group called off the creation of a road map, too. Instead, as mentioned earlier, the group decided to sort out the causes for the discrepancy between the current state and the early estimate, and summarized the outlook for the future regarding RFID tag technology at the end.

1. Current State of RFID

The group sorted out the current states of RFID tags operating on the LF band, HF band, 433 MHz band, UHF band, and microwave band. Differentiation between contactless smart cards and RFID tags, which was discussed in ECOM, was also summarized. Also from the themes of past field trials, the group examined with regret that the needs for streamlining in fieldwork were greater than the needs for traceability and that was in conflict with the stance of ECOM, which set traceability as the central purpose of RFID tag applications.

The group examined the reasons why RFID tags were not disseminated according to the estimate made several years ago (the reasons why RFID tags did not do as well as the estimate in terms of volume). Here, the group looked at the following questions and problems users had.

- Prospect that the technical progress of RFID tags will continue

  Many people believe that technical innovations, like the progress from Class 0 and Class 1 to CIG2, will happen more and more.

- Delay in ISO standardization

  In particular about the publishing of standards for data storage method.

- Accuracy of simultaneous reading

  If simultaneous reading cannot read everything at once, it will take more effort than without using simultaneous reading.

- Existence of rival high-capacity AIDC media

  There exist media which compete against RFID tags in terms of high capacity, such as GS1 DataBar and two-dimensional symbols. The group discussed the differentiation of applications for RFID tags and these other media.

- Absence of a "killer application'

  We have to find the applications that require RFID tags.

- Privacy issues

  We have to solve protection of privacy issues in cases where live RFID tags are attached to personal belongings.

- Delay in attachment to each product

  We have to resolve the situation that while the attachment of RFID tags to individual shipments becomes common, the attachment of RFID tags to individual products does not.

- Prices of devices, such as reader/writer

  We have to solve the issue of the high prices of devices, despite the fact that the use of electric waves does not require sophisticated technology.

- Difficulty of using electric waves

  We have to solve the problem of electric wave reflection produced mainly when RFID tags are used indoors.

- Concern about the effect of electric waves on the human body.

  We have to resolve the issues brought up by users who express concerns about the effect of electric waves on the human body and medical equipment.

- Difficulty in controlling a reading distance

  We have to develop the technology to prevent UHF radio waves from reaching too far.

- Problem of slow writing

  We have to solve the problem of writing being slower than the read-out.

2. Issues on Application Building

Although they are not serious technical issues, the group examined the following issues on application building as something which could happen as the result of using RFID tags.

- Mobile RFID which dredges up privacy issues

  Some people are pursuing the idea to embed a reader/writer in cellular phones.

- RFID tag virus infection problem

  A few people stubbornly insist that it is possible to infect the memory of an RFID tag with a virus.

- Conflict between cost cut and diverse needs

  The problem still remains that if everybody adopts RFID tags with the same specifications, the price of RFID tags will be more reasonable. But each user has their own particular needs.

- Life of an RFID tag vs. life of an object to which the tag is attached

  We have to consider how to deal with the issue of products that have longer life expectancies than the RFID tag in the product.

3. Technology Which Is an Extension of RFID Tags

The group examined new technologies which might emerge as an extension of RFID tags.

- Tag with a built-in sensor

  We have to watch the trends in RFID tags with built-in sensors.

- Battery assisted passive tags

  We have to watch passive tags with built-in batteries that enable long-distance communication.

- Active tags

  We have to watch the trends in RFID tags with built-in batteries that transmit electromagnetic waves autonomously.

- Chipless RFID tags

  We have to watch the trends in the RFID tags that can be manufactured using printing technology that uses an organic polymer semiconductor.

- Mixed media

  We have to watch the trends of a medium with a built-in RFID tag and a linear barcode or a two-dimensional symbol on the surface, which support reading by different readers according to different situations.

Future Plans

Many of the technical problems of RFID tags have been already solved. In the future it is thought that the accumulation of know-how on how to use RFID tags will gain importance. Instead of extending past themes of the RFID Tags/Traceability Group without an aim, and instead of specializing in a specific field like UHF passive tags or traceability, we need to study a broad range of subjects which may contribute to RFID tag dissemination and, at the same time, keep an eye on new technologie

RFID Tags Technology Study Committee

Masatomo Takemoto, Research Director (Dai Nippon Printing Co., Ltd.)
Next Generation Electronic Commerce Promotion Council of Japan

Committee

Overview of Activities

1. Background and Objective

RFID tags are expected to become a tool for information sharing across different companies, business types and industries, a tool which corresponds to new economic and social challenges in areas such as environment and recycling, product safety and management of contained chemicals. In order for such RFID tags to be utilized widely, it is necessary to clarify the cross-industrial technological issues to achieve cross-industrial collaboration, and examine necessary measures.

Table 1. Activities for the RFID Tags Technology Study Committee

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	August 23, 2007
	Explanation of the main purpose of establishing the WG, the efforts of the Ministry of Economy, Trade and Industry, and the efforts of Japanese industry (publishing industry)	
	Second Meeting	September 25, 2007
	The efforts of the Auto-ID Lab., Japan, the efforts of EPCglobal, and how to proceed from here on	
WG/TF1	First Meeting	October 25, 2007
	Durability of RFID tags	
WG/TF2	First Meeting	October 25, 2007
	Improvements in RFID tag reading rate and the streamlining of operational efficiency	
WG	Third Meeting	October 25, 2007
	Explanation of the study policy of the TF and RFID tag-related standards	
WG/TF1	Second Meeting	November 13, 2007
	Discussion on the durability of RFID tags	
WG/TF2	Second Meeting	November 13, 2007
	Examination about the improvement in RFID tag reading rate and the streamlining of operational efficiency	
Committee	First Meeting	November 20, 2007
	Changed the title from WG to "Committee" from this meeting. Explanation of the main purpose of establishing the committee and the RFID tag policy of the Ministry of Economy, Trade and Industry	
Committee/ TF1	First Meeting	November 20, 2007
	Discussion on the durability of RFID tags	
Committee/ TF2	First Meeting	November 20, 2007
	Examination about the improvement in RFID tag reading rate and the streamlining of operational efficiency	
Committee/ TF1	Second Meeting	December 11, 2007
	Discussion on the durability of RFID tags	
Committee/ TF2	Second Meeting	January 11, 2008
	Examination about the improvement in RFID tag reading rate and the streamlining of operational efficiency	
Committee/ TF1	Third Meeting	January 25, 2008
	Discussion on the durability of RFID tags (drew up a draft of an activity results report)	
Committee/ TF2	Third Meeting	January 25, 2008
	Improvement in RFID tag reading rate and the streamlining of operational efficiency (drew up a draft of an activity results report)	
Committee	Second Meeting	January 25, 2008
	Explanation of the activity results reports of TF1 and TF2, discussion and approval	
Committee/ TF1	Fourth Meeting	February 8, 2008
	Industry hearing on the durability of RFID tags (household appliance industry)	
Committee	Third Meeting	March 7, 2008
	Discussion on the whole activity results report (draft) and the survey report on the visit to the United States	
	Fourth Meeting	March 28, 2008
	Review and approval of the revised activity results report (final version)	

2. Course of Action

Based on the result of discussions in the RFID Tags Technology Study WG, the WG was reorganized evolutionarily as the RFID Tags Technology Study Committee (a project sponsored by the Ministry of Economy, Trade and Industry) in November 2007. The committee was established with the cooperation of the industry groups of RFID tags manufacturers and vendors, the RFID tag-related standards body, and companies and organizations which participated in RFID tag field trials. The committee studied and discussed the following (1) - (4). In addition, the committee had active discussions focused on (1) and (4), which may be used as dissemination guidelines for the implementation of RFID tags. The committee compiled the result in an activity results report.

(1) Study and analyze the current state of the durability of RFID tags used under various conditions and in various environments.

(2) Study operational schemes and the improvement of the use environment for RFID tags in regard to the problem of electric wave interference, which is a concern when using an RFID tag in Japan, based on technological evaluation and experimental results. Examine overseas usages which take electric wave interference in consideration, etc., as needed.

(3) Through past field trials, etc., organize the rules for data storage in the user area required between different industries and business fields, clarify the problems, and examine necessary measures.

(4) Study domestic and international operation cases, such as where to attach an RFID tag, in order to achieve improvement in RFID tag reading rate and the streamlining of operational efficiency.

Description of Activities

To start the study and analysis, first the committee set up two task forces (TFs) and put together results and schemes found from the RFID field trials the Ministry of Economy, Trade and Industry conducted in the past and advanced introduction cases of RFID tags about the issues of the durability of RFID tags (TF1) and the improvement in RFID tag reading rate and streamlining of operational efficiency (TF2).

Then the committee visited companies in Europe and the United States in December 2007 to study advanced technology for improvement in RFID tag reading rate and the streamlining of operational efficiency. The companies the committee visited are listed in Table 2.

Here, METRO Group of Germany is given as a typical introduction case.

The committee representatives visited the Future Store Initiative (Innovation Center), a METRO Group facility (showroom) where RFID tag-related planning and verification are conducted. METRO Group is already using UHF band RFID tags as pallet tags. Four years ago, METRO Group had to give up the introduction of RFID tag cards for its customers due to privacy concerns. Therefore, it carefully considers and addresses security (guarantee of privacy), and is accelerating the actual introduction of RFID tags.

In Metro Group's Kaufhof department stores, UHF band RFID tags are attached to most of the men's clothing and related goods, and each one of them is read at the cashier without fail. Price tags are used for actual checkout processing, and RFID tags are used for the management of sales of goods. RFID tags are read by a reader installed behind the counter. Since the tags are read concurrently with checkout processing, reading does not take time. Also, employees and customers seem to feel no stress associated with the use of RFID tags. As a general rule, these RFID tags are collected at the time of checkout.

Photograph 1. Attached RFID tags (right) and price tag (left)

Summary

The committee studied, organized and analyzed the cross-industrial technical issues concerning RFID tags and compiled them in an activity results report. Most of the issues cited by the past field trials can be overcome by operations. As far as implementation is concerned, RFID tags are no different from other systems in terms of implementation procedures, which involve estimating the possibility of individual flaws to occur and designing the appropriate operations and systems. As for durability, it is certainly true that there is some gap between the specification and standard which users want, and those of actual RFID tags in the market. However, companies have been working on technological development, and the gap has narrowed drastically. It seems that the introduction of RFID tags will continue to disseminate in the future.

Table 2. Survey of advanced technology for RFID tags

Date	Country	City	Company
December 3, 2007	Germany	Nice	METRO Group Future Store Initiative
December 3, 2007	Germany	Dusseldorf	METRO Group KAUFhOF
December 4, 2007	Britain	Cambridge	AUTRO-ID LABS CAMBRIDGE
December 5, 2007	The United States	Boston	AUTRO-ID LABS MIT
December 6, 2007	The United States	Minneapolis	TARGET

RFID Tag International Standardization Support Activity

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Next Generation Electronic Commerce Promotion Council of Japan

Support Activity

Overview of Activities

Ever since the era of the Center for the Informatization of Industry (CII), one of ECOM's predecessors, ECOM has been aware of the importance of coordinated use of B2B EC and automatic identification media, such as linear barcode and two-dimensional barcode. ECOM has been working continuously in collaboration with the Japan Automatic Identification Systems Association, the industry group concerning automatic identification technologies, and the Japan Electronics and Information Technology Industries Association, a domestic deliberative organization for the international standardization of automatic identification media.

An automatic identification medium memorizes a unique identifier, such as a product code, and is attached to a "physical object." By matching this identifier and EDI data, accurate "linking" of detailed information about the product with the actual product can be established; in other words, the matching of information and an object can be achieved.

Especially, high-capacity automatic identification media, such as the latest RFID tags and two-dimensional symbols, have enough storage capacity, in addition to the storage for unique identifiers, to store data which requires immediacy among all data needed at physical distribution sites, store fronts and places where the product will be used. Therefore, these media now assume the characteristic of a data carrier as well as that of a simple identifier.

In order for them to contribute to operational improvement as a data carrier, it is imperative that the meaning of the information which is intended by the person who wrote the data and the meaning of the information which is recognized by the person who reads the data match perfectly. This is completely in agreement with the standardization of information entities used in EDI.

As a research facility of EC/EDI and as a group of user companies of automatic identification media, ECOM has a responsibility to provide the know-how and requirements to international standardization activities of automatic identification media. Therefore, ECOM participates in the "Item Identification Committee" established within the Japan Automatic Identification Systems Association and the "WG2 and WG4 of the Expert Committee on AIDC Standardization" established within the Japan Electronics and Information Technology Industries Association to help international standardization activities.

Activity Results

Although there were few major developments from the viewpoint of the establishment of international standards associated with RFID tags in FY 2007, individual committees in Japan held discussions toward the next phase.

1. Item Identification Committee

As in FY 2006, the Item Identification Committee discussed the following five standards which are being reviewed by the joint workgroup of ISO/TC 104 and TC 122.

- ISO 17363: Tags for freight containers
- ISO 17364: Tags for pallets and foldable containers
- ISO 17365: Tags for transport units
- ISO 17366: Tags for product packaging and gift boxes
- ISO 17367: Product tagging

The balloting on the Final Draft of International Standard (FDIS) was carried out, and the only standard adopted was the one for the tags for freight containers. The other four standards had several procedural issues, including the use of the RFID tag logo mark which had been borrowed and the development delay of ISO 18000 Part 3 Mode 3, the new standard for HF band (13.56 MHz), and they could not be ready for FDIS voting.

2. Expert Committee on AIDC Standardization WG2

The Expert Committee on AIDC Standardization WG2 has been studying the rules for storing information in the memory of an RFID tag. There is a big difference between the current system of standards for barcodes and two-dimensional symbols, and the one for RFID tags. To address this issue, WG2 is advocating the creation of a technical report which explains the alignment of ISO/IEC JTC1/SC31/WG2 standards and ISO/IEC JTC1/SC31/WG4/SG1 standards and how to apply the standards, for the purpose of securing the uniformity of application interfaces for all AIDC media. WG2 is working on the submission of a new work item proposal from Japan. When a Japanese representative explained this issue at the meeting held in Florida in January 2008, it became clear that other member countries had similar concerns, and the Japanese proposal was largely received favorably.

3. Expert Committee on AIDC Standardization WG4

The development of the standard in regard to the Expert Committee on AIDC Standardization WG4 is proceeding smoothly for the most part. Moreover, WG4 has built a solid cooperative relationship with EPCglobal so that redundant development and standardization of conflicting specifications can be avoided.

As for ISO 18000 Part 3 Mode 3 mentioned above, it is agreed that ISO/IEC JTC1/SC31/WG4 will not create a draft proposal and accepts the proposal of EPCglobal.

A WG4-related project which is running into trouble is the development of middleware specification ISO/IEC24791 of which ISO/IEC JTC1/SC31/WG4/SG1 is in charge. As with the revision of ISO/IEC 15961 and ISO/IEC 15962 that is closely related to ISO/IEC24791, delays such as the postponement of a project are

becoming noticeable. The specific method of writing data in an EPCglobal's C1G2 RFID tag in an ISO-compliant manner has not been specified yet.

4. Other Trends

In this project, information has been gathered about the regulations concerning the use of electric waves in different countries, although this activity is slightly different from international standardization. There were three noteworthy topics in FY 2007.

(1) Europe

In Europe, the proposal to change the UHF frequency band of 852 MHz - 854 MHz to 915 MHz - 921 MHz was submitted to the European Telecommunications Standards Institute (ETSI), and the review was about to start. This band is completely contained within the 902 MHz - 928 MHz band of the United States.

(2) China

Two bands, 917 MHz - 925 MHz for international transactions and 840 MHz - 845 MHz for domestic use only, were allocated to UHF in the People's Republic of China. As a result, almost all the countries in the world have allocated the frequency band for RFID tags which overlaps with the UHF band of the United States, isolating only Japan with 950 MHz - 956 MHz band. Although it is believed that Japan will not be significantly disadvantaged in terms of performance because of this, we need to gather information carefully so that Japan will not be adversely affected while various ways of using UHF band RFID tags will be developed in the future. If necessary, we must appeal to other countries in coordination with pertinent organizations to avoid any possible disadvantages inflicted on Japan.

(3) Japan

The Low-Power Radio Systems Committee of the Ministry of Internal Affairs and Communications of Japan proposed to establish two channels (952.4 MHz and 953.6 MHz) which do not need to use Listen Before Talk (LBT). This proposal was made to solve the performance problems of a system that uses RFID tags, such as a long "wait" which occurs when multiple readers/writers are operated simultaneously, a flaw of LBT. ECOM showed its approval in a public comment, and many other organizations also approved the idea. It can be said that we have taken a step forward toward actual implementation of RFID tags.

Future Plans

ISO standardization takes longer compared to the standardization by other private sector consortiums because of many factors, such as that the procedure of ISO standardization is strict and a long voting period is set aside for member countries to give them adequate time for review, that the ISO Central Secretariat is run on limited resources, and that Secretariat and Host countries are selected fairly.

Although there is a movement within ISO to try to speedup standardization by improving directives and so forth, standardization still takes a long time. Meanwhile, since ISO still has "weight" as a de jure standard, Japan cannot simply step out while Japanese industries make profits from trans-border commerce.

Therefore, however the organization of ECOM may change, we will continue to provide support to the international standardization of RFID tags in one way or another.

In particular, we will concentrate our effort on the unification of (or the specification of the usage of) application interfaces for RFID tags and other AIDC media. In addition, we will help the early establishment of ISO/IEC 24791. We would also like to consider providing the specific usages of C1G2 tags in the ISO system as an easy-to-understand document with the help of pertinent organizations.

Since the disclosure of the technical content of a standard which is under review is not allowed under the ISO regulations, it is difficult to round up user opinions and offer advice or make a recommendation about standardization. But we will seize any opportunity to exchange information with ECOM members, understand the needs of RFID tag users, and continue to make proposals to prevent future international standardization from moving away from the needs of Japanese industries.

In the future, the practical application of a mixed medium, which combines RFID tag, linear barcode, two-dimensional symbol, OCR, etc., in a single medium, and the standardization of batteries and sensor tags are likely to move into high gear. Therefore, it is vital to keep a close eye on the proposals to be made in the arena of international standardization in order to grasp technology trends. We would like to feed back information to ECOM members within bounds while not infringing upon the intellectual property rights of ISO.

Sensor Network Application Study WG

Kazuo Hayakawa, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

Working Group

Overview of Activities

A "sensor network" is a distributed autonomous network which utilizes sensors and RFIDs with a built-in radio function that automatically interchanges various data. It is one of the means to realize a ubiquitous network society.

A sensor network has been expected to play an important role as an information infrastructure, and its areas of use include disaster prevention and prediction, crime prevention and security, healthcare and nursing care, traffic, logistics and marketing, facilities management and environmental monitoring.

In this way, the utilization and development of sensor networks in many fields is desired, but we have not yet had any appealing customer experience with it in our everyday life.

Against this background ECOM established the Sensor Network Application Study WG in FY 2007. The WG has since studied and analyzed utilization case examples of sensor networks, examined the business models of sensor networks, and considered the problems and solutions of dissemination.

This paper puts together the examination results of our research activities. We sincerely wish that the realization of sensor network in a wider range of areas will create a ubiquitous network society which is appropriate to new values and new environment.

The past activities of this WG are listed in Table 1.

Activity Results

1. Overview of sensor network

(1) Definition

"Information and Communications in Japan (White Paper)"[1] divides sensor networks into four groups from the viewpoint of system configurations.

1) Standalone sensor
2) Network-type sensor connected to a network
3) Open-type sensor network with enhanced interconnectivity and interoperability between devices through using an open standard platform
4) A ubiquitous sensor network where devices with communication components embedded in them are omnipresent

Connecting multiple sensors to various networks enables users to acquire planar and spatial data, which is not possible with a single sensor, and allows them to monitor complicated states, such as human behavior, or the surrounding environment, which constantly change. This technology can revolutionize people's lifestyle and business style. Therefore, this WG focused on the significance of the impact and value, and defined a sensor network as follows (both conditions must be satisfied).

1) A networked group of sensors
2) An organic and holistic mechanism comprised of sensors, peripheral devices, and a network or similar provided by a telecommunications carrier which enables person-to-object communication or object-to-object communication and delivers added values, benefits and utility.

(Note) This type of networking does not require so-called multihop (ad-hoc) communication, network autoconfiguration, or connectivity of devices from different vendors.

(2) Information and technology sensors pick up

Examples of information which sensors pick up are shown in Table 2.

Sensors depend on four technologies: sensing technology, environment resistant technology, power saving technology and miniaturization/price reduction technology.

There are various ways to install sensors, from aerial application for the purpose of disaster prevention or military use, to piece-by-piece manual installation.

Also sensors are installed in various environments, such as outdoors, indoors, and underground. Some sensor networks use a large number of sensors, and in such cases, efficiency of installation becomes important, as does the price of sensors.

Table 1. Activities for Sensor Network Application Study WG

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	June 12, 2007
	Set the direction of WG to center on household case studies.	
	Second Meeting	July 13, 2007
	Expanded the utilization range from household use to energy saving, device management, medicine, disaster prevention, etc.	
	Third Meeting	August 28, 2007
	Determined the details of survey.	
	Fourth Meeting	October 9, 2007
	Confirmed the determined survey subjects, and deliberated the table of contents of the Activity results report and writing assignments.	
	Fifth Meeting	November 6, 2007
	Determined the table of contents of the activity results report, the outline of the report, and writing assignments.	
	Sixth Meeting	November 30, 2007
	The interim debriefing session to report what had been studied so far. Deliberated on content addition, corrections, etc.	
	Seventh Meeting	December 21, 2007
	The final debriefing session to report what had been studied. Decided on content addition, corrections, etc.	
	Eighth Meeting	January 30, 2008
	Reviewed the activity results report (draft).	
	Ninth Meeting	February 26, 2008
	Reviewed the final activity results report.	

The key to achieving these various forms of such sensor networks is network technology. Network technology consists of a physical communication method between sensors or between sensors and a server, and its control technology.

When installing a large number of sensors, from the viewpoint of time, effort and cost it is not realistic to choose a form of installation which requires the use of such communication control equipment. These cases require a technology where each sensor node controls communication autonomously. Such a network is called an "ad-hoc network." An ad-hoc network allows the sending data between nodes, even if they cannot communicate directly, by finding nodes that can relay the data like a bucket brigade. In order to establish an ad-hoc network, each node must have a data relay function, like a router, and needs a special routing protocol. Moreover, depending on use, technologies, such as synchronization of time between sensors, pinpointing of the location of sensors and priority control of communications, are also needed.

(3) Trends in standardization

This section describes the trends in standardization concerning ZigBee, which is mainly used by sensor networks.

Aiming to provide reliable, low power consuming, low cost wireless communication, ZigBeeAlliance has been working toward the standardization of ZigBee since 2001. ZigBee covers the Network Layer of the OSI reference model and above, and adopts IEEE802.15.4 for the Physical and the Media Access Control (MAC) Layers. As one of its features, ZigBee supports network topologies like star, tree (structure) and mesh in order to accommodate a wide variety of networks.

The latest version "ZigBeePRO" was released on October 3, 2007. The release of ZigBeePRO to the general public is scheduled for early 2008.

2. Results

Ten examples were chosen from 51 case examples of sensor network implementation (including demonstration experiments) and studied.

(1) Dissemination scenarios and effects of implementation

In general, a business model is not necessarily clearly defined. Usually what we consider a business model to be is a strategy (what kind of product or service to provide, and to whom) and a profit structure (what kind of costs will arise and how to make profits). The originality of the method and scheme of the model itself is important, and novelty is not usually needed for the technology on which the model is based.

In other words, a business model is a "business scheme to produce profits." We studied case examples of the implementation of sensor networks this time, and we found that the model we obtained from these examples was not at all about strategy or profit structure. Those who implemented a sensor network focused more on increases in efficiency rather than cost reduction, and those who supplied the sensor network saw it simply as a peddler's model.

Looking toward the future from these results, we are currently at the dawn of sensor networks, and it is believed that it will expand from individual stand-alone systems (stand-alone → local-national → global) and new information services will emerge along with this evolution.

Figure 1 shows the dissemination scenario, and Figure 2 shows the effects of implementation from the viewpoints of management, cost, and spillover effects.

(2) Survey results

The outline of the survey results on the examples of sensor network implementation cases is shown in Table 3.

(3) Thoughts on business models

The current profit structure is a peddler's model.

It is believed that a multi-tenant type model (two or more users sharing a server and database and customizing the network by using parameters, etc.) which depends on SaaS format will appear in the future.

Also, public infrastructure-like systems, such as a weather forecasting system (in the sense the largest sensor network in Japan), will appear, and the use of sensor networks as a new public service and a global information service based on an open platform which utilizes various data are expected to emerge.

(4) Challenges and solutions

Figure 3 shows the current challenges and solutions which have been analyzed from the survey results. It is not difficult to solve technical problems. Rather, solving management and cost problems is critical.

Table 2. Examples of Information Which Sensors Pick Up

Genre	Examples of information
Environmental	Temperature, humidity, precipitation, sound, etc.
Situational	Position, altitude, speed and acceleration, inclination and angle, weight, pressure, vibration, shock, etc.
Identification	Barcodes, RFID, fingerprints, vein patterns, etc.
Specification	Gas leaks, smoke, flame, heat, radiation, chemical substances, etc.

Source: National Institute of Information and Communications Technology
http://www.venture.nict.go.jp/trend/sensor/1_1.html
http://www.venture.nict.go.jp/trend/sensor/index2.html

Summary

Although some advanced users are beginning to implement a sensor network, it is cannot be called a widely known system. In other words, the concept of a sensor network as a system is not understood yet.

Since we studied only 10 examples this time, data was still insufficient for analysis, but we expect that the actual trends would not be that different. In the future, we need to survey more about utilization case examples of sensor networks, which are a key to the realization of ubiquitous environment, and carry out more educational activities.

[References 1]

[1] Study Group on Ubiquitous Sensor Network Technologies, Ministry of Internal Affairs and Communications: Toward the Realization of Ubiquitous Sensor Network Society (final report), July 2004
http://www.soumu.go.jp/s-news/2004/040806_4_b2.html

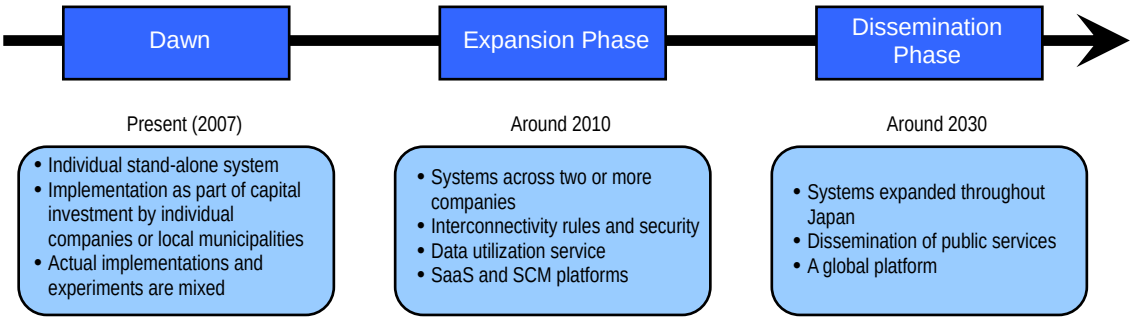

Figure 1. Dissemination Scenario

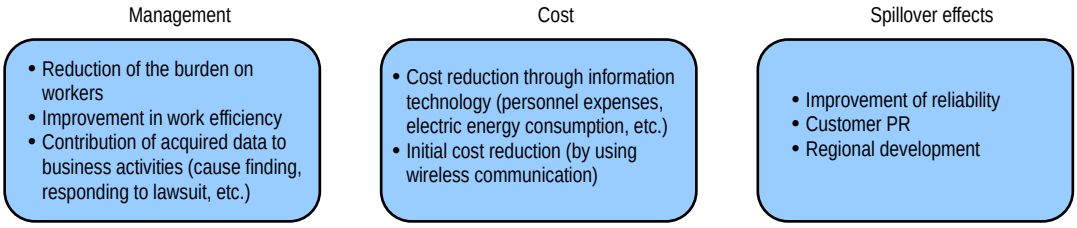

Figure 2. Effects of Implementation

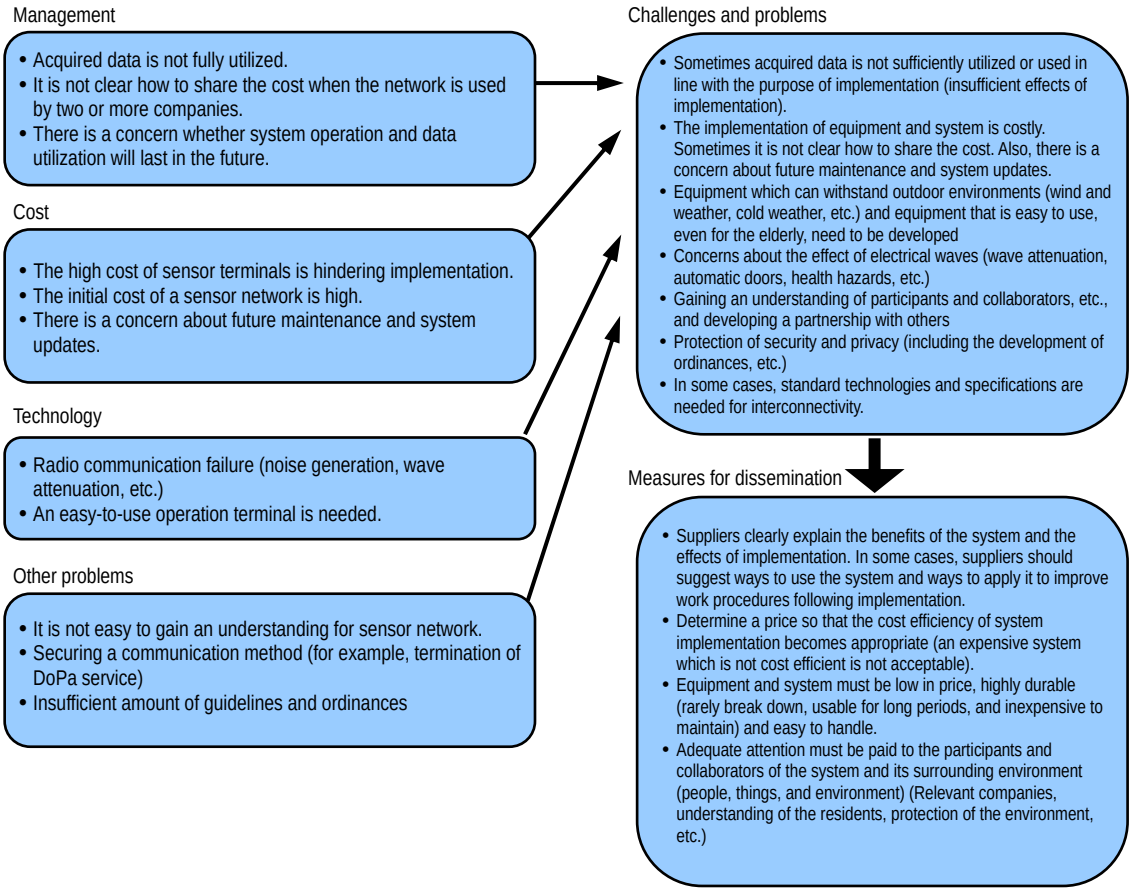

Figure 3. Challenges and Solutions

Table 3. Overview of the Sensor Network Survey

No.	User	Project name	Purpose	Degree of satisfaction	Evaluation
1	GRAPESTONE Co., Ltd.	Radio Environment Monitoring System (actual implementation)	• To understand the manufacturing environment by acquiring environmental data in the factory	◎	[Points where there was an effect] • The burden on workers was eased. • We could use it to investigate problems [Points where there was no effect] • Cannot make good use of particle count data.
2	Mine Rehabilitation Program Center	Inmate Management System (actual implementation)	• To manage inmates • To ease the burden on wardens	◎	[Points where there was an effect] • The burden on wardens is eased. • The data is utilized to prove an alibi or identify an individual. • Personnel expenses are held down. [Points where there was no effect] • None in particular
3	Mitsubishi Materials Corporation, Shared Service Center	Ore Quality Control System (actual implementation)	• To ensure the quality of cement	○	[Points where there was an effect] • The burden on managers was eased. [Points where there was no effect] • The efficiency of work cannot be said to be improved. • Two-way information exchange has not been achieved.
4	Hitachi Plant Technologies, Ltd.	ZigNET (actual implementation)	• To monitor water levels • To monitor the condition of the pumping station equipment	◎	[Points where there was an effect] • Numerical proof becomes possible by the acquisition of water level data. • The burden on managers is eased. • The state of equipment can be grasped instantly. [Points where there was no effect] • None in particular
5	Tokyo Gas Co., Ltd.	Real Time Disaster Prevention System (SUPREME) (actual implementation)	• To prevent a secondary disaster caused by gas during an earthquake	○	[Points where there was an effect] • Work efficiency has been improved. [Points where there was no effect] • None in particular
6	Oita Industrial Research Institute	Pear Traceability	• To ensure the quality of Hita Pears by improving the shipping environment for the export of Hita Pears to Taiwan	△	[Points where there was an effect] • Shipping environment data has enabled the improvement of environment. [Points where there was no effect] • Information cannot be collected in real time.
7	Interoperability Technology Association for Information Processing, Japan (INTAP), Engineering Department	Energy Saving System	• To reduce the amount of electricity use	○	[Points where there was an effect] • The amount of electricity use was reduced by 5% in a year. [Points where there was no effect] • Comfortable room temperature varies among individuals.
8	Study Team on Sensor Net Town, Secretariat: Kinki Bureau of Telecommunications, Ministry of Internal Affairs and Communications	Sensor Net Town	• To verify the effectiveness of the sensor network which utilizes ad-hoc multihop communication technology on street corners, etc.	○	[Points where there was an effect] • We were able to verify the construction technology of large-scale sensor network. [Points where there was no effect] • There are many problems, such as necessity and costs, so the Sensor Net Town has not been implemented yet.
9	Study Team on Mobile Sensor Network in Dairy Farming Field, Secretariat: Hokkaido Bureau of Telecommunications, Ministry of Internal Affairs and Communications	Mobile Sensor Network in Dairy Farming Field	• To examine the use of ICT (mobile sensor network) to improve efficiency and quality, etc., in the dairy farming field	○	[Points where there was an effect] • We could verify the usefulness of ZigBee and an acceleration sensor. [Points where there was no effect] • Particularly the cost is an impediment to implementation of the Mobile Sensor Network.
10	Iwata City Service Water East Land Improvement District (MIDORI Net Iwata Service Water)	IWATO Plan (actual implementation)	• To monitor crop growth by images and meteorological data of the area (Iwata Service Water area)	○	[Points where there was an effect] • PR of the region [Points where there was no effect] • Cannot make good use of data (currently accumulating and analyzing data).

