Great East Japan Earthquake Information &

Communication Technology Support Team

Activity Report



Secretariat of the Great East Japan Earthquake Information &
Communication Technology Support Team

July 29, 2011

# Preface

The Great East Japan Earthquake, which struck March 11, 2011, caused unprecedented damage to Japan. We express our sympathies to all the people who have been affected by this huge disaster. We would also like to express our heartfelt respect to those who have been given the important tasks of reconstruction and restoration.

We in ICT industries this past April 7 mobilized the strengths of our respective business areas in ICT, involving networks, hardware and software, to address prompt reconstruction efforts in the damaged regions. With the objective of providing relief to the victims and devastated regions and helping in restoration, we established the "Great East Japan Earthquake ICT Support Team." By the time activities ceased on July 29, we had offered 1,475 personal computers, 313 printers, 107 networks as well as peripherals, and other equipment deemed necessary for emergency use.

Now the activities of our ICT Support Team will be renewed for a three-month period, focusing on responses and their application in the affected regions.

# 1．Purpose of Establishment

Purpose of Establishment Paper: "Establishing the Great East Japan Earthquake ICT Support Team"

We express our sympathies to all those who have been affected by this huge disaster. We would also like to express our heartfelt respect to those who have been given the important tasks of restoration and revival.

We in ICT industries have been making all-out efforts to restore office equipment and telecommunications networks that suffered considerable damage in the latest disaster. Meanwhile, various ICT companies have been cooperating in many different ways to assist people affected by the disaster, utilizing ICT.

Nearly a month has passed since the disaster. Cooperation from various businesses is continuing, and respective business areas in ICT have been mobilized in areas such as networks, hardware and software during this period. This was done in the belief that providing access to ICT could be effective in helping restoration efforts in the damaged regions, providing relief to the victims, and helping in the rebuilding of devastated regions. To contribute in this way, we established an organization called the "Great East Japan Earthquake ICT Support Team." We continue to receive advice from the Ministry of International Affairs and Communications and Ministry of Economy, Trade and Industry and we plan to establish a simple ICT support framework for people and regions affected by the disaster.

Specifically, core activities we are considering include, offering free PCs for use by disaster victims, forming ties with local support organizations and carrying out support that includes setting up computer networks in local areas. ICT industries may have shortcomings in this regard, but we truly believe that we can play a constructive role for the disaster victims through such activities. We hope for positive participation in these efforts from the various organizations involved in assistance for disaster victims and for damaged areas and also from people working in the ICT industries.

We reiterate our heartfelt sympathy, and that ICT industry players want to amalgamate their strengths with those of the afflicted people to surmount this national crisis.

*Advocates of Joint Establishment*

Japan Business Federation (Keidanren)

Computer Software Association of Japan (CSAJ)

American Chamber of Commerce in Japan (ACCJ)

Japan Information Technology Services Industry Association (JISA)

Communications and Information Network Association of Japan (CISJ)

Telecommunications Carriers Association（TCA）

Japan Electronics and Information Technology Industries Association (JEITA)

Japan Computer Systems Seller Association (JCSSA)

## 2.　Progress of Activities

Establishment on April 7, 2011, of the Great East Japan Earthquake  ICT Support Team
Launch of website （http://www.jeita.or.jp/ictot/）

April 11: Registration of Support Team (as a local assistance organization and support
enterprise) gets under way.

April 15: Support is first implemented at several evacuation centers as well as
disaster-response headquarters, NPOs, etc. in Miyagi, Iwate and Fukushima
prefectures.

April 26: Support in the form of approx. 200 PCs takes place during the half month following
establishment.

May 12: Approx. 450 PCs and 100 printers are donated to affected regions in 1-month period
since activities begin.

May 18: Support enterprise and Japan Cloud Consortium provided software and ICT service
are introduced on our website

June 10: Total of approx. 900 PCs and 280 printers were donated to affected regions in
2-month period since activities began.

June 20: Registration of Support Team (as a local assistance organization  and support
enterprise) ends.