Degree of satisfaction: High ← ◎ ○ △ → Low

Study on Enhancement of Logistics Efficiency and Use of RFID in Supply Chain in Asia

—Asian Forum for Information Technology (AFIT) Specific Issues Debate by representatives from 15 countries —

Masakazu Fujita, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

Study

Overview of Activities

In support of the Center of the International Cooperation for Computerization (CICC), ECOM organized the 6th Asian Forum for Information Technology (AFIT) Thematic Session. In the Thematic Session, ECOM gathered information and deliberated with government agency officials and experts from 15 Asian countries under the theme of "Enhancement of Logistics Efficiency and Use of RFID in Supply Chains in Asia" over a period of three months, and summarized the result in a report.

The past activities are listed in Table 1.

1. AFIT

The AFIT is hosted by CICC as a network for sharing information and exchanging opinions on common issues to promote computerization in Asia, and has been held annually since 2002. Nineteen countries or regions* participate in AFIT. Although this was the 6th AFIT forum, if the Asia Forum for Standardization of Information Technology (AFSIT), the predecessor of the AFIT, is included, this is the 22nd forum. Since the last forum, Thematic Sessions have been held to discuss issues in which industry is extremely interested, in addition to the policy sessions held by key persons for IT policies. Starting the previous time, ECOM co-hosted the AFIT and took charge of the Thematic Session.

2. Discussion on specific issues with the representatives from 15 countries

I participated in the discussion as a coordinator as I did the previous time, took "Enhancement of Logistics Efficiency and Use of RFID in Supply Chains in Asia" as a topic as the last form, and discussed it with the representatives.

Table 1. Activities for the Study on Enhancement of Logistics Efficiency and Use of RFID in Supply Chain in Asia

Classification	Meeting	Date
	Description of activities	
TF	Total of 10 meetings	April 11 - December 31, 2007
	Project planning, discussion on project details, and summary	
Overseas trip	First Meeting	July 8 - 14, 2007
	Interview with the representatives of India, Singapore and Thailand	
Overseas trip	Second Meeting	July 18 - 21, 2007
	Interview with the representatives of China and Korea	
Online forum	Every Day	August 1 - December 31, 2007
	Sharing of information of each country over the Internet and discussion	
Offline meeting	-	October 21, 2007
	Offline meeting with the representatives of each country	
AFIT general meeting	Sixth Meeting	October 22 - 23, 2007
	General Meeting (report on the current situation and panel discussion)	
Overseas trip	Third Meeting	February 25 - 26, 2008
	Report on the result of the Mekong Region Overland Route Utilization Project: Workshop and Exhibition (Bangkok)	

(1) Project plan formulated by task force

We organized a task force (TF) of experts from Japan, and planned a project about challenges, how to proceed with discussions, and Asian candidate participant countries.

(2) Selection of representatives from individual countries

From logistics systems experts, RFID experts and IT experts of each country, we selected members who were going to participate in an online forum, and among the members, we selected panelists who were going to participate in a panel discussion as the TF.

(3) Discussion on an online forum

Through the discussions with participants from each country at the Internet-based online forum, we shared information and exchanged opinions, and summarized the forum at the end. Specifically, we gathered research results of each country, the course of discussions, and materials for further discussion provided by the TF in a folder. The participants shared the folder, and sorted out information through discussion and updates.

As referring to and updating the "current state and issues" of 15 Asian countries, which were collected from questionnaires sent to participants prior to the forum and stored in a shared database, we carried out a two-month online forum and discussed the posted issues. Thirty online forum participants—a session coordinator, panel discussion members from 8 countries, AFIT policy session members from 19 countries, and experts—had a discussion. The participants boiled down the discussion through the online forum. Then the panel discussion members gathered on the day before the General Meeting and confirmed the summary and direction.

Photograph 1. AFIT General Meeting Panel Discussion

(4) Panel discussion at the AFIT General Meeting

Following the keynote speeches, the Thematic Session was held at the General Meeting. After the report on the "current state and issues" of each country, a panel discussion was carried out. For the Thematic Session, 10 members from the government agencies of Asian countries joined the "Workshop on Logistics Efficiency in Asia," a Japanese government-sponsored project agreed upon at the Asian Economic Ministers Meeting. The participants shared information and exchanged opinions.

Activity Results

1. Report on discussion results

The results of the discussion were put together in a report. The following is the outline of the report.

(1) Title

"Enhancement of Logistics Efficiency and Use of RFID in Supply Chain in Asia"

(2) Background and current state

- Flow and quantity of merchandise trading within and outside of Asia
- Comparison of physical distribution cost (physical distribution in Asia (excluding Japan) costs twice as much as in Japan, the United States, and Europe)
- The number of days required for trade procedures in each country
- The number of days required for seaborne shipping and air freight
- Application models of RFID tags to international logistics
- About barcodes, two-dimensional symbols and RFID tags

(3) Logistics and RFID tag-related issues of the 15-nation region

The survey results of 15 countries and regions (Cambodia, China, Hong Kong, India, Indonesia, Japan, South Korea, Malaysia, Myanmar, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand and Vietnam) on IT infrastructure, human resources, logistics, current state of EDI, logistics and RFID tag-related legal systems, policies, utilization case examples of RFID tags, etc., were summarized in a table.

(4) Issues identified in discussion and future measures

- Thoughts on the application of RFID tags to enhance logistics efficiency
- Costs in adopting an RFID tag system and measures
- Improvement of the visibility of RFID tags
- Need for human resource development (in the areas of logistics and RFID tags)
- Need for standardization and its adoption (in the areas of logistics, trade procedures, and RFID tags)
- Other issues (enhancement of logistics efficiency and environmental problems, coordination with other projects)

2. Exhibition and debriefing session in Thailand

We participated in the "Mekong Region Overland Route Utilization Project: Workshop and Exhibition" hosted by Ministry of Economy, Trade and Industry and Ministry of Land, Infrastructure, Transport and Tourism and held in Thailand (Bangkok) on February 25 and 26, 2008. We displayed an exhibit and gave a presentation on the "Enhancement of Logistics Efficiency and Use of RFID in Supply Chains in AFIT Asia." We answered questions from the floor, including one regarding security from an official of the World Customs Organization. After the presentation, we had an interview with a newspaper. This Workshop and Exhibition attracted 200 strong participants from local government, relevant organizations, and businesses. We realized the high level of interest about the enhancement of logistics efficiency.

Photograph 2. Participants in the 6th AFIT General Meeting

Summary

We had many discussions over past two years with experts and government officials from each country under the theme of "Enhancement of Logistics Efficiency and Use of RFID in Supply Chains in Asia." It was significant that, as a result, central players from Asian nations were able to share awareness and a direction toward solution of "enhancement of logistics efficiency"—a pressing issue for global businesses which operate manufacturing bases, physical distribution bases and sales bases in Asia. We hope that, instead of freezing the results, we will be able to continue to work on the issue in some form or another in the future.

* AFIT members are the following 19 countries or regions.
Bangladesh, Cambodia, China, Hong Kong, India, Indonesia, Japan, South Korea, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand and Vietnam

EC Safety & Security Group

Personal Information Protection WG

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Next Generation Electronic Commerce Promotion Council of Japan

Working Group

Overview of Activities

Bearing in mind that this is the third year since the Act on the Protection of Personal Information (hereafter shortened to the "Protection Act") was enacted, our working group discussed the revision of ECOM guidelines, conducted research on trends concerning the protection of personal information in overseas countries, made a visual investigation survey of websites to check what measures are taken to protect personal information (continued from the previous year), and developed a check list to promote encryption of personal information. We will summarize these activities for FY 2007 below. Table 1 provides an outline of the activities of the working group.

Activity Results

1. Revision of ECOM Guidelines

ECOM revised the Guidelines and released them in July 2007. This followed the revision of the Guidelines Targeting the Fields of Economy and Industry Regarding the Act on the Protection of Personal Information of the Ministry of Economy, Trade and Industry in March of the same year. ECOM added to the Guidelines that, if concealment processing such as sophisticated encryption is applied to target personal data, as a measure in cases such as when an accident such as an information leak occurs, the company is exempted from notifying the individuals or making a public announcement to media. ECOM also added to the Guidelines in a section about reporting to supervisory authority that if the company in question is a member of a certified privacy protection group, the company may report to the certified privacy protection group to which the company belongs instead of the supervisory authority.

Moreover the WG is currently reviewing the clause about "overseas transfer of personal information" and preparing for further revision. While referring to the EU Directive on Privacy and Electronic Communications, the privacy framework of Asia-Pacific Economic Cooperation (APEC), etc., the WG aims to sort out the matters which should be conformed to when businesses transfer personal information to overseas and create a guideline for it. Specific items include the enforcement of proper management of personal information at the overseas destination, encryption of data during transfer, restrictions on the receivers of data and the methods of receiving data, measures to prevent the leak of transferred data such as the collection of access logs, and establishment of a global privacy policy.

Table 1. Activities for the Personal Information Protection WG

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	July 3, 2007
	Discussion on WG activity theme, "Survey of Current Undertakings" of the Cabinet Office	
	Second Meeting	August 22, 2007
	State of undertaking about encryption (concealment) (Member report)	
	Third Meeting	September 13, 2007
	Continuation of the last meeting	
	Fourth Meeting	October 18, 2007
	Trends in APEC, and the organization of issues concerning encryption (concealment)	
	Fifth Meeting	November 28, 2007
	Trends concerning the protection of personal information in overseas countries	
	Sixth Meeting	December 14, 2007
	Discussion on the cross-border rules concerning personal information	
	Seventh Meeting	January 21, 2008
	Discussion on the revision plan of ECOM Guidelines (overseas transfer of personal information)	
	Eighth Meeting	February 14, 2008
	Summary of undertakings about encryption (concealment)	
	Ninth Meeting	March 12, 2008
	Summary of activities	

2. Research on Trends in Overseas Countries

As for the trends in overseas countries, we have studied advanced countries such as Europe and the United States as well as BRICs countries until FY 2006. In FY 2007, we expanded the subject countries to include Pacific nations. We would like to present some of our findings.

(1) New Zealand

New Zealand has established a comprehensive legislation called the Privacy Commissioner system, which targets private sectors. The Office of the Privacy Commissioner handles 1,000 complaints and 6,000 inquiries a year. However, since its regulations against overseas transfer are inadequate, conformity with EU regulations remains to be solved.

(2) Mexico

Although Mexico does not have comprehensive legislation concerning protection of personal information, the handling of personal information in the country requires care because there are laws concerning the protection of personal information in various fields. Its consumer protection law includes regulations such as that consumers can refuse to be a target of direct marketing and companies cannot transmit their customer's personal information to a third party without written permission from the customer.

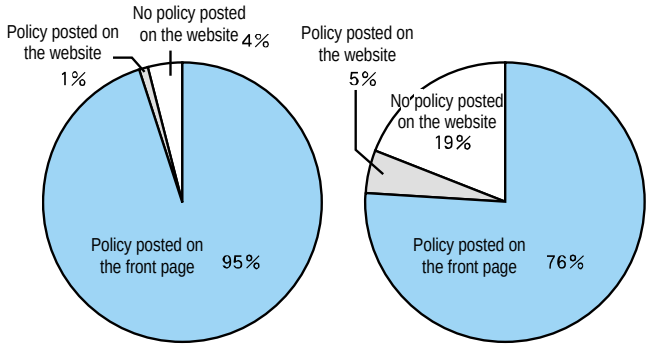
(3) Republic of China (Taiwan)

Because of the Computer-Processed Data Protection Law, which targets government agencies and eight private sectors (credit records, hospitals, schools, telecommunications, finance, security businesses, insurance and journalism), the subject of the information has right to terminate the use of or delete their own data and prohibit the transfer of this data to a third country where privacy protection laws have not been enacted.

3. Visual Investigation Survey on Websites Concerning Personal Information Protection

ECOM carried out the same visual investigation survey as the previous year on websites to check what measures are implemented to protect personal information (from May 2007 through June 2007). The survey was targeted at 161 ECOM member companies (mostly large companies) and 223 online retailers (mostly small SOHO businesses) that have obtained online trust marks. We will attempt comparisons of some items below.

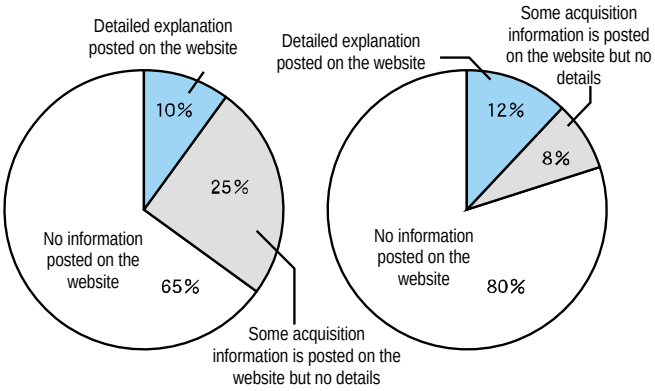
(1) Companies posting their privacy policies on their websites



[ECOM Member Companies] [Online Retailers]

The percentage of companies that were posting their privacy policies somewhere on their websites was 96% among ECOM member companies (mostly large companies) and 81% among online retailers (mostly small businesses). The gap between different sized businesses is narrowing.

(2) Companies posting "method of acquisition" and "source of acquisition" of personal information



[ECOM Member Companies] [Online Retailers]

There are inadequate postings of "method of acquisition" and "source of acquisition" of personal information on the website for both ECOM member companies and online retailers. Although the disclosure of the method of acquisition and the source of acquisition of personal information is not required by law, clearly posting such information is crucially important to earn the trust of consumers. We would like to see them post the information voluntarily.

4. Promotion of Encryption (concealment)

As mentioned in the revision of ECOM Guidelines section, the Ministry of Economy, Trade and Industry released its view of encryption exemption in the event of information leaks in March 2007. This view has subsequently been adopted by the Financial Services Agency, providing a strong impetus to its adoption in all agencies. Moreover in the United States, when information like credit card information, debit card information or medical record is leaked out, in over 30 states state law requires those who leaked the information to notify the individuals immediately. But if the exposed data is encrypted, it will be exempted from these laws, and we evaluate highly the significance of this. ECOM positioned encryption as the "last line of defense" for the protection of personal information, and prepared a check list to promote its dissemination (Table 2).

Future Plans

We have introduced some of our activities in FY 2007, but since the latest version of ECOM Guidelines and visual investigation survey will be posted on the ECOM homepage as soon as they become available, please refer to the website as well. As for FY 2008, we will continue the activities of FY 2007, while keeping an eye on the discussions regarding revision of the Protection Act.

Table 2. Thorough Check List for the Encryption of Personal Data

1	Is there a clearly-stated encryption policy?
2	Is the encryption execution process established?
3	Is the encryption implementation status described quantitatively?
4	Is encryption evidence being acquired?
5	Is there any additional measure?
6	Is the policy thoroughly enforced in group companies?

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Electronic Signature Dissemination WG

Yoji Maeda, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

Working Group

Overview of Activities

Ever since its establishment in 1996, ECOM has continuously conducted survey research on electronic signatures and electronic authentication. The Electronic Signature Dissemination WG is currently conducting survey research for the development of the safe and secure use environment necessary for transferring documents, such as contracts and bills, from paper to electronic media, which is indispensable to electronic commerce.

As part of the survey research, the WG has been conducting a survey study and working on the creation of guidelines concerning the storage technology of documents with electronic signatures since FY 2000. In FY 2006, the WG drew up a draft for JIS standards for long-term signature profiles, and made several editorial corrections during review in FY 2007. It was published as a JIS in March 2008.

The WG conducted a large-scale interoperability test (plug test) for long-term signature profiles to check the operation of actual products and prototypes of different companies. About 20 Japanese companies participated in the test. In addition, the WG examined long-term signature formats (formats which make the validity of a digital signature verifiable for a prolonged period) other than such long-term signature formats as ArchiSig, which is being considered for use in Germany, and made a comparative study.

Furthermore, the WG started the discussion on the profile standardization of public key certificates, and in order to learn about national ID numbers, an inevitable system to promote the standardization of the profile of public key certificates, the WG studied the Austrian national ID number management system, which is considered the most advanced in the world.

This paper will report on the following three items.

- Standardization of long-term signature profiles
- Long-term signature profile plug test
- Survey on national ID number management

The past activities of this WG are listed in Table 1.

Table 1. Activities for the Electronic Signature Diffusion WG

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	June 14, 2007
	Introduction of the plan for FY 2007 and exchange of opinions on how to proceed	
International Standardization Committee	First Meeting	July 5, 2007
	Preparation for participation in the 17th ETSI/ESI	
ETS/ESI	17th Meeting	July 17 - 18, 2007
	Introduction of ECOM's long-term signature profile	
WG	Second Meeting	July 30, 2007
	Discussion on the proposed plans of TF1 - TF7	
	Third Meeting	September 6, 2007
	Progress report from TF leaders	
	Fourth Meeting	October 11, 2007
	Progress report from TF leaders	
International Standardization Committee	Second Meeting	October 25, 2007
	Preparation for participation in the 18th ETSI/ESI	
EISI/ESI	18th Meeting	November 6 - 7, 2007
	Introduction of a draft for JIS standards for long-term signature profile and the plug test environment	
WG	Fifth Meeting	November 15, 2007
	Examination of the format of the activity results report	
	Sixth Meeting	December 19, 2007
	Determination of the table of contents of the Activity results report and the author responsible for each chapter	
International Standardization Committee	Third Meeting	January 17, 2008
	Preparation for participation in the 19th ETSI/ESI	
WG	Seventh Meeting	January 17, 2008
	Contents confirmation of the draft of the activity results report	
Seminar	First Meeting	February 28, 2008
	Implementation of the Electronic Signature and Time Stamp Diffusion Forum	
ETSI/ESI	19th Meeting	March 11 - 12, 2008
	Submit a proposal to create international standards for long-term signature profile	

Activity Results

1. Standardization of long-term signature profiles

Preserving data in digital format for a long period of time raises the possibility that those who will use electronic signatures a few decades later (signers) in documents and those who verify those signatures (verifiers) may be using different information systems. The implementation of a non-standard system may make users captive to a single vendor as well, since if vendors should stop providing their services, users may be prevented from accessing document data preserved on a system. Most of the electronic signatures and time stamps that employ public key infrastructure (PKI) technologies to guarantee the authenticity of electronic documents are incapable of verifying signatures if the public key certificates expire. The technology for "long-term signatures," which make the validity of a digital signature verifiable for a prolonged period, was developed to overcome this difficulty.

(1) Standardization in Japan

ECOM has carried out continuous research on the technology for "long-term signatures" since 2000, and finally succeeded last year in formulating a draft for JIS standards for the CAdES Long-Term Signature Profile and XAdES Long-Term Signature Profile based on TS 101 733 (CMS Advanced Electronic Signatures or CAdES) and TS 101 903 (XML Advanced Electronic Signatures or XAdES) that were defined by ETSI[*1].

For the draft for JIS standards, the following two standards were adopted in March 2008 as first JIS standards that used the ETSI specification as normative reference.

- Long-term signature profile of electronic signatures using CMS (CAdES): X5092
- Long-term signature profile of electronic signatures using XML (XAdES): X5093

(2) Activities aiming at an international standard

Although an unofficial liaison between ECOM and ETSI had existed since FY 2005, ECOM officially became an associate member of ETSI/ESI *2 in FY 2007 as a step toward making the draft for JIS standards for long-term signature profile the international standard. Although the ETSI/ESI Meetings have a diverse agenda, we will introduce the discussions concerning long-term signatures in the 17th and 18th Meetings.

1) The 17th ETSI/ESI Meeting

The 17th ETSI/ESI Meeting was held in Sophia Antipolis in France, where the headquarters of ETSl is located, on July 17 and 18 of 2007. At this meeting, we introduced the current undertakings in Japan regarding CAdES/XAdES, such as ECOM's system of examining long-term signatures, outline of the draft for JIS standards and the results of a plug test conducted in March 2007, and raised the issue on handling SigningTime (signing time claimed by a signer using the clock of the local computer where the signature was made) of CAdES/XAdES.

As a result of introducing the current undertakings in Japan regarding CAdES/XAdES, two action items were set up by ETSI/ESI.

- Presentation of ETSI-ECOM profile interoperability guide
- Survey report on the application of long-term signatures to PDF

Moreover, we were requested to provide the English versions of the draft for JIS standards and the specification of the plug test.

2) The 18th ETSI/ESI Meeting

The 18th ETSI/ESI Meeting was held in the conference room of Bull S.A. in Paris, France, on November 6 and 7 of 2007. At this meeting, we introduced the application method for long-term signatures in PDF signature that ECOM had been examining, and introduced the English and Japanese websites of ECOM regarding the draft for JIS standards for long-term signature profiles and long-term signatures.

The ECOM plug test website (Figure 1) was created as a portal of the plug test, and document related to the draft for JIS standards for long-term signature profiles and the specifications and test data of demonstration experiments can be downloaded from the website. We introduced them by actually displaying the website using a web browser, and showed the list of plug test participants, outlines of the test, and test cases. We received inquiries about contact information for participating in an international test, and we also received a favorable evaluation for the website.

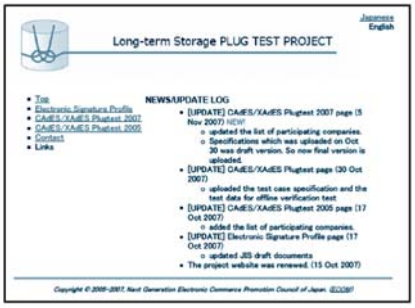

Figure 1 ECOM Plug Test Website (in English)
(http://www.ecom.jp/LongTermStorage/en/index.html)

2. Long-term signature profile plug test

In accordance with the draft for JIS standards, we conducted the "domestic plug test," in which Japanese companies participated, and the "international plug test," in which overseas companies were able to participate.

(1) Domestic plug test

Among several formats specified by CAdES/XAdES, the test targeted CAdES-T/XAdES-T (ES-T) and CAdES-A/XAdES-A (ES-A) formats, which are often interchanged between different organizations and are the requirement in the draft for JIS standards. The following two types of tests were conducted in order to confirm compliance and interoperability with the draft for JIS standards.

The companies which participated in this experiment are listed in Table 2. It was a large-scale experiment involving more than 20 participants.

1) Common data verification function standard compliance test (Figure 2) (January - March 2007)

Using the signature data and verification information in the ES-T and ES-A formats created in advance by the Demonstration Experiment Secretariat, we conducted a test to see whether they had a function that would correctly verify the authenticity of the signatures according to their expected values. The test included the verification of invalid signature data, such as mismatch of signature values or hash values, invalidation and expiration of certificates, and other areas.

CAdES	XAdES
RSA Security Inc.	Entrust Japan Co., Ltd.
Entrust Japan Co., Ltd.	Kanden System Solutions Co., Inc.
CERTRUST Co., Ltd	Dai Nippon Printing Co., Ltd.
SKYCOM Corporation	Tohoku Information Systems Company, Incorporated
SECOM Co., Ltd.	NEC Corp.
Teikoku Databank, Ltd.	Fuji Xerox Co., Ltd.
NEC Corp.	Mitsubishi Electric Corp.
Digital Notarization Authority	LangEdge, Inc.
HyperGEAR, Inc.	
PFU Limited	
B-Parc Technology Inc.	
Mitsubishi Electric Corp.	
Mitsubishi Electric Information Systems Corp.	
Ricoh Co., Ltd.	

Test Case Design	Time Stamping Authority for Testing
Entrust Japan Co., Ltd.	AMANO Time Business Corporation
SECOM Co., Ltd.	SEIKO Precision, Inc.
NEC Corp.	PFU Limited

Table 2. Domestic Plug Test Participating Companies

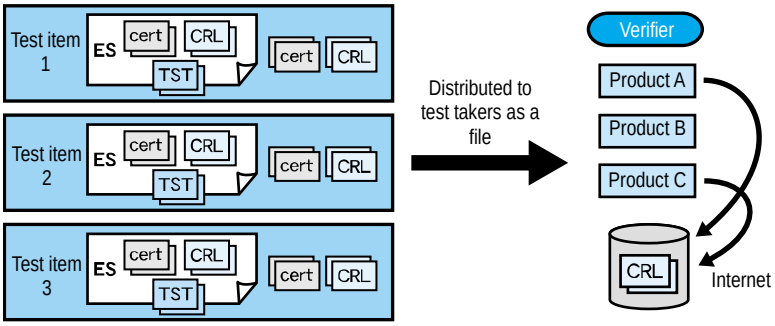

Figure 2. Common Data Verification Function Standard Compliance Test

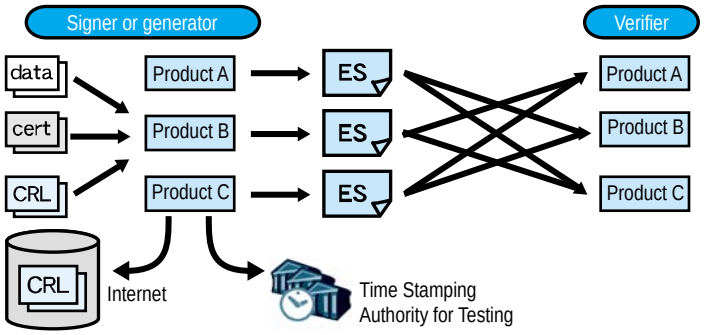

Figure 3. Signature Generation and Verification Interoperability Test

2) Signature generation and verification interoperability test (Figure 3) (October - December 2007)

We created signatures in the ES-T and ES-A formats which meet the requirement of the test specifications using Time Stamping Authority for the test in accordance with the implementation of individual participating companies, then conducted a test to check the interoperability of generation and function to see whether another company's implementation could correctly verify the signatures.

(2) State of the international test

We conducted demonstration experiments with two overseas companies which had made an inquiry from the website and had CAdES/XAdES implementation and eight volunteer companies from Japan (Table 3). The test chosen was the signature generation and verification interoperability test, and the period of testing was from November 2007 to the end of February 2008.

3. Survey of national ID number management

You do not need to use different seals for different purposes. If you have to use different seals purchased from different seal vendors specified by individual door-to-door delivery service operators, for example, it would be intolerably cumbersome.

One of the reasons why the use of electronic signatures is not expanding may be the problem of standardization. We have been working on the standardization of long-term signature profiles, but to expand the use of electronic signatures, we also need to additionally push forward the standardization of public key certificate profile. What is inevitable when discussing public key certificate profile is the issue of ID numbers to identify citizens.

Although the residential register code was introduced in Japan, its use has not expanded yet, and at the moment it is not clear how to promote its use.

(1) Management models

There are three models of the operation of national ID number systems, as follows (Figure 4).

1) Flat model

This method uses the same ID number for more than one application. It is a very simple method, and it is easy to use and consolidate the management of personal information. However, unauthorized access must be blocked by the development of laws as well as operationally, such as through access control.

CAdES	XAdES
Safelayer Secure Communications, S.A. *Spain	Safelayer Secure Communications, S.A. *Spain
Crytolog International SAS *France	Crytolog International SAS *France
Entrust Japan Co., Ltd.	Entrust Japan Co., Ltd.
SECOM Co., Ltd.	Tohoku Information Systems Company, Incorporated
NEC Corp.	NEC Corp.
PFU Limited	Fuji Xerox, Co., Ltd.
B-Parc Technology Inc.	Mitsubishi Electric Corp.
Mitsubishi Electric Corp.	

Table 3. International Plug Test Participating Companies
(Test case design and Time Stamping Authority for the test are the same as for Table 2)

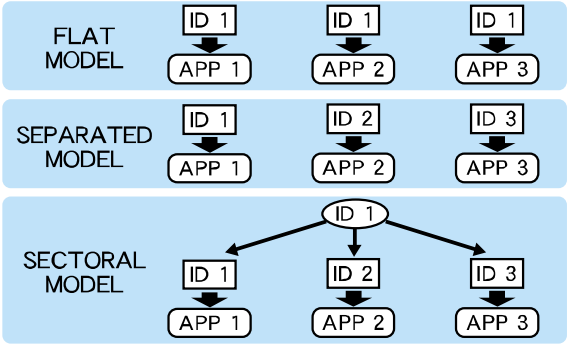

Figure 4. Operation Models for National ID Numbers

2) Separated model

This method uses completely unrelated numbers for every application. Since the residential register code and basic pension number are considered independently from each other in Japan, it seems that the government is trying to achieve this model. On the one hand because there is no ID linkage between applications, even if an ID used for one application is known, information for other applications cannot be accessed. On the other hand, users need to register the necessary information for each application, and that places a burden on users.

3) Sectoral model

This method also uses different numbers for every application, but these numbers are all generated from a single number, and only authorized persons can make the connections between these numbers.

Users can consolidate the management of personal information, but unauthorized persons cannot extrapolate the ID numbers used with the other applications from one ID number used with one application.

This sectoral model is used in Austria. We will describe how the model is used.

(2) National ID number management system[3]

The special feature of Austria's ID management system is that it combines three levels of national ID numbers (ZMR-Zahl, SourcePIN and ssPIN).

1) ZMR-Zahl

Austrian citizens are registered with the Central Register of Residents (CRR) right after birth. Each citizen is assigned with a national ID number (ZMR-Zahl) according to the internal rules of CRR. This number is open to the public and will not change throughout one's life. This number will not be associated with personal information directly.

2) SourcePIN

A new numerical sequence is obtained by applying a secret key (3DES) to the ZMR-Zahl. This sequence is called SourcePIN. This numerical sequence is stored in a citizen card and only the owner knows it. The ZMR-Zahl cannot be extrapolated from the SourcePIN.

This processing is carried out under the Data Protection Commission (DPC), which consists of six intellectuals (judges, etc.) appointed by the Austrian President.

3) ssPIN (Sector-specific IDs)

An ssPIN is an ID number actually used by applications. An ssPIN is obtained by combining the SourcePIN and SectorID, which is assigned to each sector that provides an application (for example, government agencies), and applying SHA-1 hashing to it. This ID number is generated from the SourcePIN and SectorID each time an application is used. The SourcePIN cannot be extrapolated from the ssPIN. (Figure 5)

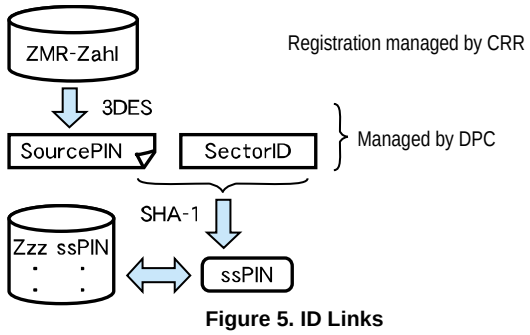

Figure 5. ID Links

By using this sort of system, different ID numbers (ssPINs) can be used for different applications. Therefore, even if an ID number of a certain application leaks out, the ID number cannot be used with applications of other sectors. Meanwhile, by obtaining permission from DPC, the tax office can combine relevant information and present the information it obtained to tax payers for tax filing purposes.

Summary

Electronic signatures have not been used as widely as was forecast when the Law concerning e-Signatures was established. ECOM considers electronic signatures to be an indispensable technology for the expansion of electronic commerce, and has been examining ways to disseminate it. As a result, we found that one of the factors hindering the dissemination was the problem of standardization and interoperability. Therefore, we have been working on the standardization of long-term signature profiles. We were able to put the results together in the form of a JIS this time, but we still have a lot more work to do, including making it an international standard and disseminating it widely. In addition, we also need to push forward the standardization of public key certificate profiles. To do so, first we are planning to survey and review the national ID number operating systems, focusing on Europe.

*1 ETSI: European Telecommunications Standards Institute

*2 ETSI/ESI: ETSI/Technical Committee of Electronic Signatures and Infrastructures

[References]

[1] Michihiro Kimura, Yoji Maeda and Kazuya Miyazaki: Mechanisms and Operations of Electronic Document Systems: Practical Strategies for the E-Document Law, December 2005.

[2] ECOM Activity Results Report: "Handbook for Long-term Storage of Electronic Documents," March 2007

[3] The Austrian E-Government Act
http://www.stammzahlenregister.gv.at/documents/e-government-act_federal_law_gazette_part_i_no_10_2004.pdf

Information Security WG

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Working Group

Overview of Activities

ECOM was established in 2005, and it created the Information Security Workshop as a place for exchanging opinions from the standpoints of engineers, business managers, lawyers, and consumers about incidents and events involving information security. The idea behind the Workshop's activities was that Internet users did not know or forgot somewhere along the line the basic idea that the Internet does not guarantee anything to anyone. In accord with these activities, ECOM organized the Information Security WG, which consists of three Sub-Working Groups (SWG) in FY 2007 (Figure 1).

As an activity of the whole WG, the first WG meeting was held in June. At the meeting, a lecture was given about the measures of Ministry of Economy, Trade and Industry[1] and the activity plan was presented to WG members. The interim debriefing session (at the second meeting) was held in November and the activity results report was finalized at the end of February (at the third meeting). The Information Security Risk Study SWG (SWG 1) was given a lecture from experts about measures taken by Japan Vulnerability Notes (JVN) which publishes countermeasures against vulnerability[2], and studied the development process of worms which had infected PCs all over the world in 2003, observed hacking tools published recently on certain websites and discussed what challenges lay ahead to address these problems. The Information Terminals Security Review SWG (SWG2) was given a lecture from experts about key development points in embedded software for information terminals in terms of fighting against vulnerability[3] and about device authentication technology, and

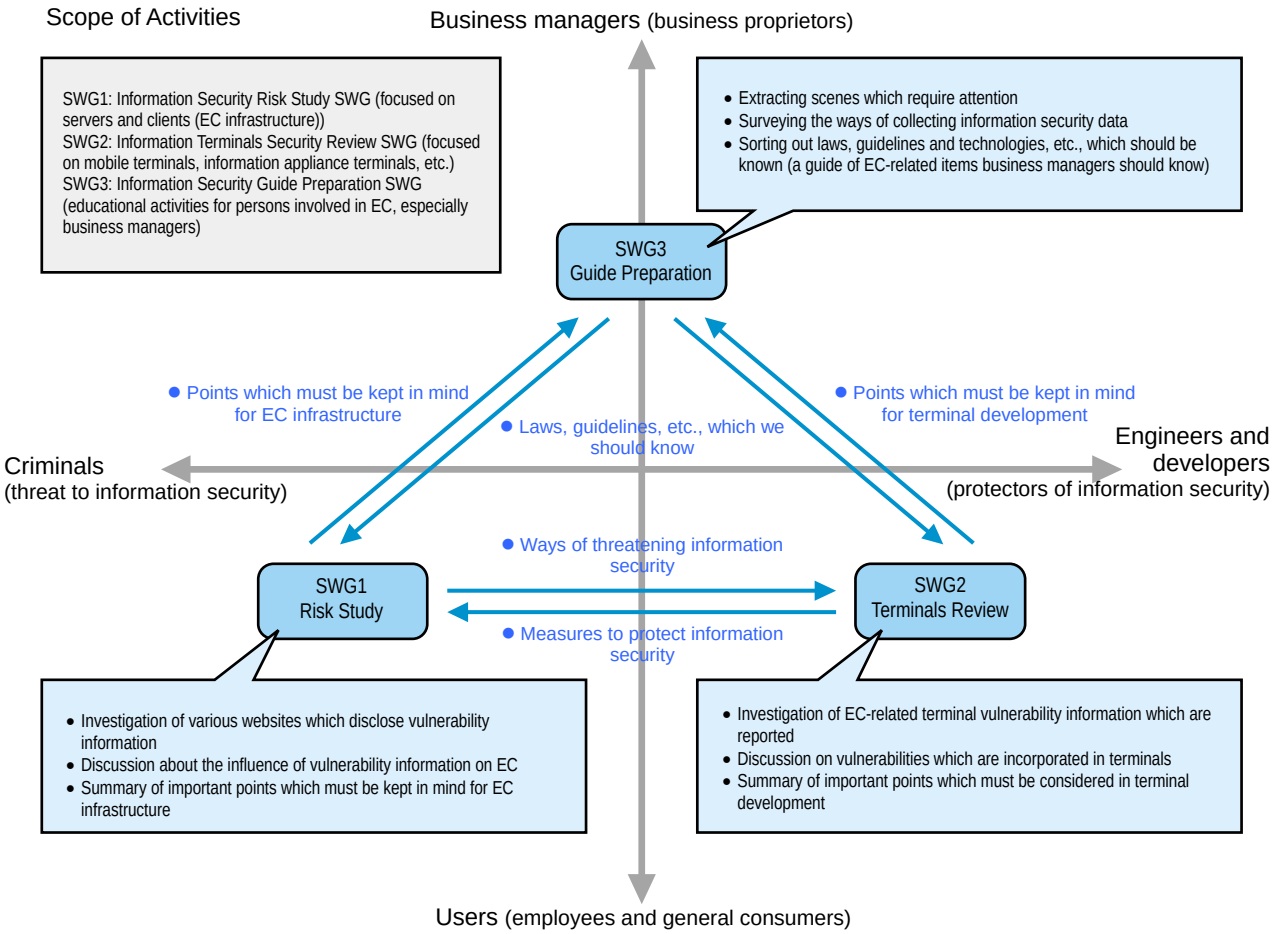

Figure 1. Information Security WG Activities in FY 2007

deliberated about important points to keep in mind to achieve a safe and secure EC environment. The Information Security Guide Preparation SWG (SWG3) was given a lecture from experts about a survey report on security incidents[4], and conducted hearings about measures businesses took for information security (Table 1).

SWG1 concluded that in order to develop a safe and secure EC infrastructure, we must deal with threats aggressively and strategically, otherwise we cannot respond to threat to today's information security. SWG2 summarized the demarcation points of responsibility for information terminal vendors and service providers and the need for collaboration between these entities because of the impact of the vulnerability of information terminals in an EC environment with diversifying information terminals and networks. SWG3 deliberated about what should be the common awareness about information security among engineers, business managers, lawyers and consumers, and put them together in the activity results report as the key points to develop a safe and secure EC environment among today's situation of information security risks, "defects" and "vulnerabilities," the realization of safe and secure electronic commerce environment, and security improvement measures even SOHO can take. Please refer to the activity results report for details.

Table 1. Activities for Information Security WG

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	June 29, 2007
	• Introduction of the project manager and SWG leaders, and self-introduction of members • Information security policies of Ministry of Economy, Trade and Industry • Overview of WG activities, schedule, and introduction of SWGs	
SWG1	First Meeting	July 25, 2007
	• ECOM's past activities related to information security risks • About JVN • What was happening before the outbreak of the MS/BLASTER worm in August 2003 Source of vulnerability information (Part 1)	
SWG2	First Meeting	July 25, 2007
	• Vulnerabilities and information security of embedded software • Examples of exploiting the vulnerability of Internet access devices (threat of bot-infected computers)	
SWG1	Second Meeting	August 27, 2007
	• Do you know a "vulnerability framework"? Source of vulnerability information (Part 2) • Questionnaire survey (subjects: participating members) (about incidents caused by vulnerability and a vulnerability framework)	
SWG2	Second Meeting	August 27, 2007
	• Information appliance device authentication technology —Scope and challenges for information terminals—	
SWG1	Third Meeting	October 16, 2007
	• Report on questionnaire result • Clarification of issues and discussion about information on source of vulnerability	
SWG2	Third Meeting	October 16, 2007
	• Detail of SWG2's report and future schedule —Visualization of threats on information terminals and demarcation points of responsibility—	
SWG3	First Meeting	October 16, 2007
	• Survey report on information security incidents in FY 2006 —Assessment of damage caused by information leak and consideration—	
	Second Meeting	October 16, 2007 (in the Evening)
	• "Vulnerability" and "bugs"	
WG	Second Meeting	November 15, 2007
	• Details of recommendations and reports (table of contents and organization) of SWGs	
SWG1	Fourth Meeting	December 12, 2007
	• Trouble on the Internet • Details of reports and recommendations	
SWG2	Fourth Meeting	December 12, 2007
	• Details of reports and recommendations —Demarcation points of responsibility on information terminals and the way they should be—	
SWG3	Third Meeting	December 13, 2007
	• Details of reports and recommendations (Part 1) • Table of contents of reports and writing assignments	
	Fourth Meeting	January 30, 2008
	• Details of reports and recommendations (Part 2) • Configuration change of reports	
WG	Third Meeting	February 27, 2008
	• Activity reports and recommendation of SWGs • WG result report (ECOM forum 2008)	

Activity Results

1. Information Security Risk Study SWG (SWG1)

(1) Security incidents

While the transaction value in EC (especially B2B EC) has increased dramatically, systematic and specialized for-profit information crimes across borders have emerged. One of largest-scale incidents in recent years was the massive leak of credit card information in the United States that occurred in June 2005. According to the Summary Report on the Implementation Status of Act on the Protection of Personal Information in FY 2005 (June 2006, Cabinet Office), businesses disclosed 1,556 personal information leak cases in FY 2005. Various information is leaked from various places today, including computers at home via P2P software (file-swapping software such as Winny), spyware, etc. Although EC on the Internet has become popular throughout Japan, the current EC environment is still a far cry from being safe.

(2) Influence on EC and universalization of "vulnerabilities"

As the use of broadband spreads and the Internet access from cellular phones becomes commonplace, the Internet has come into use as a popular platform for EC. However, it is difficult for the tools used (e-mail and the Internet) to distinguish authentic information from false information. Therefore, it is very dangerous to use raw information on the Internet as proof or evidence for EC. The fundamental rules of the Internet technology assume that the guarantee of arrival and verification of accessed websites are the responsibility of the parties involved. Similarly to the telephone, even if you communicate with a stranger, the Internet will not tell (warn) you that you are making a mistake.

Meanwhile, worms or viruses which threaten safe and secure EC are not naturally occurring entities but artificially produced software. In the course of development of the MS/BLASTER worm, which created global turmoil in 2003, a small discussion about the effectiveness of a provided patch grew into a technical exchange of opinions on the Internet, and within a month or so, a program which started out as a proof of defect got rapidly refined and became a worm. This worm, which was able to attack many different versions of OS, was soon posted on a clandestine website, and threw personal computers around the world and the Internet into chaos.

Viruses such as worms are created from active and strategic communication in a hacker community. Communities which distribute hacking tools, which camouflage as the Internet services, still exist today, and in Japan, DVDs, which add commentaries to the information on such websites and put together tools and test codes from all over the Internet, exist. Anyone who has no technical knowledge can try these tools easily by referring to the explanations. As time passes, the "vulnerabilities" in the EC environment come to the surface and become universalized by these tools.

2. Information Terminals Security Review SWG (SWG2)

(1) Current state of the EC environment with information terminals

PCs and cellular phones are no longer the only information terminals used for EC. Information terminals are used in various occasions in our daily life. The transition from terrestrial broadcasting to digital will occur in 2011, so the TV will be commonly used as an information terminal. In recent years, there are reports of security problems of virus infections and the subsequent breakdown of mobile terminals and information appliances. Unlike personal computers, these information terminals have slow CPUs so that it is difficult to achieve complex security functions which require a lot of resources. Also since these terminals are designed to be used by a wide range of people, including the elderly and children, they must have a simple user interface. Moreover, since their sales price must be held down, it is difficult to include expensive hardware and software, such as general-purpose operating systems, middleware, and security chips. Meanwhile, these information terminals are produced in quantities of tens of thousands or hundreds of thousands. Even if a problem becomes apparent, recall takes time and expenses pile up. If these terminals become a hotbed for a botnet, it may become a serious threat to safe and secure EC.

(2) The way electronic commerce using information terminals should be

The current form of Internet access from a personal computer deals with various attacks which occur where the locus of responsibility is unclear (for example, between the carrier and the ISP) by using information security software (firewalls, antivirus software, etc.). However, this means that users are responsible for dealing with the problem, and no one provides protection. It is difficult to demand the individuals with low IT literacy, such as the elderly and children, take measures for information security for information terminals such as TVs. Therefore it is necessary to clarify who should bear the responsibility between users and ISPs, including terminal providers. If the scope of responsibility is not made clear, then that is where threats to a safe and secure EC environment will appear from. We need to clarify demarcation points of responsibility in order to achieve a safe and secure EC environment.

3. Information Security Guide Preparation SWG (SWG3)

(1) Policies and international standards

The National Information Security Center (NISC) in the Cabinet Secretariat was established in April 2005, facilitating unified governmental efforts for information security measures, which previously all differed by agency. In regard to the progress in information security measures in the general industry, the Ministry of Economy, Trade and Industry formulated its "Global Information Security Strategy" in May 2007, and has been operating in collaboration with related organizations towards 1) the realization of a leading information security nation, 2) the global expansion of information security policies, and 3) the establishment of a mechanism that responds to domestic and international changes. Such collaboration with related organizations is one of the activities indispensable to the development of a safe and secure EC environment.

Meanwhile, international standards (ISO 27000 series, ISO/IEC 15408, etc.), such as ISMS (Information Security Management Systems) and security evaluation criteria (Common Criteria or CC), have been developed. The dissemination of these international standards will lead to the development of a safe and secure global EC environment as well.

(2) Laws and Guidelines for the Protection of Personal Information in Japan

Japanese laws governing the handling of information (not limited to electronic data), the use of information technology and the securement of security include ones which lay duties on businesses and ones which penalize attackers. Laws for information management in general (Act on the Protection of Personal Information, etc.) and information management by internal control systems (Company Act, etc.) have been developed, but there is no law to control information crimes, such as information theft and the crime of virus creation. Therefore it is indispensable to clarify the scope of responsibilities for a safe and secure EC environment, and for those who support this environment to work together.

The Act on the Protection of Personal Information became fully effective in 2005, and appropriate measures for "safe management of personal data" are now required. The guidelines for the industrial sector were revised on March 30, 2007. The March 2007 revision now included "excessive responses" and reducing "excessive burdens imposed on businesses." The guideline were revised in February 2008 to clearly define the need for supervision of consignees in outsourcing.

(3) Approaches in corporations and organizations

The WG divided the approaches of corporations to information security improvement into four groups along the two axes of (a) small-scale businesses and large businesses, and (b) specialized companies which target a specific area as well as companies which operate in multiple areas. WG members then conducted hearings about the approaches of each company and organization. If the same mesh (strengthened penalties) applies to small and medium-sized businesses and large businesses equally, then small and medium-sized consignee will have a hard time adapting. Some companies have started analyzing the need for presenting guidelines on how many logs to keep and how much log consignees should keep for the purpose of data forensics, and, conversely, the danger of stored data leading to information leaks. Large businesses are independently conducting data management based on their own interpretations, but it is difficult to ask affiliated companies such as consignees to do the same. We unearthed some problematic points which should be discussed in future activities and comments such as the fact that external consultation expenses were imposing a heavy burden on small and medium-sized businesses.

Summary

Criminals, Internet users and vulnerabilities have all become universalized in EC on the Internet, and we do not know where the pitfalls are. We should always keep in mind that the Internet does not guarantee anything to anyone. Neither infrastructure and technology alone, nor operation and control alone, nor laws and guidelines alone will build a safe and secure EC environment.

This WG gained a shared awareness that those who involved in information security must work together. There are no minimum requirements, but each person should work actively and strategically from their own standpoint in accordance with the process of using EC. Under this common awareness, in FY 2008 we will continue to work on the development of a safe and secure EC environment through such activities as the coordination of data protection between companies during outsourcing, proper ways to use and manage PKI by websites which use EC, web security, and discussion on data forensics.

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IT Utilization Group

Ryoji Yamada, Research Director,
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Working Group

Overview of Activities

1. Background

According to the survey by the Ministry of Economy, Trade and Industry, in FY 2006 the Japanese and U.S. BtoB EC markets, broadly defined, were 231 trillion yen and 196 trillion yen, respectively. The Japanese BtoB EC market has already grown to exceed the scale of United States market. The ratio of e-commerce to ordinary transactions in Japan was 19.8%, far exceeding the 9.3% ratio in the United States. However, qualitative and objective evaluations on the effects of EC introduction have not been established yet. In order to further promote the dissemination and sophistication of EC in the future, we need to make qualitative evaluations on the effects of EC introduction. To that end, it will be helpful to have evaluation criteria. For this purpose, in FY 2006 (the first year of the two-year plan), this WG studied the best EC practices of foreign and domestic companies to find points for objectively evaluating the effects of EC implementation, with a focus on BtoB. The WG then put together an Evaluation Model (hypothesis and tentative plan) and published the model. Figure 1 shows the complete picture of the EC Evaluation Model.

In FY 2007, the WG carried out the following activities from the above-mentioned viewpoint.

- Understand the actual conditions of IT utilization between businesses and organize the measurement indices of the effects of EC implementation
- In particular, perform empirical analysis on the Evaluation Model (including measurement indices) and improve it in FY 2007

Past activities of the IT Utilization WG are listed in Table 1.

Table 1. Activities for the IT Utilization WG

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	July 23, 2007
	Review of EC Evaluation Model, FY 2007 activity plan	
	Second Meeting	September 26, 2007
	Role of a balanced scorecard (BSC) in IT investment management	
	Third Meeting	January 25, 2008
	Interim report on empirical analysis and survey of the EC Evaluation Model	
	Fourth Meeting	March 17, 2008
	Summary of empirical analysis and survey of the EC Evaluation Model	

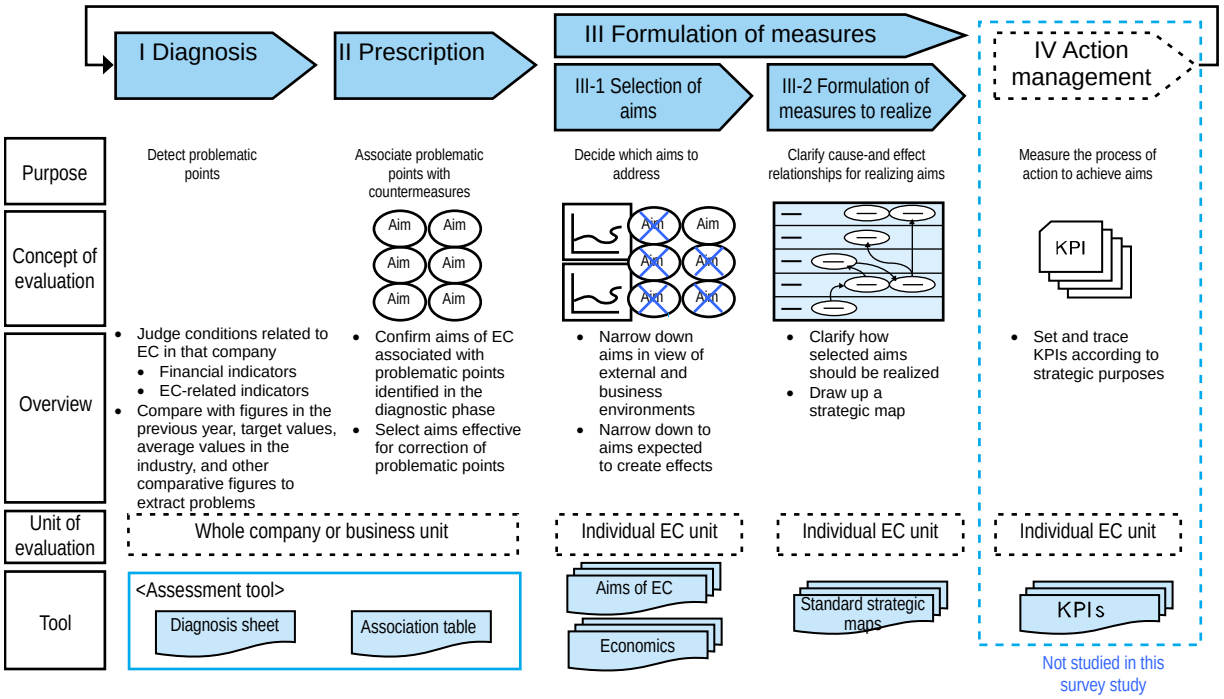


Figure 1. Overall Picture of the EC Evaluation Model

Source: JIPDEC/ECPC, ECOM, Activity Results Report: "Survey Research Report on the Use of EC and IT," March 2007

Activity Results

1. Seeing the Actual Conditions of EC Evaluation

This survey study looked into the actual conditions of EC evaluation in Japanese companies by using a questionnaire survey and investigated the EC Evaluation Model created in FY 2006. First, if we take a look at the evaluation of EC given by top management, only 15.5% answered "Extremely satisfied" and "Satisfied," which are less than the responses of "Management is not interested in EC" (16.5%), "Dissatisfied" and "Extremely dissatisfied" (17.5%) (Figure 2). Such tendency becomes more conspicuous among smaller companies. We found that, especially in small and medium-sized businesses, either management has never been interested in EC from the start or is not satisfied with EC even if it is interested.

Next, concerning whether EC is evaluated, 60.2% of them answered "No evaluation is performed" (Figure 3). The percentage of businesses which are not evaluating EC is 33.3% in companies with 1000 or more employees but 75.0% in companies with less than 300 employees, clearly showing a higher percentage among small and medium-sized businesses.

Given this situation, it is necessary to spread the use of an EC Evaluation Model which can be easily adopted by small and medium-sized businesses for the sake of increasing the interest and degree of satisfaction by management toward EC, as well as further advancing EC in Japan.

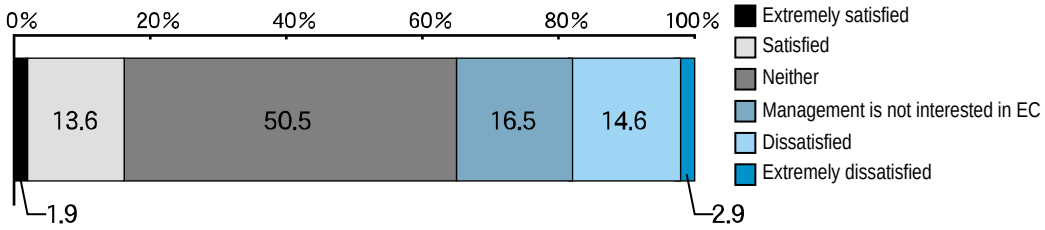


Figure 2. Degree of Satisfaction of Management Toward EC (Procurement Operation)

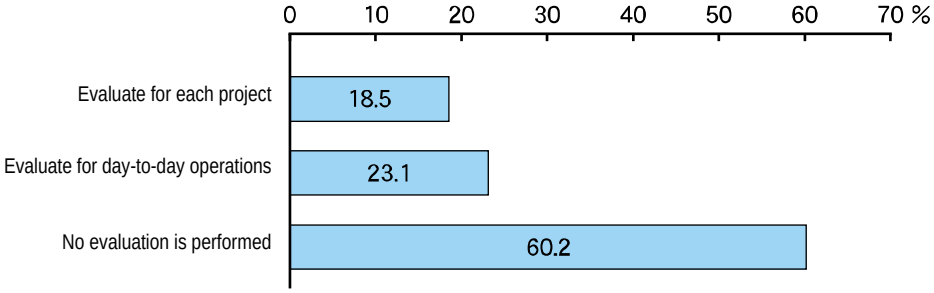


Figure 3. State of Investment Evaluation of EC (Procurement Operation)

2. Investigation of the EC Evaluation Model

To investigate the EC Evaluation Model, six EC domains were set up for procurement and selling operations (Figure 4) and the EC Evaluation Model was verified for each of the domains. Moreover, in the investigation we assumed regarding the relationship between aims, measures and creation of effects in the EC Evaluation Model that the appropriate implementation of EC-related measures and non-EC-related measures according to aims would create effects, and tried to verify the relationship. Below, we will report specific investigation results about the measures needed for the aim of "reduction of purchase cost and workload," which targets transaction information in procurement operation.

Figure 5 assumes that "ordering-related workload," "ordering-related costs other than labor costs" and "average unit price of procurement (purchase of stock)" are the three values created in the domain of using EC in procurement operation transaction information, and illustrated the relationships with these values and the factors which affect them in a format called a path diagram. In this diagram, an arrow shows the relationship between variables, and the number on the arrow indicates the strength of the relationship. For example, there is a strong negative relation (standard partial regression coefficient of -0.292) between the variables "impeding factors of EC in industry" and "computerization of ordering information progressed." This means that those who chose larger numbers among answers 1 to 4 (4 is "No impediment whatsoever") for impediment of EC were more likely to choose smaller numbers among answers 1 to 5 (1 is "Applicable") for the computerization of ordering information.

Looking at these relations between variables, we can see that the actual implementation of EC-related measures such as "sending ordering information by e-mail" or "standardization of ordering operation progressed (compared to three years ago)" has led to creation of effects. Moreover, we can see that the measure "standardization of ordering operation was progressed (compared to three years ago)," which is not directly related to EC, has also led to the creation of effects. We can also see that those companies which are actively implementing these measures tend to emphasize "improvement in efficiency by automation of procurement operations" in the domain among management issues compared with companies which are not actively implementing these measures. Furthermore, these measures are influenced by environmental factors within the company, such as the degree of management expectation for EC and environmental factors outside the company such as the existence or nonexistence of impeding factors of EC in the industry.

This survey investigated each of the six domains in the manner described above and the activity results report for this survey revealed that both EC-related measures and non-EC-related measures contributed to the creation of effects. Based on this result, we are now able to recommend individual companies which specific measures to take in order to create effects in different domains.