June 30: Free support for mobile internet connections finishes.

July 11: Acceptance of applications for support ends.

July 28: Briefing for Activity Report held.

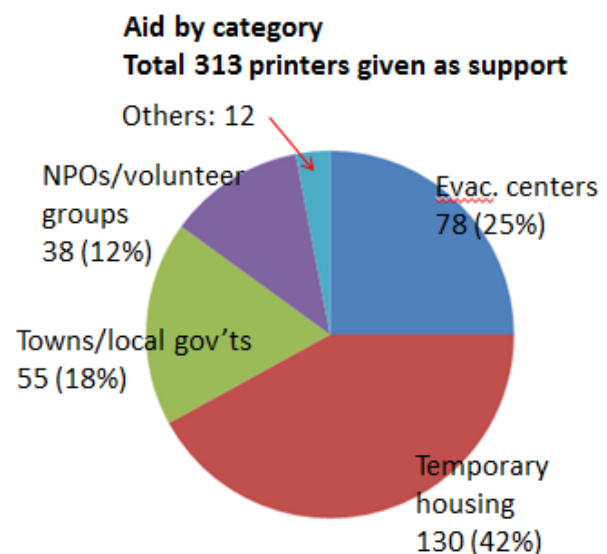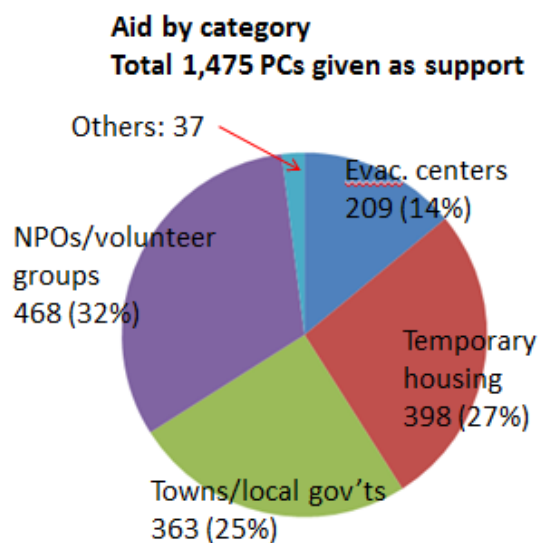July 29: Activities of the Great East Japan Earthquake ICT Support Team end.

July 30: Advice center for enquires about existing support supplies launched.

# 3. Scale of Support

〇Details of Support

| Support Supplies | Iwate Prefecture | Miyagi Prefecture | Fukushima Prefecture | Other regions | Total |
|---|---|---|---|---|---|
| PCs | 803 | 462 | 196 | 14 | 1475 |
| Printers | 195 | 55 | 61 | 2 | 313 |
| Data communication devices (3G/WiMAX mobile internet) | 1 | 103 | 1 | 2 | 107 |
| Projectors | 7 | 6 | | 1 | 14 |
| Scanners | 1 | | 1 | | 2 |
| Monitors | 9 | | | | 9 |
| Wireless LAN Modems | 4 | | | | 4 |
| Wireless LAN adapters | 153 | | | | 153 |
| Switching hubs | 4 | 5 | | | 9 |
| Security software | 1 | 1 | 1 | 2 | 5 |
| USB memory sticks | 30 | | | | 30 |
| Card readers | | 4 | | | 4 |
| Keyboards | 9 | | | | 9 |
| Mice | 26 | 19 | 10 | | 55 |
| LAN cables | 18 | 24 | | | 42 |

## Aid by category



**Aid by category**
**Total 1,475 PCs given as support**

Others: 37
Evac. centers 209 (14%)
NPOs/volunteer groups 468 (32%)
Temporary housing 398 (27%)
Towns/local gov'ts 363 (25%)



**Aid by category**
**Total 313 printers given as support**

Others: 12
NPOs/volunteer groups 38 (12%)
Evac. centers 78 (25%)
Towns/local gov'ts 55 (18%)
Temporary housing 130 (42%)

# 4. Breakdown of　Support Recipients

We carried out interviews with support recipient supervisors concerning IT equipment utilization conditions. (Excerpt from the Japanese version)

Interview contents include some support other than that provided by the Information & Communication Technology Support Team.