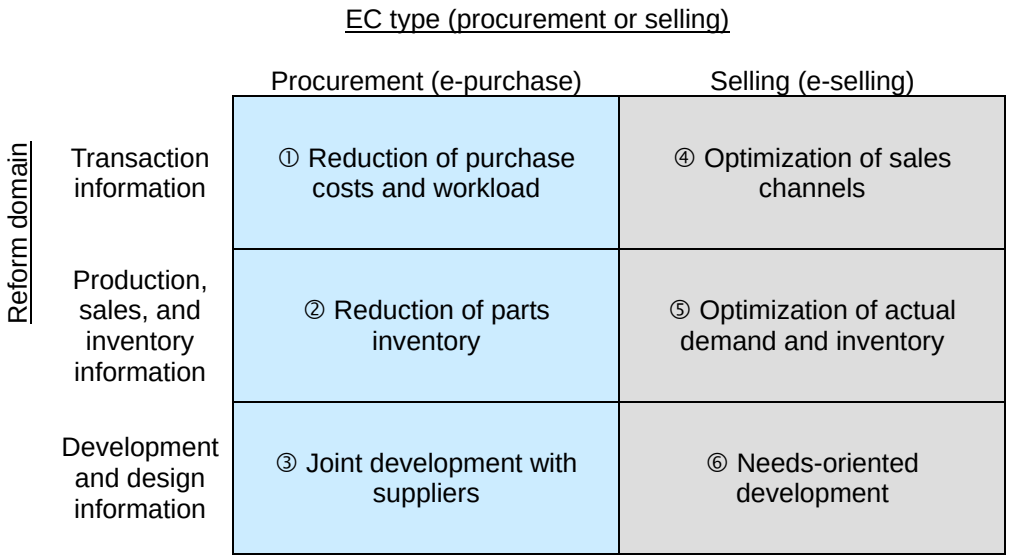


Figure 4. Six EC Domains and Their Aims

Summary

1. Recommendations from This Survey

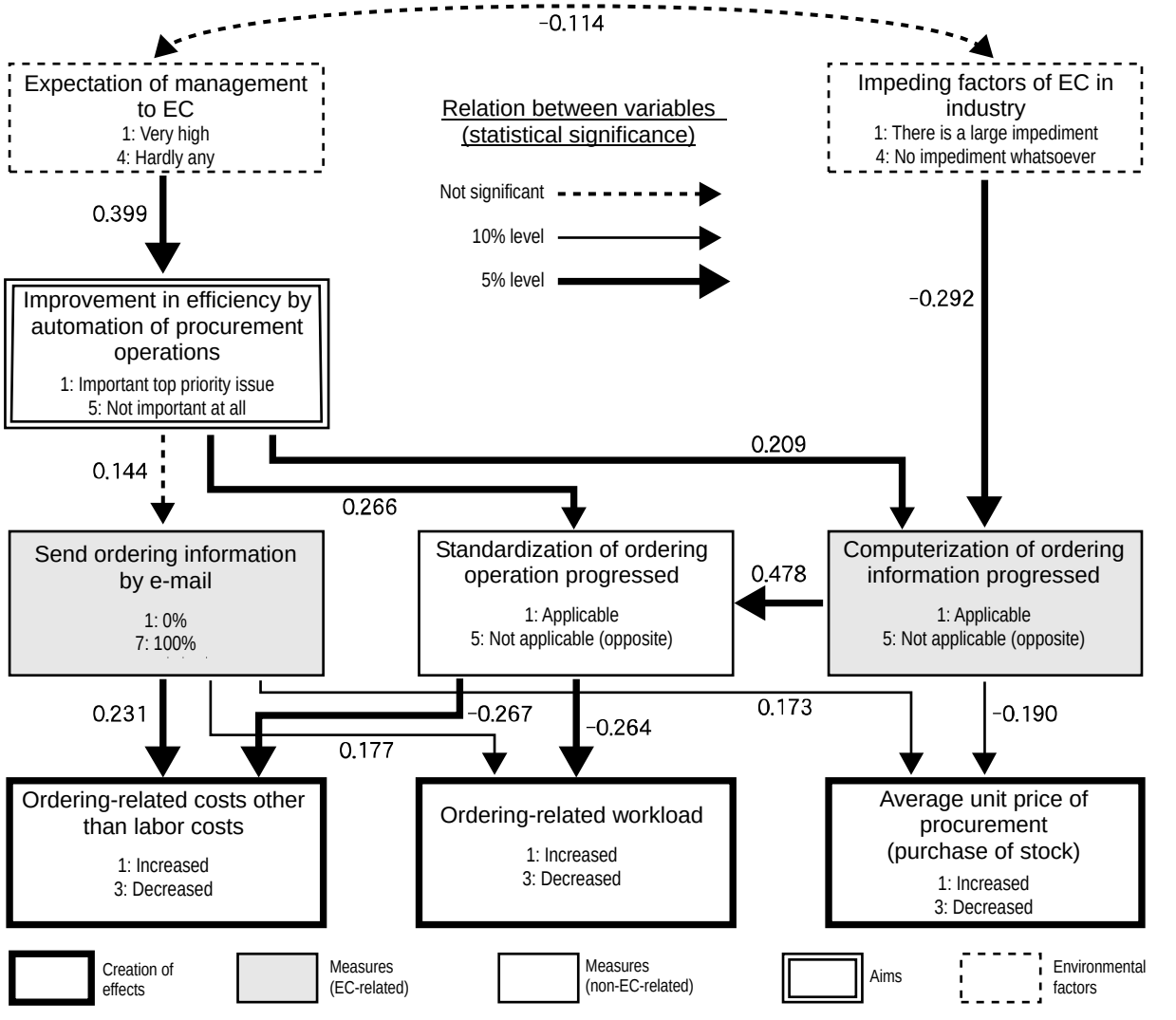
(1) Promotion of EC by utilizing the EC Evaluation Model

By utilizing the EC Evaluation Model studied here, individual businesses can conduct industry benchmark testing to see the current status of activities for EC in their companies and find out the measures they need to take in the future.

(2) Policy assistance for the removal of impeding factors

From this survey research, we were also able to confirm that the implementation of EC tends to be slower in smaller businesses. Therefore, policy assistance is needed to further advance EC implementation in small and medium-sized businesses. Moreover, as shown in Figure 5, impeding factors within the industry, which are difficult for individual businesses to resolve, are blocking EC implementation. We found that this is one of the factors that made EC implementation less effective. Specific impediments to EC may include the issue of redundant investments due to nonexistent standards and the existence of multiple formats and systems, as well as the issue of the absence of leadership in EC implementation. Future policy assistance will be important in resolving these issues.

* This project was funded in part by support from JKA.



(Note) The number on the arrow is the standard partial regression coefficient.

Figure 5. Path Diagram of Reduction in Purchase Costs and Workload

e-Government & Business Collaboration WG

Michihisa Uchida, Chief Researcher,
Next Generation Electronic Commerce Promotion Council of Japan

Working Group

Outline of our Activities

1. Background

An increase to a 50% use ratio for electronic applications by the year 2010 is needed from the "New IT Reform Strategy." To get this, it is self-evident that building a mechanism that can respond to applicants' needs is vital. In the e-Government & Business Collaboration WG, the creation of a mechanism that will contribute to the increased efficiency of corporate administration-related tasks has been examined through the activities of the past six years.

As a result, from considering the issues occurring in events and in analysis of the current state for each event occurring in corporate employee-related procedures, we examined the reduction of load and proposed a load reduction measure through making administration-related procedures into a one-stop service.

2. Activity goals

We carried out surveys and analysis in FY 2007 centering on small and medium businesses with the following as our activity goals:

(1) Formulation of a scenario for achieving load reduction measures in administrative-related procedures in corporations

We are drawing up the following achievement scenarios in relation to the load reduction measures for each user through the introduction of one-stop services for administration-related procedures being carried out by corporations that we proposed in FY 2006.

- Measures for the mutual sharing of information between administrative organizations related to the targets (citizens, corporations) of administrative services
- Provision of hub functions or of coordination functions related to administrative services

(2) Considerations related to how electronic applications can be made more widespread

Along with carrying out surveys on the latest examples in overseas countries regarding electronic application, we analyze the survey results to create materials that consider measures to increase the usage ratio of electronic applications in Japan, from the point of view of user and client satisfaction levels.

Table 1 Activities for e-Government & Business Collaboration WG

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	June 20, 2007
	Agreement on current fiscal year's direction for activities	
	Second Meeting	July 11, 2007
	Lecture: Local platforms and local ICT society Lecture: The current state of electronic application by certified social insurance labor consultants	
	Third Meeting	August 28, 2007
	Lecture: Local tax portal systems (eLTAX) Lecture: The current state and issues regarding the IT development of small and medium businesses	
	Fourth Meeting	October 2, 2007
	Lecture: The current state of electronic applications in small and medium businesses Lecture: Electronic application in contracted tasks for certified social insurance labor consultants: the current state and issues	
	Fifth Meeting	November 13, 2007
	Lecture: The SaaS portals and product linkages MIJS is aiming for	
TF	First Meeting	December 10, 2007
	Model analysis / ToBe Model	
	Second Meeting	December 20, 2007
	The current state of employee procedures	
	Third Meeting	January 15, 2008
	Issues and discussion	
WG	Sixth Meeting	January 29, 2008
	Issues of the current already-provided system Summary of the results report	
	Seventh Meeting	March 18, 2008
	Annual report and concerning the future	

Activity Results

1. Survey targets

In FY 2007, we targeted procedures between local government and corporations (Fig. 1).

Target events of the surveys were "Company entrance," "Marriages," "Birth," "Company transfer," "Retirement," and "Employment income."

2. Survey results

In order to understand the current state of corporate employee procedures, we did not rely solely on current status reports from corporations using them, but also carried out interviews with: (1) consultants, professionals who are in a position of supporting corporate procedure system construction; (2) groups already providing the system; and (3) corporation that will support the construction of systems that used SaaS. Through these, we understood and analyzed the current situation and used it as the basis for considerations about the ToBe Model.

(1) Issues from the point of view of proxy procedures

1) Problems of electronic applications in the bulk letters of proxy method

Based on the slump in use ratios, the following problem areas were raised by the certified social insurance labor consultants who are given the work.

- The system is not simple (this is not just a problem with the assigned tasks)
- Not all procedures can be done with just the electronic signature of the certified social insurance labor consultant

- There are limits to the procedures that can be done with bulk letters of proxy
- Application cannot be made for ones like letters of separation or accident and sickness benefits that involve income
- Applications cannot be made for transfer notices and other forms for dependents since they require the seal of the person
- Applications for the Workers' Accident Compensation Insurance system cannot be made if the hospitals cannot accept electronic applications
- Virtually all health insurance societies and welfare pension funds cannot accept electronic applications

Note that even for procedures that are possible using the bulk letter of proxy method, the attached materials must be sent separately (by post). For example, in returning a health insurance card when you are no longer eligible, you cannot use a PDF. Or, even after making an electronic application, you have to send, for example, results such as employment insurance cards are paper-based and sent by post.

2) Areas that we want to see improved in the bulk letter of proxy method

The following areas where improvement was demanded were raised by the certified social insurance labor consultants who are given the work.

- About the social insurance notice creation program:

  With CSV format data creation, data created in Excel should be more easily able to be read and created.

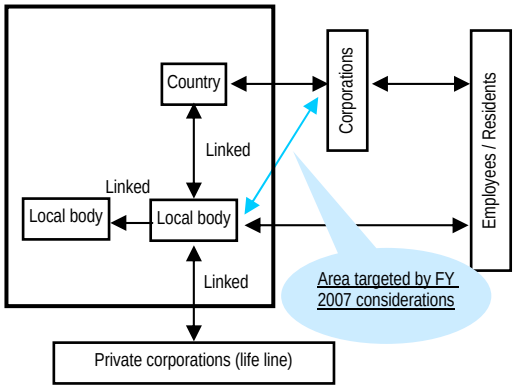


Fig. 1 Range of Activities

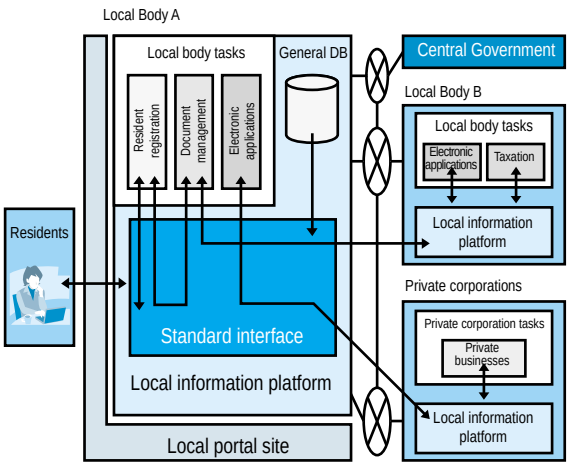


Fig. 2 Diagram of the local information platform

- About the application program:

  We are sometimes requested to resend the data several days after sending it when the data is "returned on account on incompleteness" by the application program, but if there are any problems, we would like to be contacted immediately, and if possible we would like a system where you cannot complete sending of the data if it is incomplete.

- About change of address notices for welfare pension insurance
  Not just insured parties, but category 3 insured person's change of address notice should also be able to be sent by electronic application at the same time.

- About reissuance of pension books and health insurance cards
  These procedures do not require any attached materials, so should be able to be done using electronic applications.

(2) Surveys of existing examples

Our WG created a measure in last year's activities known as the "proposal towards optimization of load reduction for administration-related procedures." Specific approaches to this can be seen in a number of existing examples.

We report on the survey details of existing examples below.

1) Local information platforms

There are moves to aim for an "electronic local government" in order to increase the efficiency of administration tasks in many local governments, based on the e-Japan strategy, but in actuality in many cases the system is created using the same old procedures as before, and there is not enough consideration as to the usability of the system for residents, so at present it is difficult to say that "electronic local government" is being promoted smoothly. In order to break out of this situation, a "information systems collaboration infrastructure" in the "Priority Plans 2007" of the IT Strategic Headquarters was clearly noted, and in 2008 we worked for the specification and standardization of Local Information Platforms (PFs) and by 2010 we will be promoting the development of linkable applications using this standardization at local public bodies.

The Local Information PF (Fig. 2) is designed to reform the existing vertically-divided system, and to share information and make linkages easy between each task system. Based on the ideas of SOA (Service Oriented Architecture), standardization of task application functions related to administrative procedures and data linking technological specifications was done, and the work is carried out by The Association for Promotion of Public Local Information and Communication (APPLIC). Through using this platform, the goal is to provide high value-added services linked with other local governments and private corporations.

2) The Local Tax Portal System (eLTAX)

The Local Tax Portal System (eLTAX) is a system that uses the internet to electronically carry out procedures such as tax declarations for local taxes.

By operating a system jointly between local public bodies all over the country, we hope that 1) users can carry out procedures such as tax declarations for local public bodies all over the country from a single counter; 2) users can use a single User ID and password, and use them the same way at any local body; 3) costs for operating the system can be made cheaper, and we can provide a higher quality service to users.

The targeted taxes are: the corporate body prefectural tax, the corporate body business tax, the corporate body municipal tax, fixed asset tax (amount for depreciable property), and also, from January 2008, individual residents' tax (income payment report forms, etc.) and business office tax.

(3) The current state of system construction support for corporate procedures using SaaS

In terms of our consideration of a shared database using SaaS, the state of conception, discussion, and development of the SaaS portal site of MIJS (Made In Japan Software Consortium) that is considering this site construction is as follows. Note that MIJS is a consortium of 24 software vendor companies (as of November 1, 2007) formed in August 2006 with the aim of making products mutually linkable and working to strengthen business infrastructure in Japan and overseas development.

1) The SaaS portal site concept promoted by MIJS

- SaaS promoted by package vendors themselves
  By providing solutions for both "package purchase" and "service use" and having vendors giving themselves a greater range of choices, users are able to choose the usage forms that are best suited to them.
- SaaS developed as a vendor alliance
  By making it possible for products, including competing products, to participate openly and not becoming centered on specific vendors' products, users are able to freely select things that are best suited to them.
- SaaS made up of proven applications
  Instead of providing development tools and API and the added creation of applications, by making it possible for proven, reliable, high quality packages to freely participate, each of them can be linked easily.
- Combined-style SaaS where inter-service linkages are possible
  As users can choose freely between multiple services, and combine them as well, single sign-on, transaction linkages, linked management of masters, and the unification of shared functions is achieved.

2) SaaS portal site construction

Just as in the concept, data linkage between multiple products is vital in the SaaS portal site, and we are considering realizing three linkages through the introduction of standards.

- MIJS standard for transaction linkages
  Creation of standards and adaptors for linkages between products.
- MIJS standard for master linkages
  Creation of standards and adaptors for master data linkages.
- Creation of a shared infrastructure for horizontal functions

(4) Standardization of procedures between local bodies and corporations

FY 2007 activities aimed for the standardization of procedures between local bodies and corporations from the point of view of the corporations that are the stance of the WG, using the load reduction of administrative procedures through links with the Ministry of Internal Affairs and Communications as the theme.

In model analysis and creation, we created the following four materials, modeled after the "Local Body Task Application Standardization Specifications" (March 26th, 2007, The Association for Promotion of Public Local Information and Communication) and based on the "Survey on the State of Employee- related Procedures" (July 31, 2006).

- Task Unit Explanation
- Functions List
- Diamond Mandala Matrix (DMM)
- Data Flow Diagram (DFD) (Fig. 3)

(5) Issues

We have proceeded with considerations with the focus on small and medium businesses, but since there are many variations of scale and type of industry within small and medium businesses, and differing states of IT development, it is difficult to come up with a common reason for why electronic applications have not

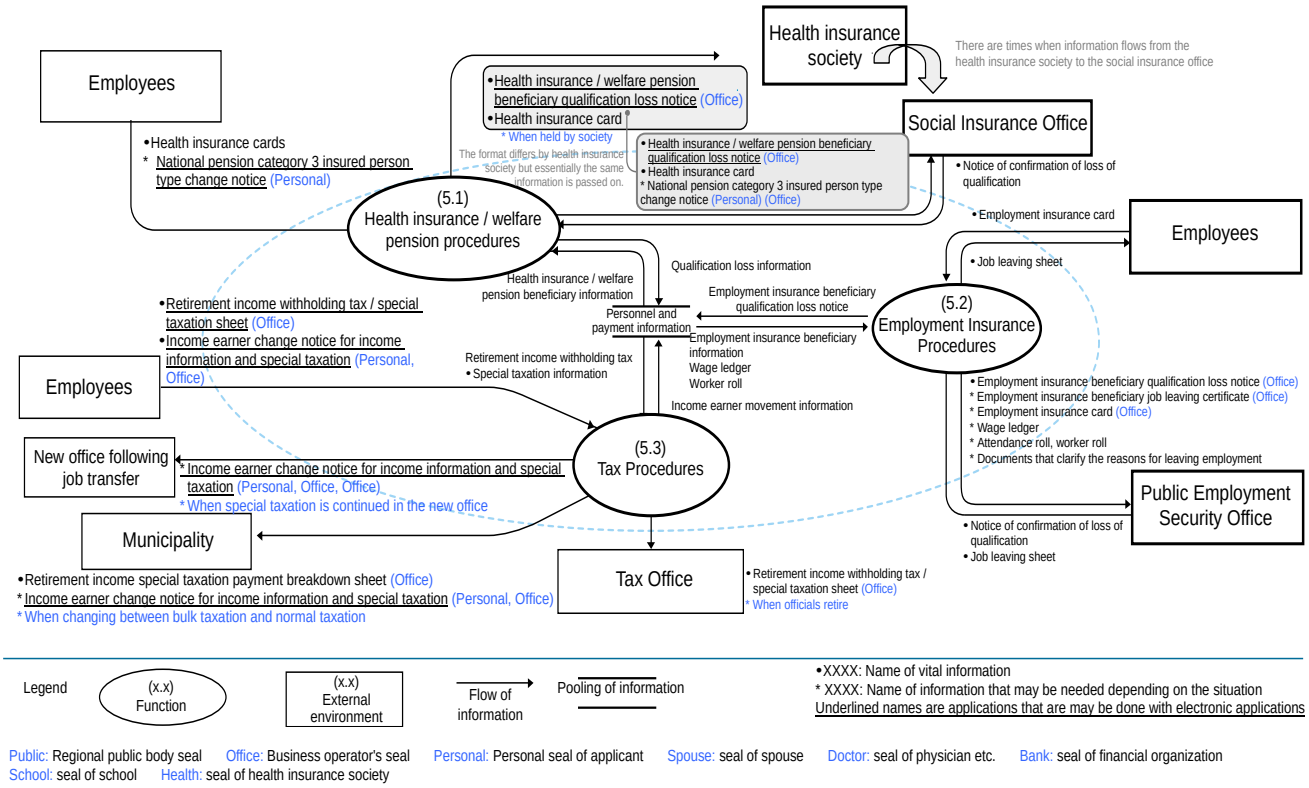


Fig. 3 Data Flow Diagram (DFD) (for when leaving employment)

progressed.

In our considerations during FY 2007, we divided our considerations based on the number of employees, separating them into those with fewer than 20 people, and those with 20 people or more.

1) Issues for offices with fewer than 20 employees

In offices with fewer than 20 employees, about 30% of them do not have personal computers, and there are high hurdles for the equipment investment and IT skills for electronic applications.

In the other 70% or so of offices that do have personal computers, according to a questionnaire targeted at SOHO businesses, which usually have about 1 to 10 employees, in contrast to the more than 50% of the businesses using the internet for direct tasks such as "accepting inquiries from customers" and "dealing with graphic data," it was found that only 1.6% of them were using it for notices and applications to government agencies and the like.

Thus, in offices with small numbers of employees, the level of electronic application is low, regardless of the IT skills, but these places do not often need to use administrative procedures to do with "life events" (entering the company, retirement, marriage, etc.) in the first place, and it is also difficult to set up a specialist operator in an back-office section to deal with them. In this sort of situation, it is extremely difficult to prepare something ahead of time just to carry out electronic applications.

In the future, along with an increased development of promotional and publicization activities aimed at the 70% or so of businesses that use computers in their business, we need to consider approaches where the merits of electronic applications are recognized and paper-based supplementary materials are not needed, as well as consideration of a system where the flow to application can be easily understood even by businesses that would only use electronic applications once every few years.

2) Issues for offices with 20 or more employees

In offices with 20 or more employees, the complexity of procedures is a significant cause preventing the use of electronic applications.

For example, for social insurance related procedures, whether or not the health insurance society or pension fund that the office belongs to have developed IT has a large influence on the use of electronic applications by the business. In other words, when the health insurance society or pension fund do not have a developed IT, and applications need to be submitted on paper, then it is very common that applications are also submitted to the government on paper.

In terms of the development of IT in health insurance societies, the following problems were reported in the "Health Insurance Society IT: Basic Concepts (Final Report)" (February 16, 2007, National Federation of Health Insurance Societies), and standardization of systems and IT investment is to be desired throughout the entire network of health insurance societies.

- There are differences in the contents of the system by each system operator entrusted with the system, and it is necessary to standardize it so that data can be shared and used between health insurance societies and the National Federation of Health Insurance Societies (Kenporen).
- In many small and medium-sized health insurance societies, there are a limited number of specialist staff, and it is not easy to cope with the development of IT.
- In the general society, since the IT environment differs by the office where it is used, linking of data between offices is difficult.

Summary

Through this survey, we have cast into relief once more the facts that direct tasks are the most important for corporations, and that investment in IT for indirect tasks such as employee-related procedures does not occur. For this reason, in terms of the SaaS / ASP-type shared infrastructure we are currently considering, centered on the Ministry of Economy, Trade and Industry, the needs of small and medium businesses are large as well, and in terms of the electronicization of employee-related procedures too, we can expect a certain amount of effects to appear. However, in the consideration of the SaaS / ASP-type shared infrastructure, we need to add that there are barriers such as the current relevant laws and outsourcing of administrative procedures, and we consider it necessary to negotiate with each government ministry and group, including revision of the laws.

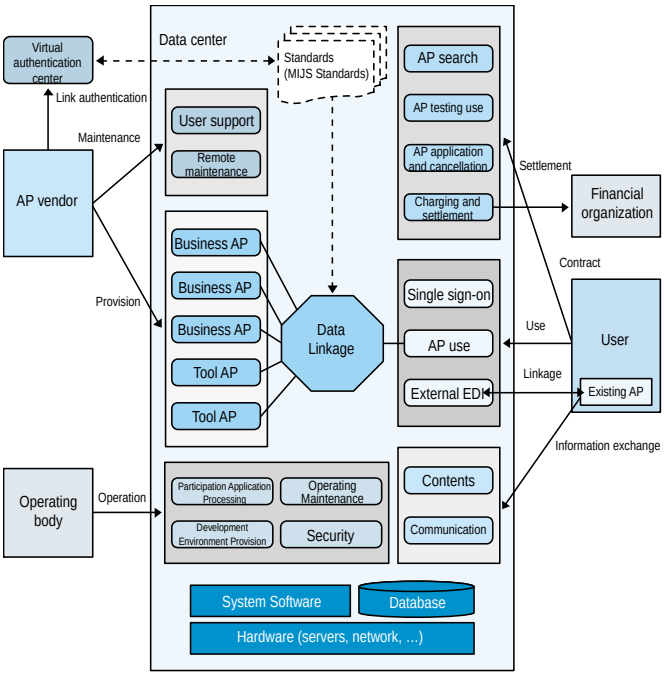


Fig. 4 SaaS Portal Site Considered by MIJS

Information Sharing Technology Promotion Committee

Hisanao Sugamata, Chief Researcher,
Next Generation Electronic Commerce Promotion Council

Committee

Outline of Activities

EDI in Japan has developed in each industrial field and corporate group, and contributed extensively to the improvement of productivity in each of these industrial fields or corporate groups. However, in Japan, in order to maintain our international competitiveness, we need further increases in the labor productivity and the effective use of resources throughout all of industry. Additionally, the mature consumers of Japan demand safety, security, and consideration for the environment in their products and services. In order to respond to these demands, it is vital to construct a platform for sharing information, and a wide-ranging engineering chain, supply chain, and recycling chain that considers product life cycle. Information Sharing Technology Promotion WG (as of November 2007, the name has been changed to the "Information Sharing Technology Promotion Committee"), has as its goal the development of an information modeling method for making it possible to share information in a wider range of industries, complying with international standards, and the promotion of the preparation and widespread distribution of shared data specifications based on this information modeling method.

In this WG, up until FY 2006, we have published guides for an information modeling formulation method through core components that are the modeling method for information sharing, a UN/CEFACT modeling method, and XML design standards, among other things. However, in response to current EDI issues, it is necessary to prepare a comprehensive information entity modeling method that includes preparations for context application methods and message construction methods that work to connect the various methods in order to utilize them effectively.

Reflecting on the progress situation of the international standardization of the above technical methods, in FY 2007 we carried out the construction of a domestic common dictionary based on preparing the core components developed by the UN/CEFACT and also a comprehensive survey investigation of information modeling methods for EDI based on the latest international standards (message construction methods, context application methods, etc).

1. Promotion of the international standard for information sharing technology

We became aware of the technical direction of the international standards (the V3 core component technology specifications, electronic message construction technology specifications, context application technology specifications, etc.) related to the structuration and definition of information entities being carried out by UN/CEFACT.

2. Preparation of a common dictionary

In order to prepare a dictionary of information entities (data identifiers, data names, data structure, data meaning definitions, data representation format, etc.) that cut across fields and of information entities used in principal industries, we joined in the

Table 1 Past Activities of the Information Sharing Technology Promotion Committee

Classification	Meeting	Date *City international symposium was held
	Description of Activity	
UN CEFACT TBG17	—	May 7 – 11, 2007 *Berlin
	Completion of the draft of the 2007 Information Entity International Standard Dictionary 1st edition. Pre-investigation of automobile industry standard information entity proposal	
WG	First meeting	June 22, 2007
	FY 2007 activities plan deliberation. Activities are the two sets of 1) promotion of internationalization of information sharing technology (including participation in the UN/CEFACT TBG17 meeting), and 2) preparation of a common dictionary (including ECALGA / CEFACT harmonization tasks).	
WG/TF	First meeting	July 19, 2007
	Decision on task procedures. In Step 1, UN/CEFACT invoice messages are expressed as ECALGA data entities, and in Step 2 ECALGA order documents are expressed as UN/CEFACT core components.	
WG	Second Meeting	July 26, 2007
	Deliberation of the revised proposal concerning message construction methods being deliberated on at UN/CEFACT. Deliberation concerning issues of harmonization of domestic industry EDI standards with international standards	
UN CEFACT TBG17	—	August 13 – 17, 2007 Detroit
	Deliberation on harmonization of financial and insurance related information entities. Draft proposal for information entity harmonization procedure documents (editorial responsibility is with the office of this ECOM WG)	
WG	Third Meeting	September 10, 2007
	Core component UML profile evaluation. Deliberations concerning the harmonization of RFID tag stored information and EDI standards. TBG17 Detroit meeting report	
WG/TF	Second Meeting	September 14, 2007
	UN/CEFACT invoice message concentrated information entities expressed in ECALGA classes. The invoice is different from the electrical and electronics industry billing process, and there are information entities that cannot be mapped.	
WG	Fourth Meeting	October 12, 2007
	UN/CEFACT forum meeting report. Deliberations on data style issues. Deliberation of revised proposal for UN/CEFACT information entity harmonization procedure documents (ECOM WG proposal). Evaluation of proposal for product catalogue registration (GS1 proposal) and MSDS (USA proposal)	
WG/TF	Third Meeting	October 22, 2007
	All information entities in UN/CEFACT invoice messages expressed as ECALGA data components. Evaluation of mapping results	
UN CEFACT TBG17	—	November 12 – 16, 2007 Paris
	Overseeing of 2007 Information Entity International Standard Dictionary 2nd edition. Deliberation on the harmonization of information entities related to transport, agriculture, animal and plant health inspection, e-government, and accounting	
Committee	First meeting	November 19, 2007
	From this meeting, the name of the WG was changed to a "committee." TBG17 Paris meeting report. Deliberation of issues regarding context methods (proposed at December UN/CEFACT TMG meeting). Deliberation of interim results of ECALGA / CEFACT harmonization tasks	
Committee/TF	Fourth Meeting	November 29, 2007
	Report on results of harmonization with international standards in the oil industry. Almost all information entities were able to be harmonized. Due to differences in business processes, added request from Japan for new messages	
UN CEFACT TBG17	—	December 10 – 14, 2007 Zurich
	Context method deliberation (there were two draft proposals). Deliberation of revised core component technology specifications. UN/CEFACT modeling method V2 deliberations	
Committee	Second Meeting	December 17, 2007
	Report on UN/CEFACT TMG meeting. Introduction of cross-domain linked registries	
Committee/TF	Fifth Meeting	January 11, 2008
	Expressed ECALGA order documents as UN/CEFACT core components. Most are able to be adapted	
Committee	Third Meeting	January 31, 2008
	Deliberation and agreement on Japanese language localization of core components. Deliberation on the form of the information entity registry. Decision on results report structure	
Committee/TF	Sixth Meeting	February 1, 2008
	Completion of expression of ECALGA order documents as UN/CEFACT core components. Many entities necessary in ECALGA order documents are being deliberated on as UN/CEFACT core components	
UN CEFACT TBG17	—	February 18 – 22, 2008 Los Angeles
	Approval of information entity harmonization procedure document (ECOM WG proposal document). Deliberation on draft of 2008 Information Entity International Standard Dictionary 1st edition. Harmonization of information entities between supply chains, animal and plant health inspection, and transport	
Committee	Fourth Meeting	February 25, 2008
	Deliberation of draft of Japanese language version of 2007 Information Entity International Standard Dictionary 2nd edition. Report on TBG17 Los Angeles meeting	
	Fifth Meeting	March 17, 2008
	Report on results of ECALGA / CEFACT harmonization tasks. Deliberation of results report draft	

shared information entity international standard library development task being carried out by the UN/CEFACT. Information entities that were made compliant with the international standard by FY 2007 were assigned rules for localizing into Japanese for domestic industry use, and based on that an English–Japanese Comparative Dictionary of Information Entities was prepared.

Furthermore, we gained the cooperation of the Next Generation EDI Promotion Council's EDI Promotion Committee, and matched the information entities that cut across fields that have been made compliant with international standards and information entities for trading information (receiving and making orders) that are the target of domestic industry, and have made clear the issues relating to the international standards harmonization of the domestic industry standards.

Results of Activities

1. Information sharing technology

At present, "modeling methods (business processes / business collaboration / business entities)," "core component technology specifications," "EDI messages," "standard document headers," "syntax expressions," and "messaging services" are standardized at UN/CEFACT, and specific task definitions are being progressively introduced, and introduction of them is beginning. (Fig. 1)

However, the method for defining "business information entities" using "core components," the method for bringing out "EDI messages" from "task transactions," and the method for providing transaction conditions at the time of execution (these are collectively known as "context methods") have been formulated, and judgment is done manually.

If these "context methods" are organized, then it will be possible to avoid human interaction, along with the automation of almost all tasks, following the EDI business process design, and therefore an even greater level of mutual operability will be gained. In our FY 2007 WG, we focused on this "context method" and carried out deliberations in exchange with modeling specialists in Japan, and furthermore, we sent specialists to UN/CEFACT technology method group meetings, and worked for the establishment of standards for this method, summing up the results in the "context method" draft proposal. In the future, we shall take another year to create agreement within UN/CEFACT, and, following development testing, we expect that they will become usable some time during FY 2009.

2. Information entity dictionary

In FY 2007, we participated in four international symposiums and weekly international tele-conferences in order to globally harmonize information entities, and cooperated in the preparation of the UN/CEFACT standard information entity library. As a result, the 2007 Standard Information Entity Library, 2nd edition (CCL07B), including 1,051 items of core components (CC) and 1,873 items of business information entries (BIE) was published by the United Nations in January 2008. (Fig. 2)

In the present situation, information entities related to invoices, MSDS (material safety data sheets), and product catalogue task processes, and including the electronic bidding and hotel information originally suggested by Japan, were registered in the UN/CEFACT standard information entity library. Also, as of March 2008, the global harmonization of the information entities related to transport, finance, insurance, accounting, agriculture, and animal and plant health inspection was almost complete, and in April are due to be announced by the United Nations. Furthermore, the information entities for the entire supply chain have already been submitted, and it is likely that during FY 2008, the necessary information entities for manufacturing, distribution, and trade-related orders, the delivery and taking in of goods, and the payment of bills will be added into the relevant library.

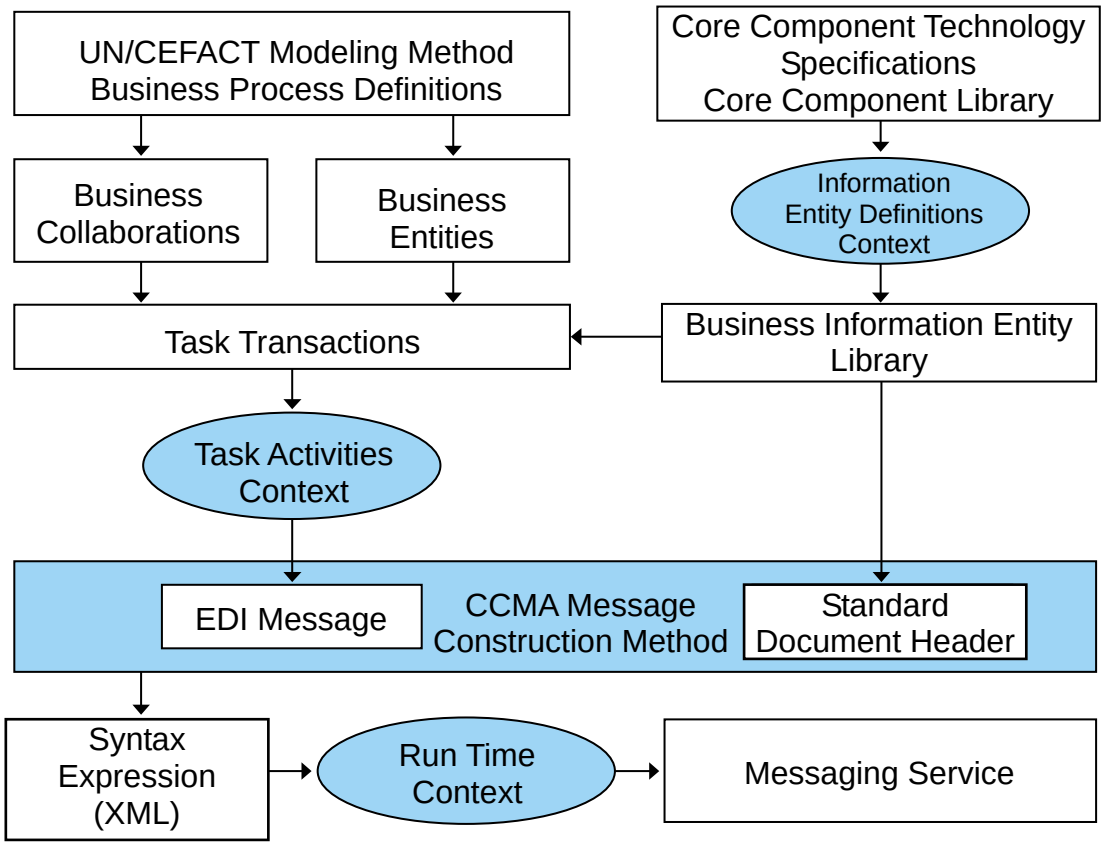


Figure 1 UN/CEFACT Standards System

In our WG, in order to introduce these globally standardized information entities to domestic industry, and to support the internationalization of industry EDI, we have created a Japanese language UN/CEFACT Standard Information Entity Library. In the creation of the Japanese language library, we set up regulations for localizing into Japanese the naming conventions specified in the core component technical specifications (Fig. 2) and completed the 2007 2nd edition (CCL07B), including the transport-related (draft version) one. In April 2008, we expect it will be able to be downloaded from the ECOM home page.

Table 2 UN/CEFACT Standard Information Entity Library History

Library Version	Published	CC Total	BIE Total	Added Task Domains
CCL068	2007/Apr.	785	1,095	Electronic printing / Invoices
CCL07A	2007/Sep.	944	1,531	Hotels / Project management
CCL07B	2007/Jav.	1,051	1,873	MSDS/ Product catalogues
CCL08A	2008/Apr.	2,208	2,808	Transport / Finance / Insurance / Accounting / Agriculture / Animal and plant health checks

3. Comparative analysis with domestic industry EDI

In order to consider the mutual operability between the UN/CEFACT standard information entity library, which is finally able to be used, and domestic industry EDI, we carried out a comparative analysis with the electrical and electronics industry's "ECALGA" EDI standard.

This task was performed as a combined task with ECOM based on the cooperation of the Japan Electronics and Information Technology Industries Association EC Center and the Next Generation Electronic Commerce Promotion Council. In the task, we considered how UN/CEFACT standards invoice-related information could be expressed as "ECALGA" data entities in the first step, and in the second step we considered whether "ECALGA" order documents could be expressed in the UN/CEFACT standard information entity library.

As a result of our analysis, it was found possible to singly match individual information entities, but due to the differences in the business model, and differences in business habits, we concluded that it would be difficult to create an adaptation at the EDI message level. In other words, it is possible to individually refer to the information entities of the UN/CEFACT standard information entity library and the referenced parts are able to be mutually understood, but it is not desirable to create an adaptation as is to EDI messages in the different business contexts.

The principal differences in business models and business habits are the following points:

1) ECALGA is predicated on monthly settlements, and there are no business documents for invoices (case by case billing).

2) ECALGA trading information is predicated on one item, one sheet, and there is no idea of breakdown items.

3) ECALGA is predicated on domestic trading, and it does not deal with trade related information (handover conditions, settlement conditions, etc.), and its foreign exchange is limited to one type, and tax is only consumption tax.

4) ECALGA is predicated on ongoing trading, and information that can be decided at the time of basic contracts (company address, contact address, payment methods, etc.) is outside the scope of EDI.

5) Distribution related information is outside the specifications of ECALGA (there is consensus on using distribution industry standards).

6) Invoices carry multiple functions of ECALGA's shipping information, billing and payment methods information, and accounts payable information.

Therefore, if we were to harmonize domestic industry EDI standards and international standards, we must first match the business model before harmonizing the information entities.

With the current model of domestic trading, it is difficult to link with global inter-corporate tasks even if the information entities are matched. Therefore, along with research on the business model standardized and published by the United Nations and other bodies, we need to make the domestic model visible, and promoting it internationally.

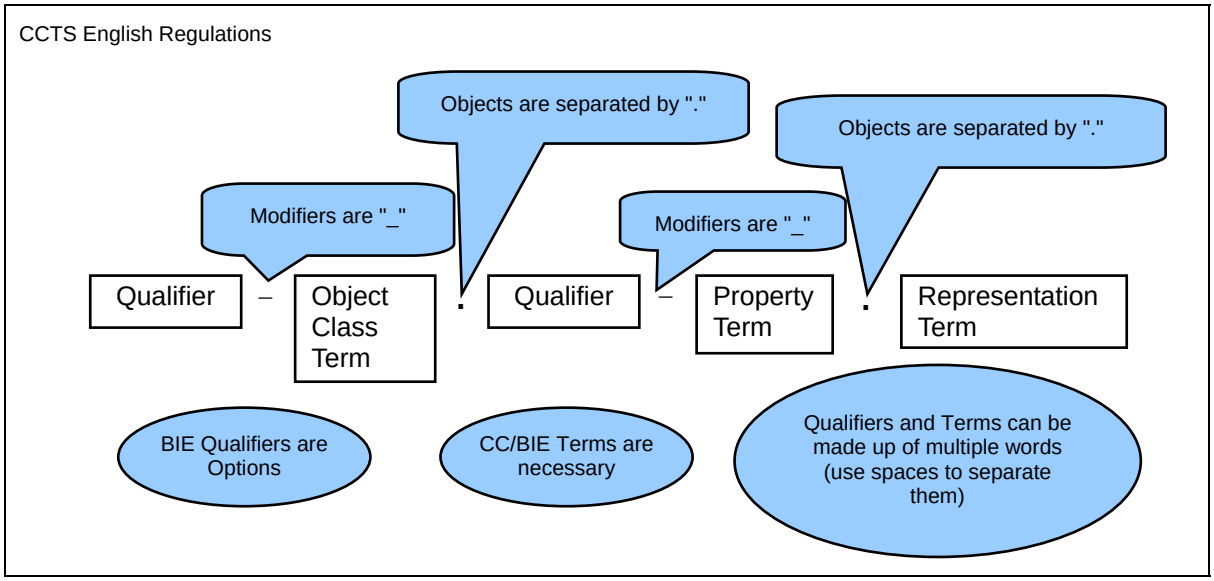
Summary

The information entities of the international standard that are proposed and agreed upon predicated on their own business models are, like the electronic bidding and hotel information, easy to use. On the flip side, information entities that are set in compliance with unwritten business models of other countries are very hard to use. It is possible that each time a global trade occurs, not just data exchange but a major revision of the processes accompanying corporate system changes will be needed.

In this sense, it is probably necessary to set up a Japan-based information entity proposal in accordance with the business model devised in Japan, and for corporations to proceed with the globalization of a system that can accept international standard business models itself.

The UN/CEFACT standard information entities are also being steadily established. Domestic industry must participate actively in standardization tasks that reflect their own opinion for them, and work to ensure that using international standards is not detrimental to Japanese corporations.

Regulations for Japanese Language Localization of Core Components



Japanese Language Localization Regulations (See JDMF Column Name Assignment Rules)

1. Divisions between modifiers and words → Two-byte underscore
2. Divisions between terms → Two-byte slash
3. Divisions between words within terms → No division
4. ACC/ABIE Details → Two-byte double slash
5. Order of words within a term must be done in the English order
6. Numerals and letters are to be in two-byte characters

An Example of Core Component Japanese Language Localization

- Accounting Account. Details
  Accounting Account (double slash)
- Accounting Account. Amount Type. Code
  Accounting Account (slash) Amount Type (slash) Code
- Transction_Peruid. Details
  Transaction (underscore) Period (double slash)
- Transaction_Period. Start. Date Time
  Transaction (underscore) Period (slash) Start (slash) Date Time

Figure 2 Regulations for Japanese Language Localization of Core Components

Next Generation EDI Technology Promotion WG

Masato Tamori, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

Working Group

Overview of Activities

1. Background

From the point of view of improving productivity through IT, organizations, and particularly the ways in which information is shared across organizations and particularly industries is being focused on, and as one solution, "next generation EDI" using new technologies is attracting attention. One powerful candidate for this next-generation EDI is ebXML (electronic business XML), a collection of international standards that does not exist within an industry type. This collection of industry standards began with the two standardization organizations of UN/CEFACT (United Nations Center for Trade Facilitation and Electronic Business) and OASIS (Organization for the Advancement of Structured Information Standards), and over the past few years has proceeded with setting up the main standardization regulations, and seems to have arrived at a state where it can be properly implemented, and in fact in the West and in Asian regions the use of ebXML is steadily proceeding. On the other hand, its dissemination in Japan was not initially as thorough as other countries, but it is spreading recently, centered in both large and medium-sized corporations, and the lineup of products that implement ebXML is also developing in tandem with this.

When these sorts of products are lined up, then interoperability between products is what becomes important. In order to create a B2B (inter-company) e-Business internationally, ensuring the consistency of security and communication methods using the internet are important issues, and for that reason, we need to ensure interoperability using products with it implemented by multiple IT vendors.

2. Goals

As shown above, tests to authenticate interoperability between products with this implemented are already under way in the US, Europe, and Asia. Here, in the Asian region, the e-Business Asia Committee (eAC; the former ebXML Asia Committee), which is made up of corporate bodies and organizations that promote and disseminate e-Business, and includes ECOM, is the main body in this area. This is carried out using the interoperability authentication system set up by this committee, and for solutions from corporate bodies and organizations that have passed this test, we have issued certificates (interoperability certificates).

However, previous tests have been carried out in a test format based on ebMS Version 2 (ebMS V2: ebXML Message Service Version 2), the communication specifications for existing ebXML, but in FY 2007, since Version 3 (ebMS V3) was formally approved as the standard for OASIS, we expect that products will be developed using this new specification in the future, so we have decided to set test specifications and carry out testing in line with ebMS V3.

Activity Results

As shown above, in the Next Generation EDI Technology Promotion WG we have held deliberations and carried out activities for the following items, centering on the two themes of "considerations regarding the interoperability test" and "international activities" for test implementation.

Note: the activities of this WG are shown on Table 1, and the outline and results of our activities are shown in Figure 1.

Table 1. Activities for Next Generation EDI Technology Promotion WG

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	June 20, 2007
	Agreement on WG activity plans	
	Second Meeting	September 7, 2007
	Considerations regarding the direction of the ebMS V2 / ebMS V3 interoperability test	
	Third Meeting	October 18, 2007
	Considerations regarding the direction of the ebMS V2 / ebMS V3 interoperability test	
	Fourth Meeting	November 20, 2007
	Considerations regarding the direction of the ebMS V2/ebMS V3 interoperability test	
	Fifth Meeting	December 18, 2007
	Considerations regarding the direction of the ebMS V2/ebMS V3 interoperability test	
	Sixth Meeting	February 12, 2008
	Considerations regarding the direction of the ebMS V2/ebMS V3 interoperability test	
	Seventh Meeting	March 13, 2008
	Considerations regarding the direction of the ebMS V2/ebMS V3 interoperability test Consideration regarding preparation of the activity result report	
—	—	March 5, 2008
	Implementation of the ebMS V2 / ebMS V3 interoperability test	

1. Considerations regarding the interoperability test

(1) Considerations regarding the ebMS V3 interoperability test

(hereafter, shortened to "the V3 test")

First, our WG collected acceptance of participation in this test from related domestic corporate bodies and organizations, and as a result of that, three corporations or organizations showed their interest in participation, and then we set up the V3 test specifications for the V3 test.

(2) Considerations regarding the ebMS V2 interoperability test

(hereafter, shortened to "the V2 test")

Along with the V3 test, we also carried out the existing V2 test. The reason for this was that a certain amount of time had lapsed since the implementation of the previous V2 test, and there were opinions that wanted implementation of this test again.

Note that along with the implementation of the V2 test, we also made some minor changes to the previous V2 test specifications.

2. International activities

The results of considerations by our WG were proposed to eAC, the testing body. As a result, the V3 test specifications proposal was accepted, but for the time period of V3 test implementation, since there were still only a few products that used these specifications at the current time, this time we would limit ourselves to the pretest level according to the three domestic corporations or organizations that were mentioned earlier. We extracted a number of problems from the pretest that we carried out, and in the future will be working on solving these issues for the main test.

On the other hand, for the V2 test, we ended up holding it in FY 2008.

The main contents implemented in the V3 pretest and the V2 test are summarized in Table 2, so please refer to it for details.

Future Plans

After carefully investigating the results of the V3 pretest mentioned above, we expect to implement the V3 test including those persons connected with it in Asia (for the continuance of the V2 testing, we expect to determine this based on the requests of the relevant persons).

The V3 test specifications proposal we created this time is expected to be proposed to the relevant organization as an OASIS standard.

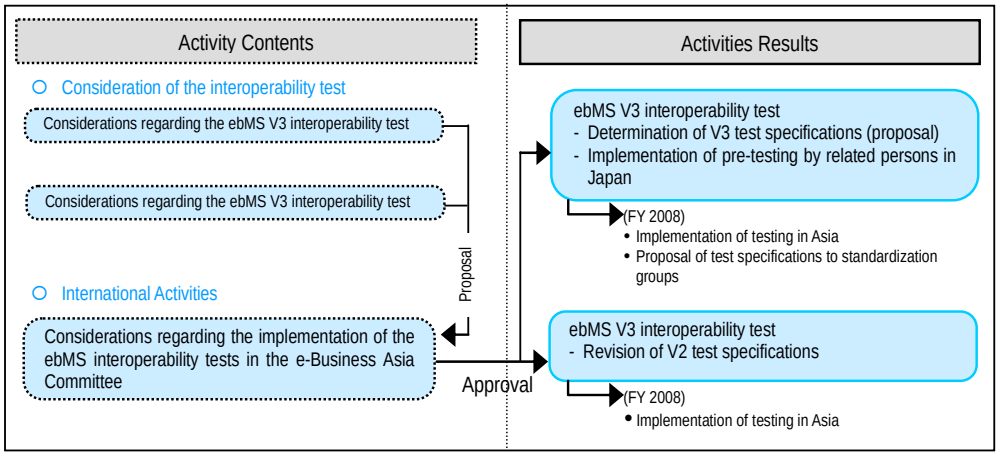


Figure 1. Outline and Results of Activities

Table 2. Principal Implemented Contents of the ebMS V3 and V2 Interoperability Tests

	ebMS V3 Test (Pretest)	ebMS V2 Test (Scheduled)
Implementation Time	March 2008	May 2008
Participating Corporations / Groups	Three corporate bodies or organizations in Japan	Five corporate bodies or organizations, including two corporate bodies or organizations in Japan, and related organizations from Korea, Hong Kong, and Taiwan
Test Format	• Face to face format • Using test tools*1	• Face to face format, as well as remote format through the internet • Using test tools*1
Test Scope (Test target function)	• ebMS V3 basic functions • High reliability messaging (WS-Reliability 1.1*2 and WS-Reliable Messaging 1.1*2) • Security (WS-Security*2)	An scope based on the previous maximum test levels (ebMS V2 basic functions, and high reliability messaging, security, and SyncReply)
Certificate Issuance	Not issued	Issued
Handling of Results	Press release (Published on ECOM website)	Press release (Published on ECOM website)
Other	Scheduled to carry out main testing, including for related persons in Asia, about July to Sept. 2008	—

*1 Previous V2 test formats were implemented in a manual format, with participants connecting in succession according to a 1 to 1 scenario.

*2 These are both Web service functions and specifications added to ebMS V3 specifications.

EC Infrastructure Committee

Hisanao Sugamata, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

Committee

Overview of Activities

1. Background

In the government-sponsored Council on Economic and Fiscal Policy that was held from the close of 2006 to the spring of 2007, the crucial issues that Japan's productivity improvement faces were acknowledged, and in light of this, in the Industrial Structure Council the three issues of "improvement of IT investment efficiency," "Information sharing that goes beyond organizations," and "lifting of small and medium companies, and of service industries" were proposed as specific approaches to the acceleration program for productivity improvement. Among these, for the promotion of "Information sharing that goes beyond organizations," the Ministry of Economy, Trade, and Industry is aiming for the construction of an information economy social infrastructure as an "New RFID Tags and E-Commerce Initiative," and along with using 1) electric and electronics, 2) textiles, and 3) building materials and housing equipment industries as advanced approaches, ECOM and the EDI Promotion Committee (as of December 2007, this has been renamed to the "Next Generation EDI Promotion Committee") were expected to play a central role of activities for the consideration of common issues across industries.

In FY 2007, at the newly-established EC Infrastructure WG (as of November 2007, this has been renamed to the "EC Infrastructure Committee"), survey research has been carried with the goal of accelerating interoperability and linking information entities across fields in order to achieve the sharing of information across industries in order to accelerate the "Information sharing that goes beyond organizations" in collaboration with the Multi-industry EDI Research Group of the Next Generation EDI Promotion Committee.

2. Interoperability between industries

In FY 2005 and into FY 2006, a proposal for an electronic commerce framework that achieves interoperability between each of the five components of industry links between corporations, task information, information expression, operation procedures, and electronic message transport has been carried out in ECOM's "Practical B2B-EC Framework Study WG." Based on this proposal, the Next Generation EDI Promotion Committee has declared that it will facilitate harmonization with ebXML technology standards that can be applied to the five components.

During FY 2007, under the cooperation of industry groups of the Next Generation EDI Promotion Committee, specific inter-industry interoperability needs and issues were surveyed. Based on this survey, a camp conference was held by WG supporters on the themes of "information sharing" and "international standardization" as the shared main industry issues. Here it was recognized that 1) in information sharing there are the two types of information sharing for purposes of linking operations between corporations through electronic commerce (known as "operation linkage information sharing") and information sharing that is widely needed over all industries such as technology information, environmental information, dangerous goods information, product tracing information, etc. (known as "inter-industry information sharing"), and 2) the internationalization needs of information sharing are changing from the utilization of international standard EDIs for overseas transactions to the globalization of corporate systems in line with the globalization of corporate strategies.

3. Information sharing across industries

The following specific examples were surveyed in regard to the inter-industry information sharing that had its importance acknowledged as well as information sharing for operation linkages in inter-company transactions.

1) Product catalogues that can be shared in the supply chain
2) Parts catalogues that can be shared in the engineering chain
3) Record information for product traceability
4) Goods tracing information
5) Environmental load material information
6) Material safety data (MSDS)

Table 1. Activities for EC Infrastructure Committee

Classification	Meeting	Date
	Description of activities	
WG	First Meeting	June 11, 2007
	Started up as a joint meeting between the EDI Promotion Council and the Inter-industry EDI Workshop. Deliberated FY 2007 Activity Plans. Deliberated New RFID Tags and E-Commerce Initiative activities and positioning of this joint meeting	
	Second Meeting	July 20, 2007
	Hearings regarding inter-industry interoperability needs from 13 participating industries. Survey report on dangerous goods information	
	Third Meeting	August 31 - September 1, 2007
	Following issue awareness (dangerous goods, international, inter-industry, standards), deliberated as two teams: information sharing, and international standardization	
	Fourth Meeting	October 15, 2007
	Report on results. Electronic transaction setup scenario (office proposal) proposal and deliberation	
Committee	First Meeting	November 9, 2007
	Changed WG to "Committee" as of this meeting. Hearings on horizontal model approaches for 6 industries. Deliberated on unified model for horizontal and vertical models	
	Second Meeting	December 10, 2007
	Electronic commerce shared infrastructure model deliberations	
	Third Meeting	January 28, 2008
	Continued electronic commerce shared infrastructure model deliberations. Divided up current status survey roles for shared DBs. Determined results report structure proposal	
	Fourth Meeting	March 10, 2008
	Survey report on shared DBs (SCM, ECM, traceability, goods tracing, environmental load materials, dangerous goods). Deliberated on results report draft.	

Activity Results

The results of this WG's FY 2007 activities were to clarify the state of operation linked information sharing based on the electronic commerce framework, and the issues of inter-industry information sharing, and to come up with a conceptual model for a common infrastructure for electronic commerce.

1. Operation linkage information sharing

The electronic commerce framework is used in inter-industry operation linkages in the form shown in Figure 1.

Inter-company operation linkages of the processes of "getting and sending orders," "shipping and receiving goods," and "billing and payment" are realized through the interoperability of the components based on the electronic commerce framework (Figure 2) in the FY 2006 proposal.

2. Inter-industry information sharing

Information treated in electronic commerce between corporations is divided into three types by trader (corporate code and contact addresses, etc for sellers and buyers), transaction events (times, dates, and locations, and conditions, involved in getting and sending orders, shipping and receiving goods, and billing and payment), and item traded (products that are to be traded, identification and specifications of service, etc). Information that must be widely shared across industries is information that is related to items traded. What is renewed and referenced in accordance with the product life cycle is the item information related to the product's specifications, the product information, the chemical materials composition information, the goods tracing information related to the product's location, and product record information for its maintenance and reuse. At present, these different bits of product information are exchanged as traded item information between two companies that have a contract, and if needed passed along to a third or fourth company like a baton at a relay race. In this information sharing through a chain like this

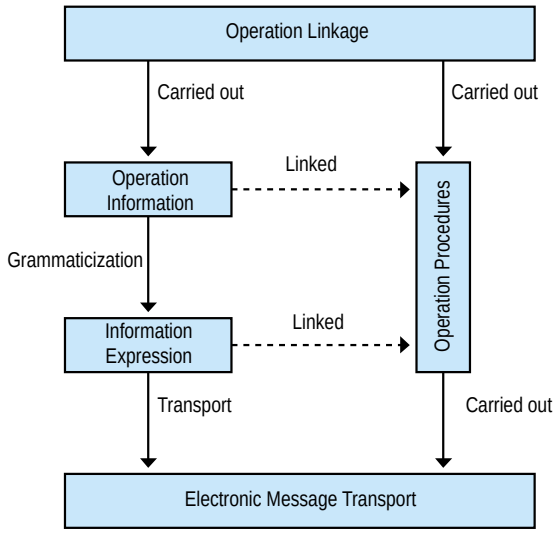


Figure 1. Operation Linkage Information Sharing

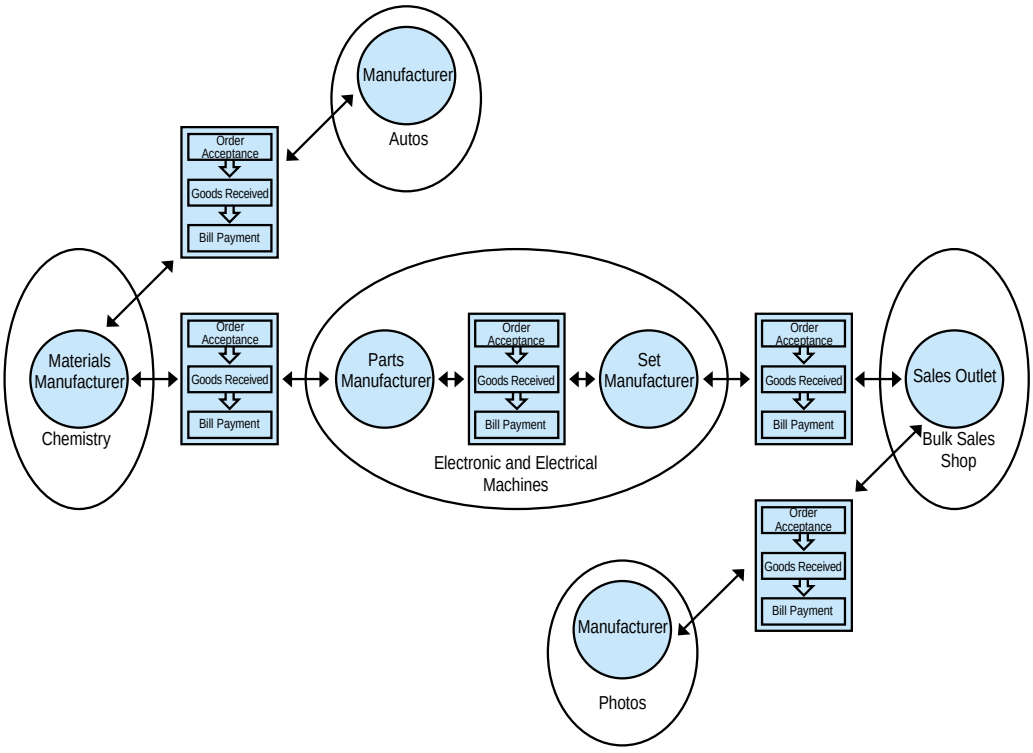


Figure 2. Electronic Commerce Framework

operation linkage between two companies it is difficult to get information for maintenance company or recycling company which do not have direct contracts with the companies. Also, the various sorts of information related to product specification that are currently made partially public (parts information, product information, chemical materials composition information, etc) are provided by an independent information service center or the individual companies, and the formats and classifications of information, and their access methods, are all disparate and not unified. Therefore, these pieces of information related to a single product, while they may be able to be gathered manually using web searches, make it very difficult to construct a system for automating the collection and judgment of information.

To carry out reforms of this situation, we will probably need 1) sharing of metadata related to product information, 2) convertibility of access interfaces for product information, and 3) the provision of a public web-based service that can carry out the renewal and searching of this information. In addition, these pieces of traded item information will need to be shared on a daily basis in the framework of operation linkages between corporations.

The requirements of the above electronic commerce infrastructure are shown in diagram form as Figure 3.

Future Developments

In order to clarify the requirements of the electronic commerce infrastructure, it is necessary to clarify the product information sharing framework for inter-industry information sharing in the same manner as the electronic commerce framework in operation linkage information sharing (Figure 2). In line with both of these frameworks, we can expect the design of a metadata registry that provides a relationship between the various bits of product information, and the provision of a web-based service that makes it easy to register, renew, and search these pieces of product information.

In preparing an electronic commerce infrastructure that will allow the sharing of operation linkage information and of inter-industry information, it is vital to prepare approaches to the assurance of quality of the creation, accumulation, renewal, and searching of data to be treated on this infrastructure, and rules for the sharing of this information. Additionally, in order that there be no clashes with global information sharing, the electronic commerce infrastructure must carry out an international standards proposal that will be recognized internationally as well.