**Yamada Town Hall - Utilization of ICT in Government Sites -**

July 15, 2011

Planning and Finance Division Computing Section Manager Funakoshi (Yamada Town Hall)

○**Support Supplies** 23 computers, 1 projector

○**Support Period** Beginning from April

○**Facility Overview**

・　Yamada, Iwate Prefecture

・　Yamada is located on the coast, and suffered catastrophic damage due to the tsunami, but the town hall is located on high ground, and thus managed to avoid significant damage.

・　Initially, there were several ICT related contact people, making information sharing between personnel difficult. Unifying these contact points smoothed the progress of restorative action.

○**Utilization Conditions**

・　Residents use the ICT equipment for 1) gathering administrative information, 2) gathering information about conditions outside their own town, and 3) gathering information about what is currently happening.

・　Open Office was used for computers in which Microsoft Office was not installed, but there were compatibility problems, especially with Excel. Initially, the equipment was used for information gathering, but with different phases, usage patterns also change, so it would be best if it were pre-installed.

・　The media also used the equipment at times.

・　Immediately after the earthquake, important information had to be verbally conveyed to residents. It would have been good to have been able to use a projector. Information changes constantly, so it would be more convenient to have a projector connected than a printer. If it were possible to show the information obtained via computer on a large screen, single computers could be used to convey information to multiple people.

Computers are used for work duties, with some available for use by the general public, and used within the town hall by residents.
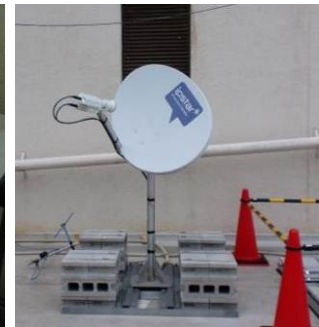


We received satellite and free Wi-Fi support from an early stage

○Other Desired Support Equipment

·   Digital Cameras / Web Cameras: These could be used to photograph injuries for use in remote medical care. They would also be useful for creating basic medical charts and histories. One of the key points for the town hall was how to secure medical teams, and how many people to send where. Initially, medical teams conveyed information by writing it down and passing it along by hand.

·   There were situations in which they were reluctant to use printer paper and ink. Obtaining consumable supplies is also difficult, so it would be best if sustainable supply support accompanied equipment support.

○Other Comments

·   It would be preferable if the computers supplied were network connected.

·   In addition to physical recovery, the mental care of disaster victims is also an important issue. The information that ICT provides is psychologically nourishing for disaster victims.

**Green Pia Sanriku Miyako Emergency Shelter - Diverse ICT Usage Patterns in the Emergency Shelter -**

July 15, 2011

Green Pia Sanriku Miyako Emergency Shelter Equipment Managers Abe and Matsumoto

○Support Supplies

·   13 computers, 3 tablet computers, 2 printers

○Support Period Beginning from April

○Facility Overview

·   Taro, Miyako City, Iwate Prefecture

·   A resort area deep in the mountains is being used as an emergency shelter. At its peak,



Green Pia Sanriku Miyako Emergency Shelter

there were approximately 900 people staying at the spacious shelter, but it ceased operations as an emergency shelter on  July 15. Temporary housing was built within the shelter grounds.

## ◯Utilization Conditions

· Initially, the equipment was used to gather information, primarily confirmation of peoples' safety, and to create an evacuee list. As time went on, the equipment began being used for other purposes, such as collecting up-to-date administrative information and news, employment searches, and posting words of thanks on blogs to those who had assisted in Support efforts.


Evacuees can use the Internet free of charge

· The equipment was used both by emergency shelter general evacuees, and by the attached health clinic in computer learning workshops. One student is learning Word and Excel in order to find employment. Another student is learning basic search methods in order to use the computers as information gathering tools.