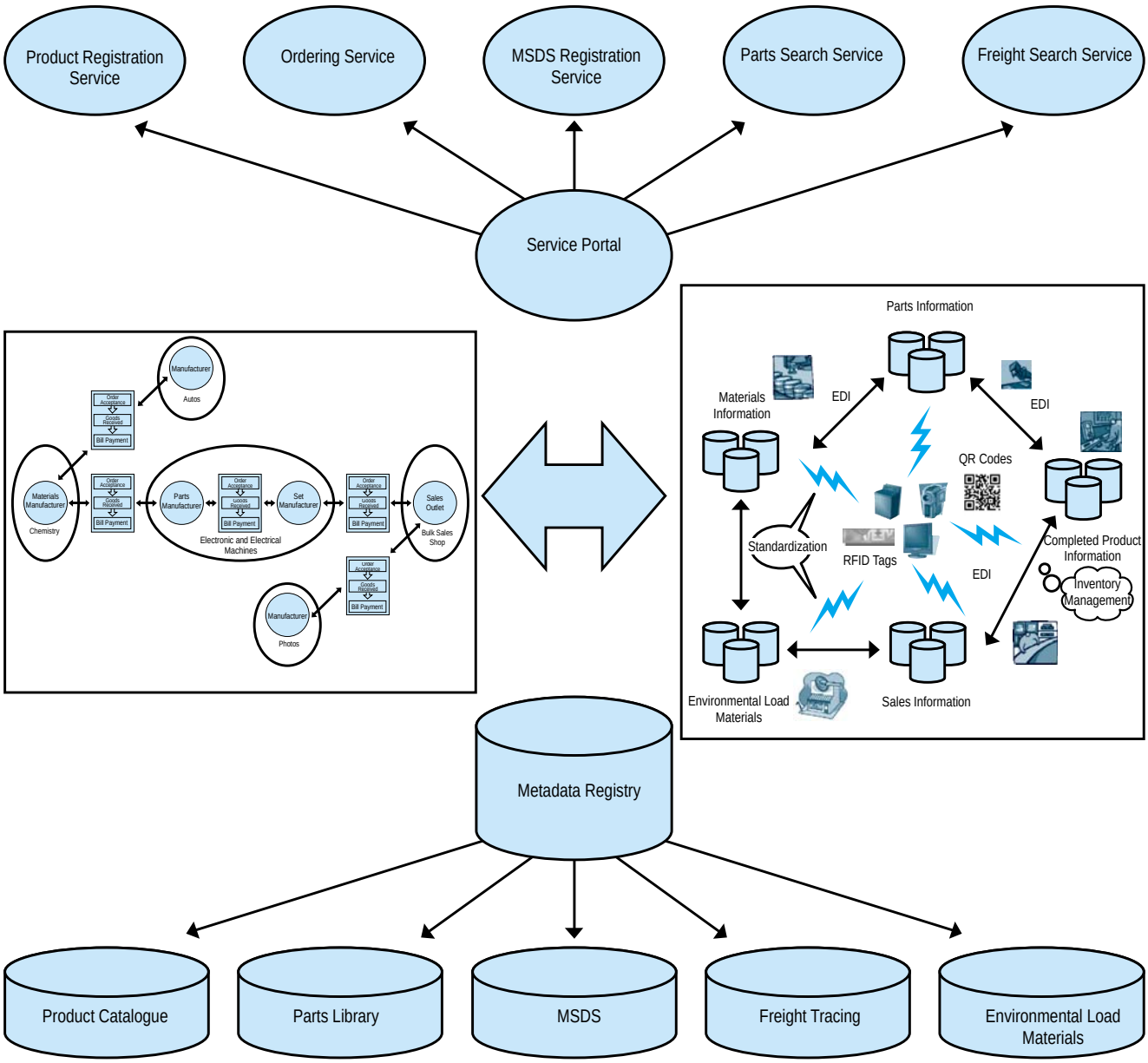


Figure 3. Requirements for the Electronic Commerce Infrastructure

Information Sharing Rule Committee

Masakazu Fujita, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

Committee

Overview of Activities

This committee has deliberated rules for the electronic sharing of information relating to products that goes beyond inter-industry or inter-business, with the goals of product safety and environmental protection that are becoming social issues, and targeting consumer durables and general consumables. Note that transaction between corporations (internet shops and the like) and consumers (B2C) is also included in electronic commerce, but this survey research only considered inter-business transactions (B2B).

Electronic sharing of research requires a clear express provision in the form of a memorandum or a contract of the agreement between the two companies who will be sharing this information in the same manner as previous EDIs (electronic data exchange) that have been implemented between companies. This is because intellectual property rights related to information that is to be shared, demarcation points of responsibility for both parties in the event of electronic sharing of confidentiality and information, system formula used in the electronic sharing of information, operation, and how to deal with errors in the system need to be decided on the basis on an agreement, which must be strictly adhered to, between the two companies that determines.

As shown in Figure 1, in order to achieve the sharing of information between corporations that goes beyond the boundaries of industry type and style, it is vital that a contract or memorandum be shared between the bodies doing the transaction to have a framework that is made up of operation linkages (business models), operation methods (business processes), operation information (messages), information expression (syntax rules), and electronic message transport (transmission protocols), implement them acculately and make them actions that have their effectiveness underscored by the law.

Based on the basic awareness of the facts outlined above, this survey investigation was targeted at demonstrating a model for a contract that can be used across corporate and industry boundaries as a contract guide necessary for the relevant parties to share information electronically related to products that goes beyond being inter-corporate or inter-industry.

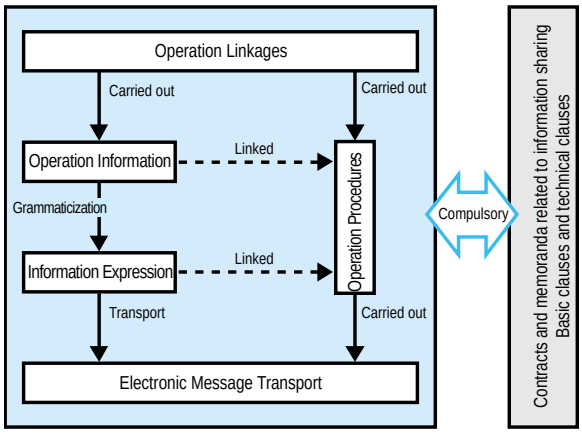


Figure 1. Framework and Necessary Contracts or Memoranda for Information Sharing between Corporations

The Information Sharing Rule Committee has generally carried out activities as outlined in Table 1.

Activity Results

In considering a contract that can be used across corporate and industry boundaries, the relationship between the parties who will be sharing the information, the law, customs, and types of information that should be shared, the flow of sharing, and other conditions were made clear, and formed into a model to create the contract model.

1. The relationship between parties sharing information

The mutual relationships between parties sharing information can be thought of as divided into the following three general cases:

1) Raw materials producers, materials producers, parts manufacturers and finished product manufacturers

2) Finished product manufacturers and wholesale marketers, wholesale marketers and retailers

3) Finished product manufacturers and maintenance or service industries, recycling industries, and waste disposal industries

If we analyze the relationship between these concerned parties, we can divide them into those that have direct relationships, and are joined by basic transaction contracts (or who may be able to be joined by contracts), which are corporations that "can see each other," and corporations that "cannot see each other," and are not in a direct transaction relationship, such as finished product manufacturers and maintenance or service industries, recycling industries, and waste disposal industries (save for corporations with the same affiliation).

1) and 2) above are examples of inter-corporate relationships between corporations that "can see each other." This is shown in the pattern diagram in Figure 2.

Table 1. Activities for Information Sharing Rule Committee

Classification	Meeting	Date
	Description of activities	
—	—	November 2, 2007
	Hearings with manufacturing industry 1 (corporate)	
	—	November 14, 2007
	Hearings with manufacturing industry 2 (industry groups)	
Committee	First Meeting	December 19, 2007
	Confirmation of purpose. Determination of plans	
	Second Meeting	January 30, 2008
	Initial deliberations on original draft	
	Third Meeting	March 5, 2008
	Final confirmation	

In the relationship between corporations that "cannot see each other," there are no direct dealings. For example, the relationships are those between manufacturers and retailers, which have a complex distribution route to reach the consumer, and, as in 3) above, relationships between manufacturers who produce products that are first sold to consumers, and the corporations involved in the repair, maintenance, second-hand sales, and demolition or disposal of these products. This example is shown in the pattern diagram in Figure 3.

2. Information that should be shared

When considering product safety and environmental protection as the main goals, we have assumed the following as information that should be provided to businesses that carry out the sales, maintenance, repair, and disposal of products by the sales businesses and manufacturers of products that are the target of information sharing.

- Information on dangerous materials in the product
- Information on the environmental load materials in the product
- Maintenance manuals
- Repair manuals
- Exchangeable parts lists
- Other points to note in terms of safety
- Design diagrams, construction blueprints, etc.

Conversely, we have assumed the following as information that should be provided to manufacturers or sales businesses by businesses that carry out the sales, maintenance, repair, and disposal of products that are the target of information sharing.

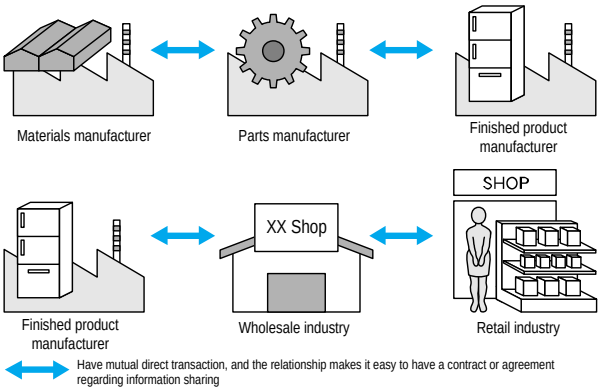


Figure 2. The Relationship between Businesses Sharing Information that "can See Each Other"

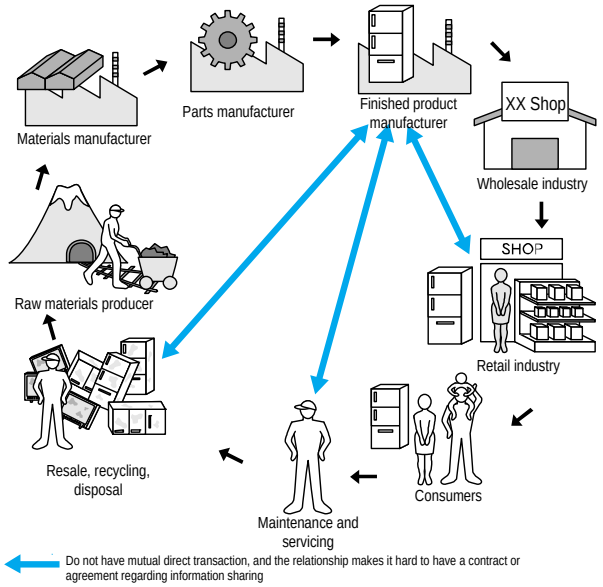


Figure 3. The Relationship between Businesses Sharing Information that "cannot See Each Other"

- Product accident and failure information, serious product accident and failure information (this is regulated by the Consumer Products Safety Law)
- Other information on other claims by users
- Information regarding frequent failures, etc.

Information flows both ways, and cannot be fixed as being the information provider on the one hand, and the information recipient on the other hand. For this reason, in the model for contracts, we created a proposal that has the manufacturers of products that are the target of information sharing or the sales business listed as the First Party, and the businesses that carry out the sales, maintenance, repair, and disposal of products that are the target of information sharing listed as the Second Party. Examples of both of these are shown in Figures 4 and 5 as a pattern diagram. We created the contract model based on these examples.

Summary

On this occasion, we created a model for contracts related to the above models. In the future, we shall include improvements made through careful investigations after providing these models to actual businesses, and by thus widening the scope of our targets, we hope to be able to create a fuller and easier to apply guideline.

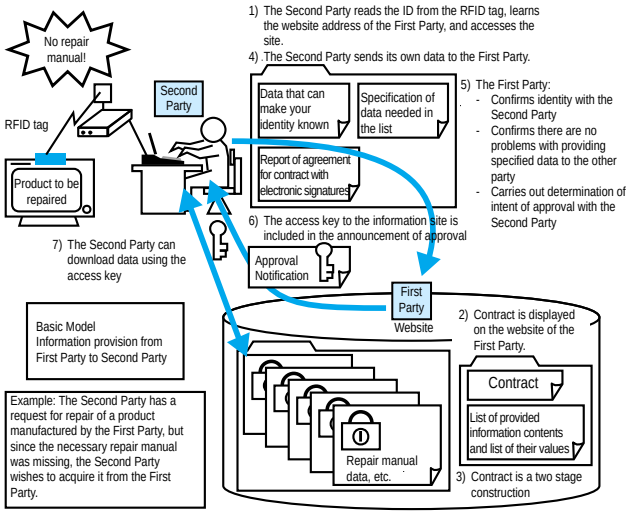


Figure 4. An Example of Information Provision from the First Party to the Second Party

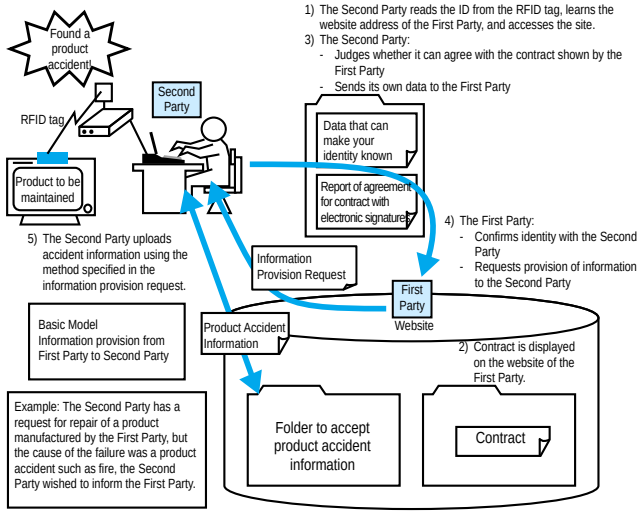


Figure 5. An Example of Information Provision from the Second Party to the First Party

International Relations Group

Kojun Matsumoto, Haruo Muto, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

International Relations

The International Relations Group carries out activities with the objectives of ensuring international collaboration and communication regarding electronic commerce and promoting international electronic commerce. In FY 2007, the Group held a "Japan – Korea RFID/Traceability Information Exchange Meeting" as part of the joint activities on RFID tags between Japan and South Korea that began the previous year, and also carried out survey activities, specifically a "survey on the conditions of overseas EC promotion," and a "survey on the trends of the EC market in China." An overview of these activities is provided below:

Overview of Activities

1. Collaboration with Overseas Organizations Promoting Electronic Commerce

Collaborative activities with overseas organizations promoting electronic commerce in FY 2007 were the cooperation for the holding of the "e-Biz Expo 2007" held in Seoul, Korea, in October, and the "Japan – Korea EC Promotion Council Miyazaki Meeting" in November.

We participated in the October "e-Biz Expo 2007" as an overseas cooperating organization, and the ECOM Director, Akio Kanaya, was a part of the opening ceremony. We also sent a lecturer to a conference entitled "RFID for Digital Innovation" held at the same time.

In November in Miyazaki City, Miyazaki Prefecture, we held the "Fifth Japan – Korea RFID/Traceability Information Exchange Meeting" as the "Japan – Korea EC Promotion Council." For the directions of RFID technology, presentations were made regarding the deliberations on technological issues from the Japan side and regarding the direction of policy and technology from the Korean side. Also, both Japan and Korea gave presentations regarding the links between RFID and the current system.

2. Survey of the Current Status of Overseas EC Promotion

Through the increasing development of internet technology, the globalization of business is accelerating, and global electronic commerce has steadily disseminated. Through the establishment of electronic commerce, the concerns of businesses are no longer merely focused on electronic commerce between companies (B2B EC), and B2B EC is increasingly being positioned as a part of the total e-Business of corporations generally. On the other hand, the market for electronic commerce aimed at consumers (B2C EC) is showing increasing promise for growth due to such things as search technologies, typical of Web 2.0, social networking sites (SNS), behavioral marketing, and blogs.

In this situation, we carried out a survey of the policy trends in each country, and the trends of North America.

(1) Electronic commerce policy trends in each country and in international organizations (Table 1)

In 2004, for most of the advanced internet nations in the West and the Asia-Pacific, and in 2007 for the developing internet nations, electronic signature laws were created to give electronic signatures legal standing, laws protecting internet privacy came into force, and the guidelines related to them were created in order to strengthen the infrastructure for the dissemination of electronic commerce. One notable aspect of 2007 was this strengthening of protective policies for personal information, and the setting up of broadband in developing nations. Additionally, in these policies, it is notable that we can see a great deal of cooperative systems with neighboring nations.

1) Emphasis on the protection of personal information by each nation

In 2007, when the infrastructure for electronic commerce was set up, one thing we saw a lot of was the strengthening of policies for the protection of personal information. Among advanced internet nations, there were many cases where the Private Information Protection Law or similar laws were already in place after 2000, but what was notable about 2007 was the application of the protection of personal information in the transaction of electronic data between nations. In this sort of case, since individual nations need to keep pace with each other regarding awareness of the protection of personal information and related laws and regulations, there were times when international organizations such as the OECD (Organization for Economic Cooperation and Development) played a coordinating role.

When we look at individual nations, there are many countries that have started serious work to deal with the spam (junk) mail problem, in addition to the protection of personal information, and in the countries of Europe, in accordance with an EU directive in 2003 (dealing with supporting protection of privacy in the electronic transmission of personal data), laws and regulations based on this directive began to be passed. For example, Singapore, the United Kingdom, Germany, and France passed these laws. China too is considering measures to take against spam. And furthermore, from the fact that the EU has made it clear that it intends to push for the use of Privacy Enhancing Technologies (PET), so in the future we can expect that similar laws will be set up in member nations.

2) Advanced internet nations:

Responding to the era of the user-led internet

In advanced internet nations, for example in the OECD and international business councils that deal with electronic commerce (GBDe: Global Business Dialogue on e-Business), debates concerning the direction of policies for the era of the user-led internet (Web 2.0, etc.) are starting to occur.

Furthermore, in Korea, where there is already a wealth of user-led content, a concept that will make it a duty for large cities to

provide citizens with access to the internet from anywhere and at any time, the "ubiquitous city" concept, has been announced, and shows how the penetration of the net into Korea is one step ahead even among advanced internet nations.

3) Developing internet nations:

Putting efforts into ongoing infrastructure development

Among the internet developing nations of Asia, including Australia, efforts are ongoing in setting up a broadband infrastructure. Also, this is not only the development of an infrastructure within individual nations, as in the past, but for example there are movements in ASEAN (the Association of South-East Asian Nations) and China to cooperate in the development of an ICT infrastructure and the education of personnel.

(2) Trends in EC related fields in North America

1) Group and research organization interviews

From the results of our FY 2006 survey, while North American electronic commerce related groups and university research organizations were specializing in electronic commerce in the past, electronic commerce was treated as part of e-Business, and we could see that there were trends towards developing the themes into wider fields that included such areas as Web 2.0. In FY 2007, through interviews with experts in government organizations, industry groups, and university research

Table 1. Trends in Electronic Commerce Policies in International Organizations and Individual Nations

	Electronic Signatures / Authentication	Privacy / Personal Information Protection	Consumer Protection	Intellectual Property Rights / Contents Protection	Taxation	Security / Encryption	Spam Measures	Broadband Dissemination / Erasure of the Digital Divide	Other
OECD	◎	◎	◎	●	●	◎	●	◎	First workshop for experienced persons aiming to suggest policies in the participatory network era of Web 2.0
UNCITRAL	●					●			
WTO				●	●				
ASEAN	◎	◎			●	●		◎	Announcement of a five-year action plan related to ICT partnerships between ASEAN and China
APEC	●	◎	●	◎	●	●	●		The EC WG links with the Trade and Investment Committee
GBDe	●	◎	◎	●	◎	◎	●	●	Considerations on business possibilities and regulatory measures in the digital home environment
USA	●	●	●	●	◎	●	●	●	A law extending the temporary "Non-taxation of the Internet" legislation for seven years is passed
Canada	●	●	●	●	●	●	●		The new version of "look and feel" for government organization web sites is approved
South Korea	●		●		●	●	●	●	Proposed a concept for making the "ubiquitous city" mandatory
China	●						◎	●	Considerations regarding the introduction of an E-stamp aimed at eliminating junk mail
Taiwan	●	●	●		●		●	●	Announced the joint holding of the APEC-led electronic billing promotion project
Singapore	●		●			●	◎	●	The "2007 Spam Prevention Law" enforced
Malaysia	●	●		●		●		●	
India	●	●			●	●		●	
Australia	●	●		●	●		●	◎	Strengthened the new "Australia Connected" broadband dissemination policy initiative
EU	●	◎	●	●	●	◎	●	●	Officially announced the support and promotion of Privacy Enhancing Technologies (PET)
UK	●	●	●					●	
Germany	●	●	●	●		●	●	●	
France	●	●	●			●			

●: Fields where responses such as guidelines and preparation of laws have been done in the past

◎: Fields where the major activities were carried out in FY 2007 (including past responses and surveys of their subsequent progress)

Blank: Fields where no past approaches have been made

organizations connected to electronic commerce regarding this situation, we were able to make clear the issues of fields related to electronic commerce in North America, and views regarding the future of electronic commerce and e-Business.

First, in terms of related technology, we can offer behavioral marketing and SNS as something that suggests the possibilities of further expansion of B2C EC, due to their close connection to B2C fields. Also, in terms of an important technological field that is common to not just consumers but business as well, there are ones that are related to ubiquitous technology connected to wireless terminals, mobile phones, RFID, and other such areas. In our FY 2006 survey, US university research centers were, with the support of major corporations, dovetailing with the situation where they were beginning to start frequent RFID-related research projects.

Again, when we put the focus on B2B EC, we found that rather than thinking of electronic commerce alone as individual fields, it seemed that the stance of thinking of it as a part of e-Business was in fact stronger, and the results of our FY 2006 university survey underscored this point as well. This is not just a trend of universities. There were originally groups that treated electronic commerce as central, as groups that are representative of industry, but these approaches have changed, going beyond the previous narrow definitions of electronic commerce to include wider senses such as privacy policies for the data that businesses share and the dissemination of e-Business to small and medium businesses. These can be thought of as having been influenced by the company-wid incorporation of IT systems in corporations, in addition to the fact that electronic commerce, centering on EDI, is being skillfully used between corporations.

While these new technologies and e-Businesses are developing, as an issue that cuts across all areas, there are concerns about incursions into privacy and security, and we were able to show that almost all experts consider that some form of measures are needed to deal with this issue.

As shown in 1. this is particularly closely linked with the fact that the government policies of advanced internet nations are placing the focus on privacy measures. The US government organizations that we interviewed this time normally have a bottom-up approach from the private sector, and innovations are ongoing, and when new technologies are not yet ripe they tend to avoid regulations on the whole. Also, even if technologies have been disseminated, they are not applied immediately, and instead they wait and watch until the market has discovered any problems, and then, while keeping an eye on debates at the state level, they determine regulations and directions as the federal government. However, in terms of privacy problems, they are starting to take actions such as their announcement of an "online action marketing direction (proposal)," and in combination with APEC (the Asia Pacific Economic Community), they have also participated in a pilot project survey related to data privacy that crosses national borders.

In terms of the significant problem as to whether the future new business model can be seen or not, even leading edge research organizations and major IT corporations are feeling their way, and we were not able to gain any clear answers. However the US university research centers are collaborating with corporations and aiming to develop new business models in service fields that use IT, set up programs for service innovation, and have begun to hunt for that next "something."

(3) Corporate trends related to Enterprise 2.0

Web 2.0 is a technology that has shown development centering on the consumer market. In 2004, when the world of the Web was poised to enter a new era, this movement was given the name "Web 2.0" by Dale Dougherty, and O'Reilly Media and MediaLive International made that name widespread. Three years have passed since then, and Web 2.0 related services aimed at consumers have taken off rapidly. In this, under the influence of the consumer market, approaches to Web 2.0 use in corporations are beginning as Enterprise 2.0

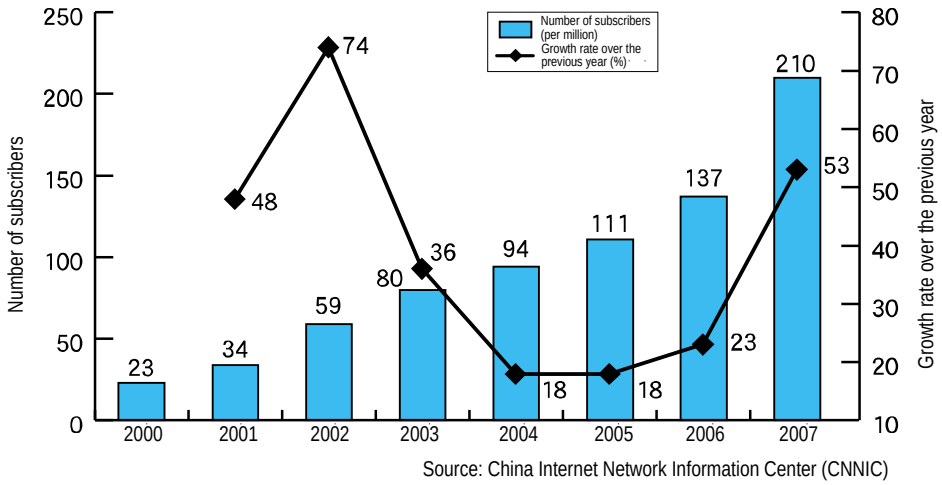
The concept itself of Enterprise 2.0 is still in the middle of developing, and opinions are divided concerning the introduction of Web 2.0 technology in particular, due to its close relationship to corporate culture. However, there has come to be a shared awareness to some extent regarding the ideas of the key words of Enterprise 2.0, which are many and various levels of collaborations: not just persons and persons, but persons and things, things and things, things and organizations, and so on. And, for Web 2.0 tools that have already promoted collaborations at the consumer level, it is a fact that their existence can not be ignored.

From this trend, attempts by corporations to discover possibilities of linking to new business chances with collaborations and Web 2.0 at the core are beginning.

3. Chinese EC Trends

(1) Rapid increase in internet users

The number of Chinese internet users that support electronic commerce increased by 73 million in 2007, reaching 210 million, and is now the largest in the world outside of the US (Figure 1, Table 2). While the penetration rate of 16.0% is lower than the world average, the speed of dissemination is fast, and if the current pace continues, then in 2008 it will be bound to rapidly overtake the US to become the world's largest in scale. Also, broadband is rapidly spreading, and as of the end of June 2007, has reached 122 million people. What is more, mobile terminal internet users are up to 44.3 million. Looking at it in terms of residential area, the penetration rate in cities is 21.6%, but that in rural areas is only 5.1%, although the rate of increase in the first half of 2007 among



Source: China Internet Network Information Center (CNNIC)

Figure 1. Changes in the Scale and Growth Rate of Internet Users in China

rural areas was as much as 51%, and this shows just how rapidly the internet market is expanding.

(2) Development of the overall EC market and future predictions

1) Development trends in the overall EC market as a whole

In 2006, the Chinese EC market developed considerably. According to a survey by the private research company iResearch, the scale of the EC market increased by 93% over 2005, and reached 1,311.2 billion yuan (about 20 trillion yen) (Figure 2). More than 97% of the electronic commerce was B2B, and in particular, it can be considered that the rise of independent-style platforms aimed at small and medium business electronic commerce has contributed significantly to the development of B2B.

iResearch predicts that the 2010 B2B EC market size will be 7.5 trillion yuan (approx. 120 trillion yen). In other areas, the government-affiliated survey company CCID predicts that while there was a trend to dampening the growth rate of the EC market, it will start climbing again from a low in 2006. The EC market growth rate was 48.6% in 2006, but it has increased to 54.8% in 2007, and it can be assumed to accelerate even further in 2008 as well.

2) B2B EC market development trends

In its 2006 report, iResearch raised the following as causes hindering the development, and revised its estimation of the B2B EC market growth rate down considerably over the previous year, but even so, it is expected that the 2010 B2B EC market size will be 7,544.0 billion yuan (about 114 trillion yen), a growth of almost six times its size in 2006 (Figure 3).

- The existence of complex channels in traditional industries
- Lack of trust among traders
- Immature conditions for payment and distribution
- The gap between B2B EC personnel development and the actual needs of small to medium businesses
- The gap between B2B EC and traditional industries

On the other hand, CCID's forecast was more circumspect, and postulates a growth rate of an average of 44.6% over the next five years, predicting a market over 7 trillion yen in 2011. However if we look at the transaction situation on a quarterly basis, then there is no change in the steady growth of the B2B EC market (Figure 4). There are over 30 million small and medium businesses in China, but at present only 28% of them are carrying out electronic commerce via independent platform-style electronic commerce service vendors.

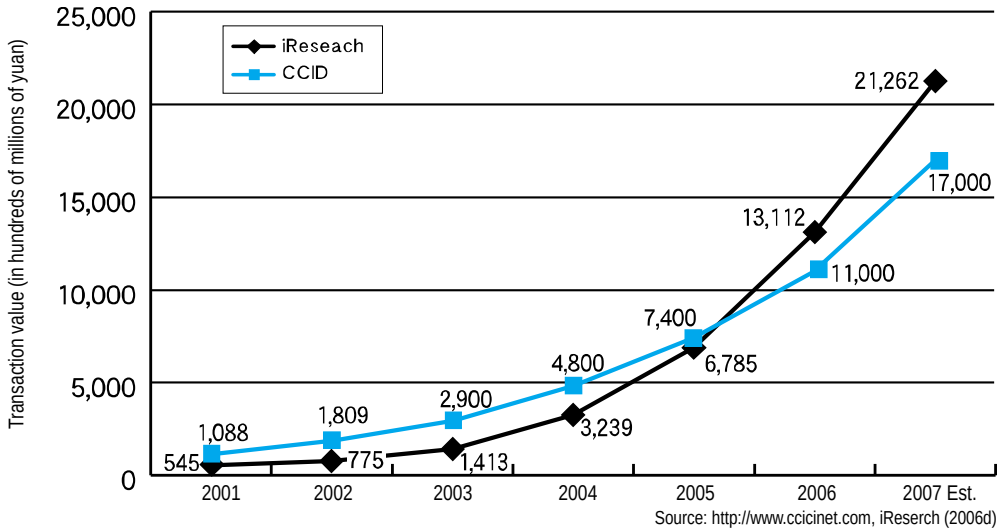
The bulk of small and medium businesses use traditional channels to conduct procurements and sales, and it is thought that small and medium businesses' needs for electronic commerce has been not sufficiently exposed. In line with this, based on the first Chinese electronic commerce development plan known as "the electronic commerce development 'eleventh five-year' plan," along with the proceeding of informatization for small and medium businesses, sales and procurement activities through the internet are also expanding, and the small and medium business B2B EC market size is expected to grow more than 50% each year, and by 2012 reach 7.5 trillion yuan (Figure 5). The potential for EC in small and medium businesses is extremely large.

Table 2. Numbers of Internet Users in Major Countries

	Number of Internet users (per million)		Growth rate (%)	Global share (%)	Population (in millions)	Internet penetration rate (%)
	2000	2007	2000 to 2007	2007	2007	2007
US	95.4	210.1	120.2	16.0	302.0	69.7
China	22.5	210.0	833.3	16.0	1,317.4	16.0
Japan	47.1	86.3	83.2	6.6	128.4	67.1
Germany	24.0	50.4	110.0	3.8	82.5	61.1
India	5.0	42.0	740.0	3.2	1,129.7	3.7
UK	15.4	37.6	144.2	2.9	60.8	62.3
South Korea	19.0	34.1	79.5	2.6	51.3	66.5
Whole world	361.0	1310.0	262.9		6,607.0	19.1

Source: http://www.internetworldstats.com/

[Note] Figures for countries outside China are data listed in the Internet World Stats as of November 2007. Figures for China are as December 2007.



Source: http://www.ccicinet.com, iReserch (2006d)

[Note] The area of CCID estimates is the total of B2C and C2C transactions through the Internet and B2B transactions through the internet and specialist networks (EDI, etc).

- iResearch's estimates are the total of B2B, B2C, and C2C transactions through the Internet.
- The figures for 2007 are estimated from the CCID estimates and the iResearch estimates.

Figure 2. Changes in EC Transaction Value in China

(3) Latest situation in Chinese blog markets

According to iResearch's surveys, the area with the greatest adaptation to Web 2.0 is blogs. In August 2007, the number of blog readers and writers reached 113 million. The second greatest is net viewing of contents, and as of August 2007 there were over 80 million people. Third is SNS, but it cannot be said that SNS is expanding all that rapidly yet.

According to the "2007 China Blog Market Survey Report" by the China Internet Network Information Center (CNNIC), at the end of November 2007 there were 72,820,000 registered blogs in China, and the number of bloggers (people who write blogs) reached 47 million. Of these, 36%, some 17 million, are active bloggers (Figure 6). In the space of less than a year since January 2007, the number of bloggers increased 30 million. Also, on a per capita basis that means that 1 in 30 people blogs, and since the number of internet users at the end of December 2007 was 210 million, that means that 22% of net users are bloggers.

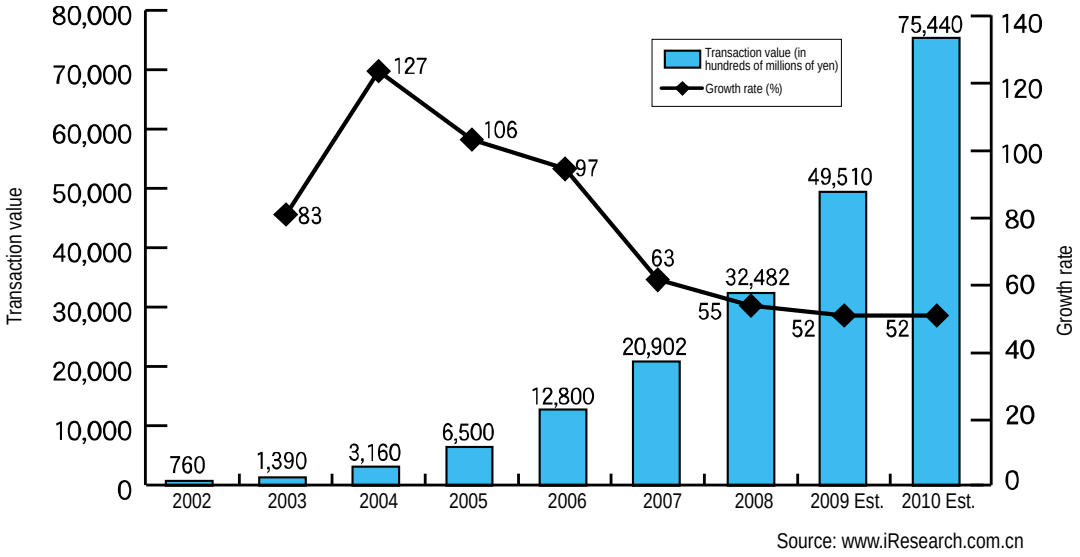


Figure 3. Changes and Projections of the B2B EC Market in China

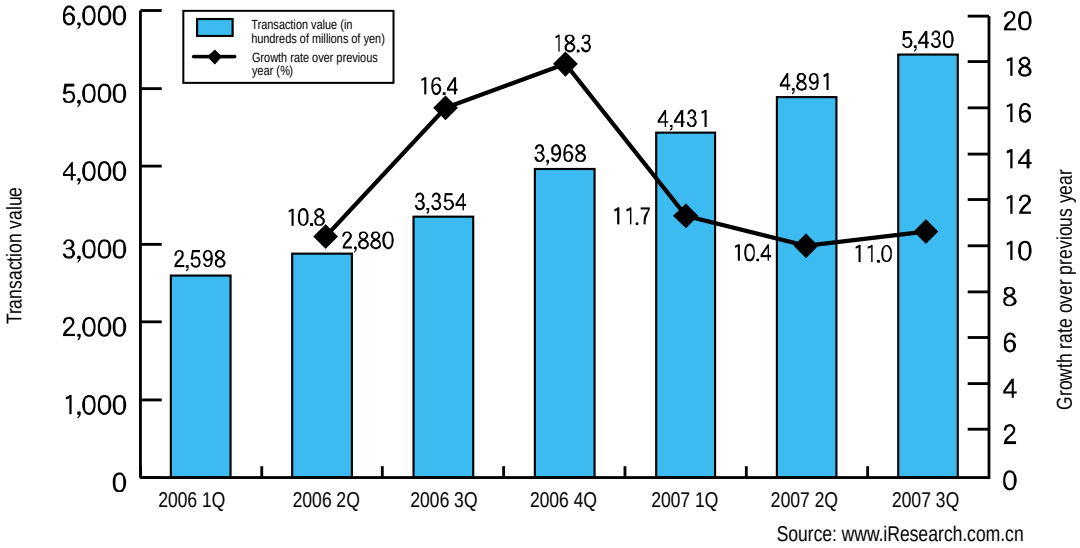


Figure 4. Changes in the Chinese Quarterly B2B EC Market (2006 to 2007)

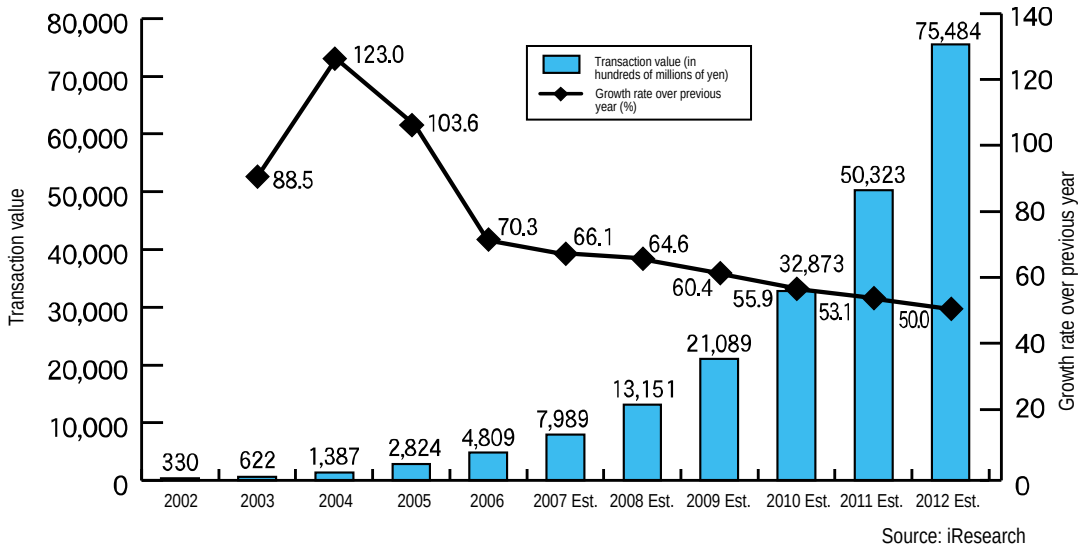


Figure 5. Changes in the Chinese Small and Medium Business B2B EC Market (2002 to 2012)

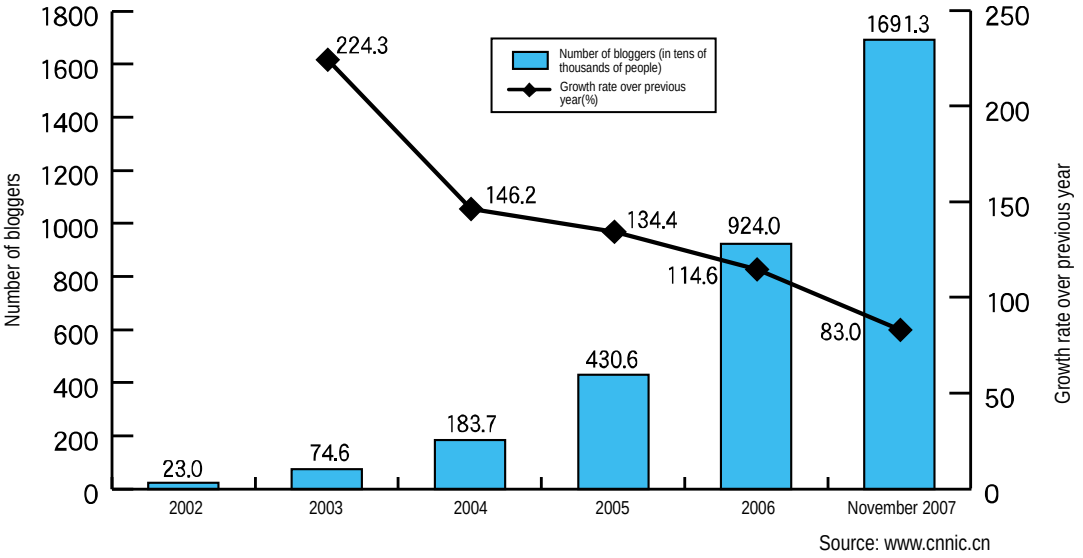


Figure 6. Number of Active Bloggers in China

The rapid spread of blogs over the past five years is in large part due to the powerful promotion by blog services through traditional general sites such as the major IM (Instant Messaging) player Tencent, and the three major portal sites (Sina, Sohu, and NetEase). The ratio of male to female bloggers is 43% to 57%, with women being slightly higher, a ratio that is the opposite to the 55% - 45% split for internet users. 51% of bloggers have an academic record of junior college or higher.

Also, in terms of the contents of the blogs, the most common is records of things the blogger has thought or felt (Figure 7). In other words, we can say that blogs, with which consumers record their lives, have a clear attribution as Consumer Generated Media (CGM).

For value-added fee-based services that increase the functions of blogs, it does not appear that there is much desire on the part of bloggers to use them (Figure 8). For example, the number of bloggers who agreed to use fee- based blog services is only 10%, and the degree of desire to use fee- based mobile blog services also is limited to 9%. On the other hand, bloggers cannot be termed proactive in terms of placing ads on blogs either. If the desire for use of fee-based services remains low, then it will probably take some time for an increase in the profitability of blog service companies.

When we asked about blog readers, rather than bloggers, and their motives for reading blogs, the most common answer was "for fun or pleasure" (Figure 9). In order to increase the attractiveness of blogs for readers, elements of "fun and pleasure" are required it seems. This fact is important not only when considering revenue models for blog service companies, but is a point that should perhaps be noted for general industries hoping to use blogs for advertising and marketing.

Blog service companies are known as BSPs (Blog Service Providers) in China, and there are three types of BSP at present, as shown below.

1) Independent BSPs

   China Blog (www.blogcn.com), BlogBus.com (www.blogbus.com), Bokee (www.bokee.com) and other blog specialist companies. Of these, BlogBus provides a fee-based blog service.

2) BSPs based on portal sites

   Xinlang Blog, Sohu Blog, etc.

3) When blogs are provided by other Web 2.0 related service provision corporations:

   NetEase Space (http://blog.163.com/victoryaly), QQ Space (http://qzone.qq.com/), MSN Space (http://www.spacemsn.net/bbs/index.php), etc.

   Of these, at the present stage the share of QQ Space, Xinlang Blog, NetEase Space, Sohu Blog and other companies that provide blogs and traditional portal services or other Web 2.0 services together is growing.

   BSPs can be divided into the service functions they provide, but among these, there are text-focused blogs (Xinlang Blog, China Blog, etc.), photo library blogs (Lafeng Net, FOTOLOG, etc.), mobile blogs (Wandie Move, etc.), and motion media blogs (V-Blog, ku6 Net, Tudou Net etc.).

* This project was funded in part by support from JKA.

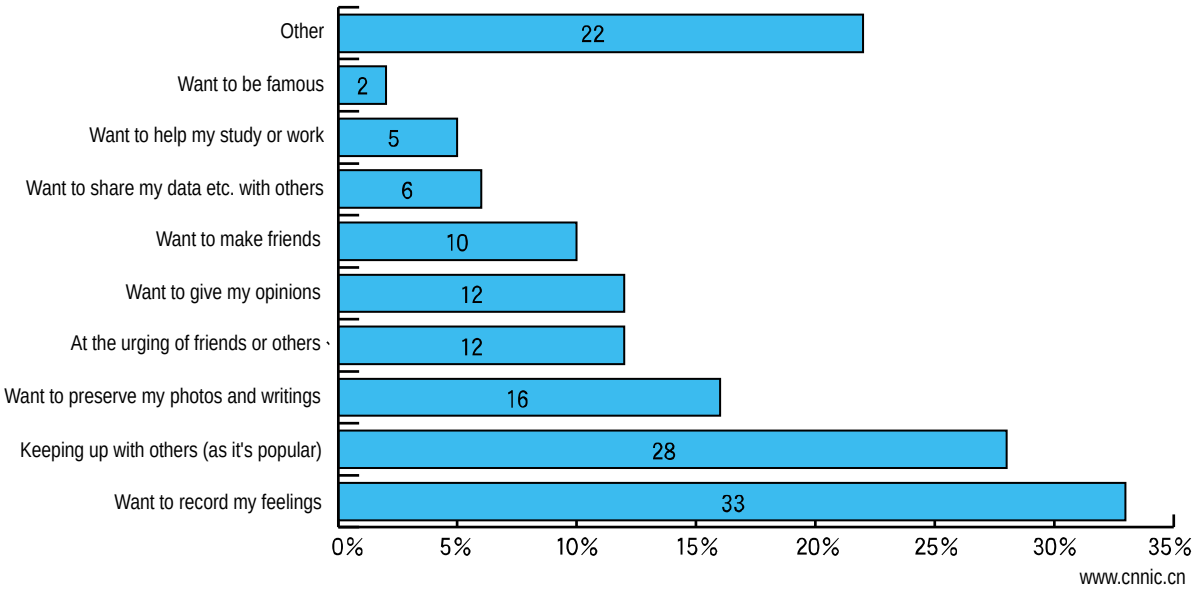
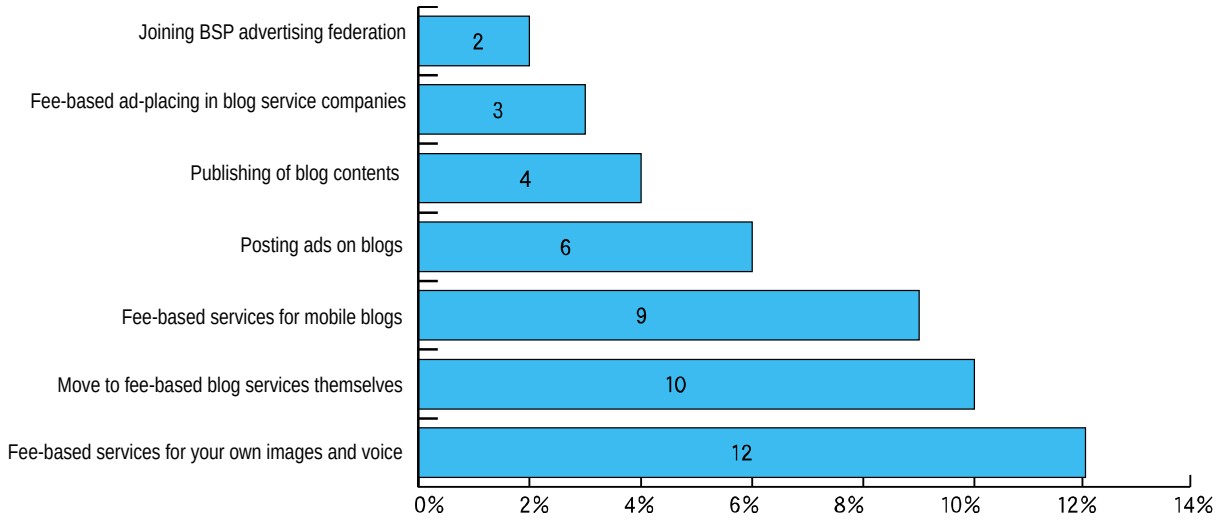
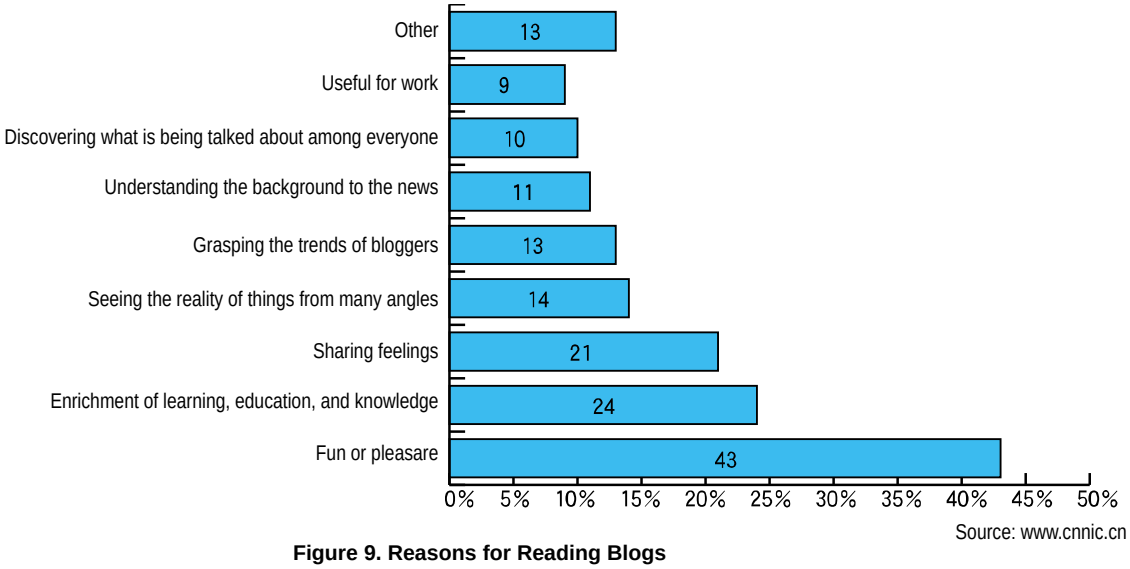


Figure 7. Reasons for Starting a Blog



Source: www.cnnic.cn

Figure 8. Usage Intention for Added-value Blog Services



Source: www.cnnic.cn

Figure 9. Reasons for Reading Blogs

Public Relations Group

Kazuhiro Kawashima, Research Director,
Next Generation Electronic Commerce Promotion Council of Japan

Public Relations

Overview of Activities

The Public Relations Group released information to ECOM members and others, mainly regarding the activities of the ECOM through ECOM seminars (monthly seminars), ECOM News and the ECOM Website as in the previous year, and in FY 2007, publicized ECOM activities through symposiums in Japan and overseas.

Activity Results

1. ECOM Forum 2008

On March 3 2008, the ECOM Forum 2008 was held at the Meiji Kinenkan (Motoakasaka, Minato Ward, Tokyo). We had more than 250 total participants, mainly from ECOM member companies, on the day.

In the morning, the opening address was given by ECOM Chairman, Takuya Goto (Chairman of the Board of Kao Corporation), and following the guest speech by Ministry of Economy, Trade and Industry, Commerce and Information Policy Bureau, Vice-Minister, Mr. Masaaki Kimura, Professor Jiro Kokuryo of Keio Univeristy and Mr. Kazuo Miyata, operating officer for Fujitsu Limited, gave the keynote speeches laying out the basics of ECOM activities in the future.

In the afternoon, the project managers of each WG and the chief research director of ECOM presented the results of their activities during FY 2007. At the conference, too, EC related product catalogues provided by ECOM member corporations were displayed and distributed. As a special program, there was an exhibition of photos of the FY 2004 and 2005 Tag Field Trial Projects. The lecture program is shown in Table 1.

Table 1. ECOM Forum 2008

March 3, 2008 — Morning Session

Opening Address and Guest and Keynote Speeches
Opening Address
Next Generation Electronic Commerce Promotion Council of Japan (ECOM) Chairman Takuya Goto (Chairman of the Board of Kao Corporation)
Guest Speech
Ministry of Economy, Trade and Industry, Commerce and Information Policy Bureau, Vice-Minister, Mr. Masaaki Kimura
Keynote Speech 1
"Evolution of the Information Society through the Realization of a Network that can be both Creative and Reliable" Professor Jiro Kokuryo, Keio University
Keynote Speech 2
"Field Innovations in Management" Mr. Kazuo Miyata, Operating Officer, Fujitsu Limited

Afternoon Session

Results of ECOM Activities and Future Prospects for Electronic Commerce	
RFID Tags / Traceability	IT Utilization
About the linked use of information systems and international standards for RFID tags	About past changes in the size of the electronic commerce market and future trends
About the penetration of RFID tags and technical issues	Development and authorization of the electronic commerce introduction effectiveness evaluation model
Towards Asian development of RFID tags	Surveys and consideration regarding optimization of administrative procedures Improvement of convenience and service from companys' viewpoint
Information Sharing Infrastructure	Safe and Secure EC
Issues in small and medium business EDI and future approaches	Issues in disseminating electronic signatures and the role of ECOM
Advanced case examples of EDI internationalization and about chemical industry	Past ECOM activities in personal information protection and contemporary issues
About the next generation EDI vision	Towards proactive and strategic information security measures

2. ECOM seminars (monthly seminars)

As part of our activities for FY 2007, we held monthly seminars nine times. In terms of the number of times each activity group held seminars, in the field of Information Sharing Infrastructure and RFID / Traceability field held 2 seminars, EC Safety and Security field held 3 seminars, the IT Utilization related field held 3 seminars, and the Overseas related field held 1 seminar.

The dates that seminars were held, the themes of lectures, the number of applicants, and the number of attendees are shown in Table 2. In the ECOM seminars in FY 2007 (held 9 times), we had a total of 844 people attending (cf. 1,086 people for 11 seminars the previous year). In the three years since becoming the Next Generation Electronic Commerce Promotion Council of Japan, we have held 30 seminars, and the total number of attendees is 3,014.

We carried out a questionnaire for the people who attended, asking them about planning and operation, the various lectures, and future themes. We got 469 replies, a 55.6% response rate (cf. 590 replies and a 54.3% response rate for the 11 seminars the previous year). The results of that questionnaire are shown below.

(1) "General Opinions, including Planning and Operation" (Evaluations each time a seminar was held)

For planning and operation, the average for all seminars was 13% for "Very good" (cf. 17% the previous year), 47% for "Good" (cf. 61% the previous year), 28% for "Neither good nor bad" (cf. 14% the previous year), and 1% for "Uninformative" (cf. 1% the previous year). The seminars that scored highly in "Very good" were the 29th, at 25%, and the 24th, the 26th, and the 27th, at about 15% each.

Table 2. Outline of the ECOM Seminars

Meeting	Date	Seminar Theme	No. of Participants (Members / Total)
22	May 28, 2007	Effects and Creation through EC Introduction Models Based on Japan-US EC Examples	57/73
23	June 27, 2007	State of the Electronic Commerce Market in Japan as Seen from a Japan-US Comparison	67/81
24	July 27, 2007	State of International Standardization of RFID Tags and Future Trends	76/92
25	October 1, 2007	Towards the Construction of an Information Sharing System that Uses Electronic Commerce and RFID Tags	66/140
26	October 26, 2007	Towards an Even Greater Use of Electronic Administration Services	64/117
27	November 19, 2007	Approaches to Administration relating to the Act on the Protection of Personal Information and Future Trends	83/107
28	January 24, 2008	Document Preservation Management and Long-term Preservation Technologies	61/96
29	February 5, 2008	The Latest Trends in Overseas EC	42/60
30	February 12, 2008	What are Proactive and Strategic Information Security Measures?	57/78

(2) "How were the lectures?"
(Evaluations for individual lectures)

The average for all lectures was 22% for "Very good" (cf. 23% the previous year), 50% for "Good" (cf. 59% the previous year), 17% for "Neither good nor bad" (cf. 10% the previous year), and 3% for "Uninformative" (cf. 2% the previous year). The lectures that were rated very highly (scored 50% or more in "Very good") were "Specific examples of effect creation through EC evaluation" in the 22nd seminar, "A society aiming for electronic government and electronic administration" in the 26th, and "The latest trends in the Chinese electronic commerce marketplace" in the 29th.

In both the evaluations of each seminar in (1) and the evaluations of each lecture in (2) above, the ratio of "Good" was lower than the previous year, and the rate of "Neither good nor bad" was higher. The middle level ("Good" and "Neither good nor bad") evaluations were down by about 10%, and we are feeling the need to plan seminars along themes that will bring about a new movement.

(3) About future themes

There were comments that wanted us to provide examples of standardization, trends in technology, examples of use, and reasons why they do not spread in the RFID Tag / Traceability field, and examples of group inter-corporate unification and examples of EDI using RFID in the information sharing field. Also, in the Safety and Security field, there were comments that wanted to know about personal information protection, as well as intellectual property, internal control, and trends in international standardization.

For other fields, there were also comments wanting information on electronic money, ID management, digital home appliances, and so on.

3. ECOM website

The ECOM website is updated almost daily in order to continually provide the latest information as a base for disseminating information about ECOM in general. The contents of the ECOM website are shown in Table 3. In FY 2007, the English sites for the Long-term Storage Plug Test Projetct and the Japan-Korea EC Law Expert Round Table were uploaded.

We have collated the annual access numbers for last year (FY 2006). The yearly total of access numbers was about 5.5 million (page views), and the average monthly access number was 450,000. Also, the total number of visitors annually was 1.54 million, and the average number of monthly visitors was 120,000. In general, this works out to about 3 to 4 pages (html or PDF files) viewed for every one access.

The most accessed areas were, in order, results reports with 630,000, the Internet Shopping Dispute Consultation Office with 380,000, and the English site, with 190,000. Also, ECOM News and ECOM seminars got about 70,000 hits each, recording about 5,000 hits for each event when the News was published or a seminar was held.

In FY 2007 as well, for our regularly published media, we had ECOM news, and ECOM seminar brochures and applications. The number of people who got an ECOM member ID to access the ECOM members only pages increased to 400 from last year's 370. On the ECOM members' only pages, we post the lecture materials for the past three years, or 30 times, of ECOM seminars, and it is possible to see how each field has changed over the three years. Furthermore, in the e-Conference Room, exchange of information between members, opinions, summaries of reports, and passing on of lecture materials from relevant seminars helped to support ECOM activities.

4. ECOM News

As in the previous year, ECOM News has aimed to be a place where, as an activity journal, the activities of ECOM can be clearly understood in a timely manner. In particular, in FY 2007 we carried articles on the start situation of WG activities and the WG activity schedule for the following month, and supported the smooth promotion of ECOM implementation. Also, carrying on from the previous year, along with carrying special articles by board member corporations, we published special articles from not only ECOM member corporations, but a US survey company (Washington CORE), the Korea e-Business Association (KOEB), EC Network, etc. Additionally, we announced the holding of not just ECOM seminars, but seminars held by related groups (the Council of Anti-Phishing Japan) and others, and did our best to

Table 3. Information Posted on ECOM's Web Site

Website (Japanese Version)	
	What's New! (Announcements such as seminars and News postings)
	Press Releases (Four press releases related to ECOM)
	Newsletters (ECOM News No. 25 to 36)
	ECOM Seminar (Programs and outlines of seminars held)
	Activity Reports (FY 2000 to 2007)
	Research Reports, Easy EC, Easy Introduction to RFID Tags
	About ECOM (introduction of members (154 companies), etc.)
Global Website (English Version)	
	What's New! (Overseas version)
	ECOM News, Press Release
	WG Annual Reports, Research Reports
Members-only Pages No. of Registered Members: 400 (as of March 2008)	
	What's New! (announcements such as seminar reports)
	ECOM Calendar (Schedule for ECOM activities, etc.)
	ECOM Seminars/Forums (reference materials for lectures, etc.)
	e-Conference Rooms, ECOM Member ID (Issue Site), Membership Procedures
Specialist Site	
	Easy Introduction to RFID Tags
	Long-term Storage Plug Test Projetct
	Japan-Korea EC Law Expert Round Table

work as a hub for EC related information in Japan. Furthermore, the Public Relations Group staff themselves collected information by participating in symposiums both in Japan and overseas (IEEE, IEEJ, etc) and seminars by related groups (EC Network), and published them as ECOM News. Through this, were put out about 200 pages of information in a year, more so than the previous year.

5. Other activities

In addition to these proactive activities, the Public Relations Group has supported other groups as follows:

1) Creation of ECOM pamphlets for activities after FY 2008

2) Assistance in preparing press releases
(Personal Information Protection WG, Electronic Signature Dissemination WG, IT Utilization WG, and others)

3) Presentations on for ECOM activities such as international symposiums
(IEEE ETFA 2007, IEEJ System Symposium, etc.)

Future Plans

As in the previous year, we were able to enhance the ECOM News and website during FY 2007. On the other hand, the seminars did not attract an adequate number of participants. We intend to continue with public relations activities on new themes as well in cooperation with concerned organizations.

In FY 2008, the Public Relations Group will continue to run the ECOM Web Site as a portal site for topics related to EC, RFID tags and safety and security and operate the e-Conference Rooms, as well as hold ECOM seminars. By issuing official publications (public relations magazines) (including News and Journals), the Public Relations Group will continue to broadly disseminate information on ECOM activities, research results and other relevant information, both domestically and internationally, and as a Japanese EC promotion group, and as a place for information exchange and the solving of shared problems we shall support the evolution of ECOM.