· PC literate evacuees performed searches for others, with people spontaneously coming to each other's assistance.

· Due to the censoring needs for children, constant monitoring was needed. Filtering software is necessary.

· The status of circuits and the electricity infrastructure is extremely poor. Due to the shelter's location deep in the mountains, there are neither optic fiber nor ADSL lines, and satellite broadband service is being used. If someone tries to download a large file, it causes traffic congestion, affecting others.

· The printer soon ran out of ink and paper, causing problems. It would be best if there were sustainable supply support.

## ◯Other Comments

· We would like to install computers in the temporary housing assembly hall, but due to management reasons, this is not permitted.

· There are those who call for computers to be procured at low prices. There are many people who would like computers, even if they had to pay for them.

# Volunteer Info - Distributing Volunteer Information -

July 10, 2011

Volunteer Info Coordinator Kitamura

〇**Support Supplies** 9 computers, 9 data communications devices

〇**Support Period** July

〇**Facility Overview**

- Sendai City, Miyagi Prefecture

- Our organization distributes volunteer information in front of the ticket gates of Sendai Station. We provide the latest volunteer recruitment information, and distribute a wide variety of information, such as support supply information and information regarding volunteering for women and children.

  http://volunteerinfo.jp/

- Information is also posted on major portal sites. At present, over 400 of our information postings are being run on portal sites. To date, we have registered over 1,000 items.



An information station has been installed in front of the ticket gates of the busy Sendai Station



It is possible for people to suddenly start volunteering. Staff members offer volunteer information.

〇**Utilization Conditions**

- We are using the computers to create a volunteer information (supply, volunteer, etc.) database, and to distribute information.

- We have installed an information volunteer space in front of Sendai Station's ticket gate. It is used for searching volunteer information.

- We would like to focus in the future on increasing the quality and quantity of information we provide. Indexing information is vital. Currently, we divide information into four categories: 1) events, 2) construction, 3) healing, and 4) general (support for 1 to 3, etc.). There is a wide range of volunteer needs, from hard physical labor like



Touch panels are used to search for volunteer information

mud clearing, to photograph cleaning and superhero shows. In the past, we posted all volunteer information together, without categorization, but this resulted in low matching rates. We have improved matching rates through categorization.

・ There are many volunteer centers, etc., which do not distribute information via the Internet, so we are performing entry work on their behalf, and serving as a central source of information distribution. Our head office has carried out activities in affected regions, increasing the amount of information that is posted. We intend to perform door-to-door work in individual affected regions, visualizing the activities of volunteer organizations and voluntary groups, as well as the demands of volunteers.

## ○Other Comments

・ Continuation of communications services is key. Longer term support would be preferred.

・ We would like greater public agency convenience. Example: Supplying a site for volunteer activities.

・ Compared to on-site work, there is little understanding of information volunteering, and we find it hard to receive support from public bodies and companies.

・ Currently, people are gathering from across the country, but we believe that mutual assistance within communities will become important in the future. We would like to offer our support for that.

・ Optimally, we would like to assist people in finding employment utilizing computers, but we understand that there has not been much call for this.

## Higashi Matsushima Volunteer Center - On-Site Utilization when Receiving Volunteers -

July 10, 2011

Higashi Matsushima Volunteer Center staff

## ○Support Supplies 1 data communications device
## ○Support Period July
## ○Facility Overview

・ We have been active since March 19, matching volunteers with the needs of affected regions.



A tent has been erected next to the VC.
Some people engage in long term volunteer activities.

・ On Saturdays, the number of volunteers rises to around 1,000, and we manage and assign these volunteers.

- At its peak, we received 70 to 80 requests per day from disaster victims, and it took weeks to process them, but currently, in July, we receive approximately 10 requests per day. With the installation of temporary housing, we have set July 15 as the cutoff for new requests.

◯**Utilization Conditions**

- Since mid-April, with the assistance of the National Research Institute for Earth Science and Disaster Prevention, map software used to support volunteer activities has been installed. This system overlays disaster area conditions and needs on a map. Initially, we had our hands full just matching volunteers and needs, but this system has assisted greatly with information management and status visualization.