The Table 4. Articles Posted in ECOM News Issues

Issue Date	Major Topics Posted
April 2007 (No. 25) 12 pages	• ECOM Working Group (WG) Seeking Activity Members! • Special Contribution "Next Generation ECOM: Toward the Third-year Activities" • Electronic Signature WG "Participation Report on ETSI/ESI #16" • e-Government & Business Collaboration WG "e-Government in Estonia" • Overseas Survey Report "The Korean Government Focuses on the Development of RFID Tags as the 'Second Semiconductor'" • JIPDEC/ECPC STEP Group "51st ISO TC184/SC4 Funchal Meeting Report" • ECOM Press Release "JIPDEC/ECOM and Accenture, B2B EC Introduction Effects Evaluation Model Survey Research and Joint Announcement"
May (No. 26) 12 pages	• FY2007 The First Planning Committee Meeting Held! • Special Contribution "EC, the Transition of Cities and Workplaces, and the Future" • IT Utilization WG "Ministry of Economy, Trade and Industry's 'Market Survey on Electronic Commerce in FY 2006'" • IT Utilization WG "Performance Management Methods in US Supply Chains" • Information Sharing Technology Promotion WG "Brief Report on the Meeting of the UN/CEFACT TBG17 in Berlin" • FY 2007 Working Group (WG) Activity Members Invitation Results
June (No. 27) 18 pages	• The Second Planning Committee Meeting Held! • Special Contribution "On the Development of RFID Tags Initial Applications as Points of Reference" • WG Activity Report "Commencement of Working Group (WG) Activities" • Public Relations Group "Providing Information via the ECOM Web Site" • EDI Promotion Council "Survey on State of EDI in Japanese Industry" • Outline of Lectures at the "22nd ECOM Seminar" - Creation and Effects of an EC Introduction Evaluation Model Based on EC use in Japan and the U.S.A.
July (No. 28) 18 pages	• ECOM Board of Directors Meeting and General Meeting Held! • Address by the New Director As the New Director of ECOM • Special Contribution "The Project for the Renaissance of Transportation and Distribution Proposed by the Council on Competitiveness-Nippon (COCN)" • Reports on the Activities of Working Groups "First Meetings of Working Groups Held!" • RFID Tags/Traceability Group "6th EPC RFID Forum Held" • Personal Information Protection WG "The ECOM Guidelines on the Protection of Personal Information Revised" • JIPDEC/ECPC STEP Group "52nd ISO TC184/SC4 Ibusuki Meeting Report" • Outline of Lectures at the "23rd ECOM Seminar" - Current State of the Japanese Electronic Commerce Market Based on Comparisons between Japan and the U.S.A.
August (No. 29) 17 pages	• Special Contribution "The Latest Trend in e-Business in Korea and Cooperation between Korea and Japan" • Personal Information Protection WG "Web Descriptions Survey on the Protection of Personal Information" • Electronic Signature Dissemination WG "ETSI/ESI #17 Participation Report" • EC Network "Introducing the 'Internet Scam Measures Collection' on New Websites" • Next Generation EDI Technology Promotion WG "e-Business Asia Committee Participation Report" • Outline of Lectures at the "24th ECOM Seminar"- The Situation and Future Trends of the International Standardization of RFID Tags - • Regarding the Retirement of the Director
September (No. 30) 17 pages	• The Third Planning Committee Meeting Held! • Special Contribution "My Thoughts on Web Commerce 2.0" • RFID Tags Technology Study WG "First, Second WG Meetings Held!" • Electronic Signature Dissemination WG "Report on Interoperability Test using JIS Proposal for Long Term Digital Signature Format Profiles" • ECOM Press Release "Eighteen Companies in Japan Participated in the Interoperability Test using JIS Proposal for Long Term Digital Signature Format Profiles (Interim Report)" • Electronic Signature Dissemination WG "Austrian Citizen ID Number Investigation" • Information Security WG "Activity Report" • ECOM EC Infrastructure WG/JEDIC Business Interface EDI Study Group "Joint Overnight Conference Report"
October (No. 31) 19 pages	• Outline of Lectures at the "25th ECOM Seminar" as a Special Seminar for Informatization Month -Toward the construction of Information-Sharing System Based on Electronic Commerce and RFID Tags • Special Report "Toward Solutions to Problems on the Internet – Knowledge to Avoid Problems" • Personal Information Protection WG "Impressions of the Personal Information Protection System in Canada" • e-Government & Business Collaboration WG "e-Government and e-Service in Lithuania and Latvia" • Information Sharing Technology WG "Development of Information-Sharing International Standards" • International Relations Group "Participation Report in Korea e-Biz Expo 2007" • Public Relations Group "Participation Report in ETFA 2007"
November (No. 32) 19 pages	• The 4th and 5th Planning Committee Meetings Held! • Special Report "Service Innovation: System in Which New Service Concepts are Created – the case of the Bank of America" • Outline of the FY 2007 ECOM First Half Business Report (Interim Report) • Electronic Signature Dissemination WG "ETSI/ESI #18 Participation Report" • JIPDEC/ECPC STEP Group "53rd ISO TC184/SC4 Dallas Meeting Report" • The 9th GBDe Annual Summit Participation Report – Web Commerce 2.0 • Overview of Lectures at the "26th ECOM Seminar" - Towards an Even Greater Use of Electronic Administration Services
December (No. 33) 20 pages	• The 6th and 7th Planning Committee Meetings Held! • Special Contribution "Reform of UHF Band RFID Systems through Revision of the Radio Law" • RFID Tags/Traceability Group "About Responses to Public Comments from the Ministry of Internal Affairs and Communications Related to RFID Tags" • RFID Tags Technology Study Committee "Briefing Report on the Survey concerning RFID-tag Advanced Technologies in Europe and the U.S.A." • Electronic Signature Dissemination WG " eID Survey Report in Belgium " • International Relations Group "Report on the Japan-Korea EC Promotion Council in Miyazaki" • International Relations Group "Briefing Report on the EC Market Survey in China" • Next Generation EDI Promotion Council "Next Generation EDI Promotion Council Inaugurated" • Antiphishing Japan "Announcement of 'ID Theft and Phishing Scam Trends and Measures' Seminar" • Outline of Lectures at the "27th ECOM Seminar" - Approaches to Administration relating to the Act on the Protection of Personal Information (for short) and Future Trends
January, 2008 (No. 34) 13 pages	• Special Contribution "Activities for the New Fiscal Year and After" • The 8th Planning Committee Meeting Held! • Considerations for the Utilization of RFID Tags in Enhancing the Efficiency of the Supply Chain in Asia "The 6th AFIT (Asian Forum for Information Technology) Outline Report" • Next Generation EDI Technology Promotion WG "Report on the Wuhan Conference of the e-Business Asia Committee" • Information Sharing Rule Committee "The 1st Information Sharing Rule Committee Held!" • "IT Pro" Series Starts! – Management that creates results
Feburary (No. 35) 16 pages	• The 9th Planning Committee Meeting Held! • FY 2008 ECOM Business Plan (Proposal) Outline • e-Government & Business Collaboration WG "Overseas Research Report" • Outline of Lectures at the "28th ECOM Seminar" - Document Storage/Management and Long Term Storage Technologies - • Outline of Lectures at the "29th ECOM Seminar" - Latest Movement in Overseas EC -
March (No. 36) 23 pages	• Extraordinary General Meeting, Board of Directors' Meeting Held! • The 10th Planning Committee and 4th Board of Directors' Meeting Held! • "ECOM Forum 2008" Held! • Electronic Signature Dissemination WG "Electronic Signatures and Time Stamps Dissemination Forum 2008" • Electronic Signature Dissemination WG "ETSI/ESI #19 Participation Report" • JIPDEC/ECPC STEP Group "54th ISO TC184/SC4 Louisville Meeting Report" • Outline of Lectures at the "30th ECOM Seminar" - What are Proactive and Strategic Information Security Measures? • ECOM Director Retirement Speech

TOPICS

Looking Back on Three Years of RFID Tags

How Have ECOM Guidelines for the Protection of Personal Information Evolved?

Interpretative Guidelines on Electronic Commerce and Information Property Trading

International Collaboration Centering on Japan, China, and Korea

Looking Back on Three Years of RFID Tags

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Topics

Introduction

ECOM has surveyed and discussed the issues needed for dissemination as well as technological issues centering on the WG activities, and building upon the activity results of the Electronic Commerce Promotion Council of Japan, its predecessor, concerning the RFID tag business. These business activities are part of the Ministry of Economy, Trade and Industry's RFID tag policies. The following paragraphs are an introduction to these business activities.

Background and Goals

It is hoped that through the use of RFID tags, product movement and movement of information in EDI will be able to be done simultaneously, and that by making it possible to give a "visible" merging of the previous issues of commercial distribution (people), product distribution (things), and financial settlement (money), and through an IT management that uses shared information, as well as the increased efficiency of corporate business, the realization of a more efficient product life cycle management and construction of a more effective SCM will happen.

In the RFID Tag Demonstration Experiment Project run by the Ministry of Economy, Trade and Industry, demonstration experiments by industry and between companies, as well as between industries and nations were carried out. From that background, the following possibilities and expectations were found.

If is it possible to fully optimize the product life cycle from production to sales, maintenance, and recycling by sharing and utilizing information between companies, then with such things as the elimination of wasteful production and using efficient transport, there will be a significant contribution to the efficiency of energy usage.

In addition, it is forecast that there will appear various services that use the special features of RFID tags, and there is a lot of hope for RFID tags in industry. Also, the achievement of complete optimization of the product life cycle using RFID tags will allow product traceability and the provision of "safety and security" to consumers, as well as the possibility of being a tool that can achieve the "3R" (Recycle, Reuse, Reduce) as measures for environmental issues, about which interest is increasing.

The environment that deals with RFID tags is set up as follows. In regards to the UHF band (952MHz to 954MHz) that Japan, in comparison with various overseas nations starting with Europe and North America was slow in adopting, the Ministry of Internal Affairs and Communications revised the law to allow its use by RFID tags. Also, in terms of the international standardization of related technologies, various regulations for UHF band interfaces and other areas have been set up, and examination of these is progressing. Along with these movements in international standardization, a technology development project (the Hibiki Project) aimed at reducing the cost of RFID tags, and a demonstration experiment project to make clear the effects and issues of introduction related to these regulations, technologies, and operation are being promoted.

However, in order for RFID tags to be used between companies, there are a lot of issues that need to be resolved, such as the way that information should be shared between companies, security measures for RFID tags, and measures for the protection of privacy. In solving these issues, we must seek methods that are in harmony with international use. To do this, groups and organizations that deal with RFID tags must collaborate and work to solve these issues.

Overview of Activities

In order to survey and consider the issues noted above, we have collaborated with the Ministry of Economy, Trade and Industry and carried out a survey of the state of RFID tag use in companies, and analysis of the demonstration experiment results, among other things. We then carried out surveys and considerations regarding the way that information should be shared between companies in order to achieve full optimization of the life cycle for products with RFID tags, the information entities that should be included in the RFID tag, and the social acceptability of RFD tags. The WGs and Committees that we set up to carry this out are listed in Table 1.

We also held an METI RFID Tag Demonstration Experiment Liaison Meeting as a forum to share information on the issues and results, and the items we discussed in these WGs and Committees.

At this meeting, our main goal is working for the smooth implementation of demonstration experiments through the sharing of information between projects we carry out (a cross-cutting sharing of RFID technology know-how over projects) in the RFID Tag Demonstration Experiment (Table 2), and in addition, we were active from FY 2004 to FY 2006 as a venue to work for technology information sharing between the RFID Tag Demonstration Experiment and the Hibiki Project.

Summary

After the demonstration experiment was wrapped up, there are some companies and industries that are carrying out ongoing consideration of introduction, but in actual fact there are only a few examples of occasions when was applied during the experiment.

A possible reason for this is the technological issues, one of the items that we discussed at ECOM in order to promote introduction and utilization. Specifically, this issue deals with the read ratio for simultaneous reading using the anti-collision function that is one of the attributes of RFID tags. Since this cannot be guaranteed 100%, it was not possible to come up with a killer ap. However, in the investigation up until now, and in demonstration experiments and earlier examples from overseas and elsewhere, we were able to see examples where it was achieved at a 100% rate by compensating through operation.

The next issue that can be raised during the introduction of tags by companies is that it is hard to clarify the return on investment of the RFID tag system. This task of calculating the return on investment seeks out points to reform in tasks from an analysis of the current situation, and from among those shows the areas where RFID tags would be effective; it is a high level one that adds a new design concept to the know-how built up through the introduction of other AIDC systems. Considerations on introducing RFID tags to reform in-house tasks are based on this step and progress in stages, but on the other hand, for introducing information sharing and utilization between companies, there are many cases when the old business practice of the theory of the benefit-received principle could not be applied, and introduction to industry generally is still at the stage of consideration.

In FY 2008, ECOM set up the RFID Tags Promotion WG. It is expected to work towards contributing to promotion of the introduction of RFID tags in companies and industry.

Table 1. ECOM RFID Tag Activities

FY 2005	• RFID Tags/Traceability Promotion WG Demonstration Experiment Analysis TF Product Life Cycle TF • International RFID Tag Utilization Promotion WG • Diffusion Promotion & Social Acceptability Studies WG Privacy Protection Technology/Know-How Study TF Consumer Education Infrastructure Study TF Consumer Education HP Study TF • METI RFID Tag Demonstration Experiment Liaison Meeting
FY 2006	• RFID Tag Utilization Study WG RFID Tag Demonstration Experiment Analysis TF High Function/High Volume RFID Tag Study TF Standardization Trends Survey SWG • METI RFID Tag Demonstration Experiment Liaison Meeting
FY 2007	• RFID Tags Technology Study Committee RFID Tag Durability Study TF Read Ratio Improvement and Task Efficiency Study TF • RFID Tag International Standardization Strategy Meeting

Table 2. List of Fields and Industries for METI RFID Tag Demonstration Experiments

	FY 2003	FY 2004	FY 2005	FY 2006
Home electronics	○	○ Computers	○ Computers	○
Apparel	○	○ Department stores		○ Department stores
Publishing	○	○ Bookshops, libraries	○	○
Food products	○			○
Industrial vehicles		○		
Medical supplies		○	○	
Distribution		○		
Records		○	○	
Self Defense Forces			○	
Automobile parts			○	
Office machines			○	
Convenience stores				○
Daily goods				○

How Have ECOM Guidelines for the Protection of Personal Information Evolved?

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Topics

Introduction

ECOM completed its initial activity period at the end of March 2008, and from April has been tackling the new EC era under a new system, but at this time, the turning point, we shall look back on the changes in the ECOM Guidelines for the Protection of Personal Information, and also test out future scenarios. The actions of ECOM and the country have been collected on Table 1, so please refer there.

The Evening Before the Establishment of the "Protection Act"

1. Pioneer of the Guidelines for the Protection of Personal Information

In March 1997 the Ministry of International Trade and Industry (as it was then) set up and published the "Guidelines Regarding the Protection of Personal Information Related to Electronic Computer Processing" (hereafter shortened to the "MITI Guidelines"), and took an early step in bring attention to the issue of personal information protection in the private sector.

At ECOM we used these "MITI Guidelines" as a base, and came up with the "Guidelines Regarding the Protection of Personal Information Related to Electronic Commerce in the Private Sector" (hereafter shortened to the "ECOM Guidelines"), and submitted them for the consideration of industry figures in the form of a response to the action by the Ministry of International Trade and Industry (May 1998). Also, we worked hard on bringing in a match with the bill that was made clear in the examination process of the "Act on the Protection of Personal Information" (hereafter shortened to the "Protection Act") that was worked on after March 2001 and prepared the way for the upcoming "Protection Act."

2. Publication of the Ministry Guidelines

When it was half a year until promulgation of the "Protection Act," (October 2004), the Ministry of Economy, Trade and Industry published the "Guidelines Targeting the Fields of Economy and Industry Regarding the Act on the Protection of Personal Information" (hereafter shortened to the "METI Guidelines") and encouraged an appropriate response to the "Protection Act" by businesses.

ECOM further added the EC aspects listed below to the "ECOM Guidelines" mentioned earlier, and revised and published them in January 2005.

<Main Points of Revision>

- Easy to understand display on the Web of "Protection Policy"
- Cautions for the automatic acquisition of personal information by cookie
- Provisions for when information is leaked
- Application of the "Protection Act" to people living overseas

Following the Full Enforcement of the "Protection Act"

1. Revision of the Guidelines Following On-site Conditions Carefully

The "Protection Act" was fully enforced in April 2005, but accidents and incidents involving the leakage of personal information kept on happening, shaking up the mass media. At ECOM we collected and analyzed the causes of these accidents, and published our prevention measures for them in a further revision of the "ECOM Guidelines" in January 2006.

<Main Points of Revision>

- Regular checking of stored personal data
- Strengthening of measures to guard against physical theft and loss
- Strengthening of measures to guard against unauthorized access and viruses
- Thorough implementation of human safety monitoring
- Promotion of safe disposal

2. "Reminder" for Anomalies

The Ministry of Economy, Trade and Industry carried out a "reminder" for anomalies on the following three points in February 2006.

- Measures to prevent unauthorized access for databases
- Anti-virus measures for file-sharing software
- Measures to guard against loss or theft of computers

These three items all overlap with part of the Guidelines revision contents carried out by ECOM the previous month.

3. Creation of Guidelines for Small Scale EC Businesses

Reflecting on the fact that personal information protection systems are lagging for small and medium businesses, at ECOM we set up a simplified version of the guidelines for small scale business operators, and published them in January 2007.

<Main Points>

- Targeted at Internet sales businesses of the SOHO class
- Careful selection of the minimum that must be protected
- Added public samples of "privacy policies"

4. Introduction of Encryption Exception

The Ministry of Economy, Trade and Industry carried out its first revisions of the "METI Guidelines" in March 2007.

- Special measures for when encrypted data is leaked
  (When leaked personal data is encrypted, notification to the person concerned or release to the mass media may be waived.)
- Safety management for credit card information

With regard to this revision, the "ECOM Guidelines" also followed them without change.

5. Responses to Further Issues

The Ministry of Economy, Trade and Industry also carried out a revision that addressed the supervisory responsibility of the consignee in February 2008. We are thinking about reflecting this in the "ECOM Guidelines."

In Closing

We have followed the changes since the policy establishment of the first version of the "ECOM Guidelines" in 1998, but many events are recalled with deep feeling after all this time. I myself have only been directly involved with a few of them, mind you.....

Well, perhaps now this task has reached its goal? It should go without saying that the answer is "NO."

There are many issues remaining, but if we were to mention one of them, it would be the setting up of "cross-border rules." The globalization of economic activities of necessity increases the degree of cross-border flow of personal information, but the "Protection Act" of Japan unfortunately cannot cope with this. At ECOM, with the cooperation of the WG members, we are considering global best practices in regard to the protection of personal information, and are in the middle of assembling them into the "ECOM Guidelines" in advance of any laws being passed, although we also intend to boldly bring in other items as well.

Table 1. ECOM Activities and National or Ministerial Movements Relating to the Protection of Personal Information

Year	ECOM Activities	National or Ministerial Movements
1997	—	(March) "MITI Guidelines Regarding the Protection of Personal Information Related to Electronic Computer Processing"
1998	(May) Initial publication of "ECOM Guidelines for the Protection of Personal Information"	—
1999	—	—
2000	—	—
2001	—	(March) Bill for the Act on the Protection of Personal Information entered into the Diet
2002	(March) First revision of "ECOM Guidelines for the Protection of Personal Information"	—
2003	—	(May) Establishment of the "Act on the Protection of Personal Information"
2004	(March) Secound revision of "ECOM Guidelines for the Protection of Personal Information"	(October) Initial publication of "METI Guidelines Targeting the Fields of Economy and Industry"
2005	(January) Third revision of "ECOM Guidelines for the Protection of Personal Information"	(April) Full enforcement of the "Act on the Protection of Personal Information"
2006	(January) Fourth revision of "ECOM Guidelines for the Protection of Personal Information"	(February) "METI Reminder for Safety Management"
2007	(January) Initial publication of "ECOM Guidelines for Small and Medium Businesses" (July) Fifth revision of "ECOM Guidelines for the Protection of Personal Information"	(March) First revision of "METI Guidelines Targeting the Fields of Economy and Industry"
2008	—	(February) Secound revision of "METI Guidelines Targeting the Fields of Economy and Industry"

Interpretative Guidelines on Electronic Commerce and Information Property Trading

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Topics

About the Interpretative Guidelines

Electronic commerce in Japan is expanding its market. On the other hand, since most of the existing laws, including the Civil Code, were established before the emergence of such new technologies, the interpretation of the application of the existing laws concerning electronic commerce are not necessarily clear If this makes businesses hesitate to implement electronic commerce, then it will become a barrier to its development.

At the Ministry of Economy, Trade and Industry, interpretative guidelines have been established since 2002 in order to explain one of their ideas about the interpretation and the application of relevant laws in regard to the legal issues in the field of electronic commerce. These interpretative guidelines have been continuously updated.

Note that these interpretative guidelines are made up of the "field of electronic commerce" and the "field of information property trading." The name of the interpretative guidelines was "Interpretative Guidelines on Electronic Commerce," but when it was revised in March 2007, the name was changed to the "Interpretative Guidelines on Electronic Commerce and Information Property Trading" due to the increase in weight given to information property trading in the debate.

The Interpretative Guidelines and ECOM

These interpretative guidelines were set in March 2002, and following that, revisions were made in an ongoing process in response to matters concerning electronic commerce including, the property trading business routines trends in technology, and the state of rule creation internationally. In a revision task such as this, deliberations by deliberation council to consider the problems and tasks of electronic commerce and information property trading, and work groups that legally evaluate the details regarding each of the fields of electronic commerce and information property trading are carried out, and a basic proposal is drawn up. After that, it is deliberated on by the Industrial Structure Council Information Economy Committee Rule Establishment Sub-Committee, and is published on the website of the Ministry of Economy, Trade and Industry as the latest version. The deliberation council and work groups above are assisted by legal scholars, lawyers, and other experts in the law, as well as consumer groups and business groups. When ECOM (at the time, ECOM was the "Electronic Commerce Promotion Council of Japan") first began considering these interpretative guidelines, it presented an opinion after the Ministry of Economy, Trade and Industry requested it. Since then, we have been able to assist the Ministry in some way or another when they consider the interpretative guidelines.

As a task that is closely connected to these interpretative guidelines, from FY 2003 to FY 2005 we carried out the "Internet Related ADR (Alternative Dispute Resolution) Demonstration Experiment." This set up an "Internet Shopping Dispute Consultation Office" and gathered examples of trouble using electronic commerce and worked to accumulate know-how and knowledge to solve them, send out information, and the results that we gained from this task were also used in the deliberations about the interpretative guidelines.

It should be noted that these results were carried on by the "EC Network" and they are still ongoing, including a consultation desk for consumers.

Revision of the Interpretative Guidelines

The structure of the interpretative guidelines is as shown in Table 1. The debates related to "Electronic Commerce (Online Trasaction by FY 2005)" were made up of the four aspects of "Problems Concerning the Conclusion of Contracts," "Transaction Types Unique to Electronic Commerce," "Consumer Protection," and "Cross-borde Property Trading" and the debates related to "Information Property Trading" were made up of the two aspects of "License Agreement" and "Intellectual Property."

These interpretative guidelines have contents added or revised flexibly in line with the latest trends, and the points that have been added since April 2005, when the current ECOM was started, are shown by "*2."

Among these, "Consumer Protection" was alone the result of a revision regarding the proper advertising display prior to FY 2005, but since the problems of acquisition of personal data through the Internet are different from the acquisition of personal data in the real world, in FY 2006 "Acquisition of personal information through the Internet" was added. Also, in June 2006 the "Act on the General Rules of Application of Laws" was established, and enforced from January 2007, so "Cross-border Property Trading" was amended by the addition of three points ("Governing law for when there is no selection of law by concerned parties," the "Regulations on the protection of consumers in cross-border Property Trading," and the "Governing laws and illegal activities on the Internet").

Note that while the "Legal responsibilities of the person who made the manifestation of intention and inaccurate display of prices" was added in FY 2006, but this can be said as being one of the results of the "Internet Related ADR Demonstration Experiment" noted earlier, and there have been court judgments that referenced this.

Table 1. Interpretative Guidelines on Electronic Commerce and Information Property Trading (March 2007 Revised Edition)
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*1 Points raised in the first edition of the interpretative guidelines
*2 Points added following FY 2005 (after the start of the current ECOM)

International Collaboration Centering on Japan, China, and Korea

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Topics

Introduction

As a core organization of EC dissemination and promotion in Japan, in order to work for international harmony and communication in regard to EC, and to promote the dissemination and promotion of EC technologies and standards in Japan, ECOM started international collaborative activities in January 1999, centering on links with Korea, an Asian nation where EC dissemination has been ongoing.

In April 2005, when ECOM was established, we formed a cooperative relationship for the exchange of information and other matters related to the entirety of EC within Asia with the EC dissemination and promotion group of Japan, China, and Korea. In particular, we have carried out exchanges of opinions regarding the themes Japan and Korea should take up, with the Korea e-Business Association (KOEB) as a portal, and centering on the pillar of ECOM's activities, the RFID/Traceability field.

From the international collaboration activities we have carried out over the past three years, we have summarized the topics related to international harmony and communication activities carried out by Japan, Korea, and China. Table 1 shows the EC related international collaboration activities carried out between Japan and Korea.

International Collaboration between Japan, China, and Korea

In April 2005, we participated in the 8th China International E-Commerce Conference (Beijing, China) held by the China Electronic Commerce Association (CECA), and held the Japan – China – Korea Tri-nation E-Commerce Council Meeting in order to look towards EC promotion and the use of RFID tags. Between ECOM, CECA, and KOEB, we signed a memorandum of understanding regarding mutual cooperation for the holding in China of meetings and lectures on electronic signatures and authentication, exchanging information for the purpose of developing people related to electronic commerce, and exchanging information related to RFID technology.

On July 21, 2005, the Japan, China and Korea Electronic Commerce Policy and Law Seminar for 2005–Experience Exchange Forum on the Law concerning e-Signatures (Beijing, China) was held jointly by ECOM, CECA, and KOEB. From Japan, we introduced plug-test on the long-term signature storage format, which were being promoted by ECOM, from China we heard about the China Financial Authentication Center, and from Korea we heard about electronic authentication management systems and legislation.

Following the forum, a secretariat liaison conference was held by ECOM, CECA, and KOEB. China made a proposal on issues to be advanced based on trilateral cooperation, and in consideration of the differences in the development of EC, administration, systems, etc., we promised future cooperation including the exchange of information on each issue.

After that, at ECOM we surveyed the rapidly growing Chinese EC market trends, and summarized the results in a report, as well as holding annual ECOM Seminars regarding these trends, where we reported on the progress of EC in China to the ECOM members.

International Collaboration between Japan and Korea

From the time of preparing for the 1999 Japan-Korea EC Promotion Council, ECOM and KOEB (formerly known as KCALS) became the secretariat, and we held the Japan-Korea EC Promotion Council Workshop as a forum for a forthright exchange of views regarding the themes related to Japanese and Korean EC.

At this workshop, along with holding information exchange meetings in the fields of RFID/Traceability, electronic government, and authentication and notarization, we also held the Japan-Korea EC Law Expert Round Table and the Japan-Korea EC Policy Dialogue and, as a secretariat, supported not just private sector exchange but also provided a forum for the exchange of information between governments.

At the 13th Workshop of the Japan-Korea EC Promotion Council (Hakodate Meeting), held in October 2005, we continued our reports on the progress situation of the project to promote the promotion of EC jointly between Japan and Korea, and gave mutual reports on the activity status in the fields of RFID/Traceability, the construction of electronic government, authentication and notarization, and electronic component industry EC, among others, and worked for the exchange of information between Japan and Korea. Following that, the 5th Japan-Korea EC Law Expert Round Table was held by experts from both countries, and the 8th Japan-Korea EC Policy Dialogue was held between the two governments.

In November 2005, at the e-Biz Expo 2005 (Seoul, Korea), the largest RFID related meeting and exhibition in Korea, lectures related to Japan's strategy, EC market size, and approaches to RFID were given, as well as introducing the activities of ECOM through displays, and we also held a local inspection in the company of specialists from Japan of Korean corporations that are involved in RFID.

In June 2006, the 6th Japan-Korea EC Law Expert Round Table was held in Tokyo. Following that, we dispatched a lecturer to The Next KOEB International Conference, which had a theme of business process revolution in u-Services infrastructure and RFID technology in Korea. After the international conference, the 1st Japan-Korea RFID/Traceability Information Exchange Meeting was held.

In September 2006, the 2nd Japan-Korea RFID/Traceability Information Exchange Meeting was held in Tokyo. From the Japan side, we outlined the trends in information policy and the FY 2006 RFID Tag Demonstration Experiment, and from the Korean side, we heard about the government's IT revolution network construction project and examples of RFID model cases.

In October 2006, at the e-Biz Expo 2006 (Seoul, Korea), we gave a lecture on trends in Japanese EC, as well as holding a display of approaches to RFID in Japan, with prototypes and products, centering on the results of the Japanese Hibiki Project. Top Korean government official viewed our exhibits.

In November 2006, the Japan-Korea EC Promotion Council (Pusan Meeting) was held. Along with a report on the status of both Japan-Korea RFID/Traceability Information Exchange Meetings up until this point, we also held the 3rd Japan-Korea RFID/Traceability Information Exchange Meeting, centering on examples of RFID introduction from Japan and Korea. After that, the 7th Japan-Korea EC Law Expert Round Table and the 9th Japan-Korea EC Policy Dialogue were held.

In March 2007, as the 4th Japan-Korea RFID/Traceability Information Exchange Meeting, we introduced Japanese projects (the status of the demonstration experiment on the efficiency of distribution systems and the multi-code interoperability project) and heard about the Korean u-Service network and the URECA system.

In August 2007, we ran an article by KOEB in ECOM News No. 29 on the theme of "The Latest Trend in e-Business in Korea and Cooperation between Korea and Japan," which discussed the outline of Korean e-Business, e-Business levels, the relaunch of e-Business, and Korea-Japan IT cooperation.

In November 2007, the Japan-Korea EC Promotion Council (Miyazaki Meeting) was held. At the 5th Japan-Korea RFID/Traceability Information Exchange Meeting, the Japanese side spoke about trends in RFID introduction technology and approaches to EDI information entities, and from Korea we heard about trends in RFID introduction technology and industry application through RFID and EAI links. Following that, the 9th Japan-Korea EC Law Expert Round Table and the 10th Japan-Korea EC Policy Dialogue were held, along with two government-level meetings.

At the 9th Japan-Korea EC Law Expert Round Table, there was a debate on the status of the setting and revising of laws related to EC. At the 10th Japan-Korea EC Policy Dialogue, debate was held on a number of issues, including the improvement of corporate production using IT, issues towards the strengthening of competitiveness, and the use of environment-friendly IT.

In the future, we have recognized in both countries the importance of agreements on widening the scope of debate in the Policy Dialogue, and expanding the results of our cooperation all across Asia.

In Conclusion

In EC, where the fact that it is carried out across borders is self evident, and through the three years of international collaboration activities between Japan, China, and Korea, we have recognized the need for standardization of EC technologies, and the need for harmonization of the commercial practices and legal systems of various countries.

In the future, it is important for ECOM, as a core organization of the Japanese EC dissemination and promotion movement, to maintain its links with overseas groups, beginning with Korea, work for international cooperation and communication in relation to EC, and promote and disseminate EC technologies and standards that have been internationally harmonized.

* This project was funded in part by support from JKA.

Table 1. Three Years of International Collaboration Activities, Centered on Japan and Korea

Period	Country (City) Held	Events
2005		
April	China (Beijing)	• 8th China International E-Commerce Conference
May	Korea (Seoul)	• Japan-China-Korea RFID/Traceability Forum 2005
July	China (Beijing)	• Japan, China and Korea Electronic Commerce Policy and Law Seminar—Experience Exchange Forum on the Law concerning e-Signatures
September	Japan (Tokyo, others)	• ECOM hosted Advanced RFID Examples Survey Group.
October	Japan (Hakodate)	• 13th Japan-Korea EC Promotion Council Workshop • 5th Japan-Korea EC Law Expert Round Table • 8th Japan-Korea EC Policy Council
November	Korea (Seoul)	• e-Biz Expo 2005 (Conference, Exhibition) • Inspection of the current situation of RFID in Korea
2006		
June	Japan (Tokyo)	• 6th Japan-Korea EC Law Expert Round Table
	Korea (Seoul)	• The Next Korea e-Business International Conference • 1st Japan-Korea RFID/Traceability Information Exchange Meeting
August	Japan (Akita)	• ECOM hosted Advanced Medical Related RFID Examples Inspection Group.
September	Japan (Tokyo)	• 2nd Japan-Korea RFID/Traceability Information Exchange Meeting
October	Korea (Seoul)	• e-Biz Expo 2006 (Conference, Exhibition)
November	Korea (Pusan)	• Japan-Korea EC Promotion Council • 3rd Japan-Korea RFID/Traceability Information Exchange Meeting • 7th Japan-Korea EC Law Expert Round Table • 9th Japan-Korea EC Policy Council
2007		
March	Japan (Tokyo)	• 4th Japan-Korea RFID/Traceability Information Exchange Meeting
June	Korea (Seoul)	• 8th Japan-Korea EC Law Expert Round Table
October	Korea (Seoul)	• e-Biz Expo 2007 (Conference)
November	Japan (Miyazaki)	• Japan-Korea EC Promotion Council • 5th Japan-Korea RFID/Traceability Information Exchange Meeting • 9th Japan-Korea EC Law Expert Round Table • 10th Japan-Korea EC Policy Council

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