- Staff visit disaster victims to identify their needs, and write these down on paper. This is then brought to the VC headquarters, where the entry team (2 computers) enters the information into the map software. A separate matching team (2 computers) assigns work to volunteers.



Disaster area needs and volunteer work progress conditions are color coded on the volunteer information management screen map.

- At first, we used an analogue matching approach, inserting pins on large paper maps, but with the introduction of this system, matching work efficiency has improved, and activity log reporting has been made easier.

◯**Other Comments**

- With the move to temporary housing, we believe that regional community creation will be an issue in the future.

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**Komorebi no Furu Oka Yuragakan Emergency Shelter - Utilization on the Medical Front**

July 11, 2011

Ishinomaki Municipal Hospital - Mr. Abe, Mr. Akai

◯**Support Supplies**

- 8 computers, 2 data communications devices, 3 printers
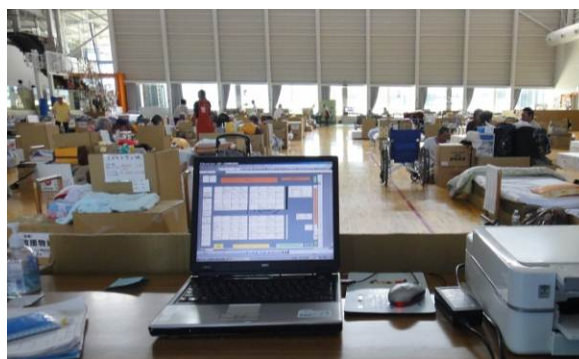
◯**Support Period** May

○Facility Overview

· Ishinomaki City, Miyagi Prefecture

· Initially, the Yugakukan emergency shelter housed around 180 evacuees, including those in good health, but it is now host to approximately 80 evacuees requiring special care.


Yugakukan Emergency Shelter
Unusually for an emergency shelter, it has both heating and air conditioning.

· Nurses from the Ishinomaki Municipal Hospital, which was destroyed by the tsunami, are on duty 24 hours a day, and, with the assistance of the PCAT (a branch of the Japan Primary Care Association), medical and nursing care is being provided to evacuees.

· Evacuees requiring special care in other emergency shelters are being directed to Yugakukan, where they can be cared for under the watchful eye of medical staff, but there are many cases of evacuees refusing to relocate.

○Utilization Conditions

· The computers installed in the equivalent of the site's nurse's station are used by medical staff to perform their duties. Specifically, the computers are used to manage bed positions, and to create tables charting evacuee bathing, toilet activity, body temperature and the like. They are also being used to make employee work schedules and for sharing information. Initially, staff at the site occasionally borrowed city computers, but the computer printers we have been supplied with have been extremely helpful. The computers at the nurse's station are kept


Beds are lined up, and their positions managed by computer, as in a hospital.
The area in the foreground of the photo is used in much the same way as a nurse station.

disconnected from the Internet in order to protect against data leakage, and function in a stand-alone environment.

· Check tables created on the computers are printed, and as nurses perform care activities, individual items are checked off, ensuring consistent and thorough caregiving. They also make it possible for visiting doctors to check the printed sheets.

· The Ishinomaki Municipal Hospital used electronic medical charts, so the supplied computers make it possible to adopt an operation system similar to the one formerly in use, which has been very beneficial.

## ○Other Comments

- The emergency shelter will be shut down at the end of September, and evacuees requiring special care will be moved as soon as a system for receiving them has been finalized.

- When people who are comfortable using computers have changed displays to match their own preferences, it has made computer operation difficult for those less versed in computers. (Example: Hiding the task bar has resulted in people being unable to find the Start button, and rebooting the entire computer, etc.)

# 5. Feedback from Users (from Questionnaire Results)

A questionnaire-based survey concerning actual usage was administered to local support organizations and support recipients. (Excerpts from the Japanese version)
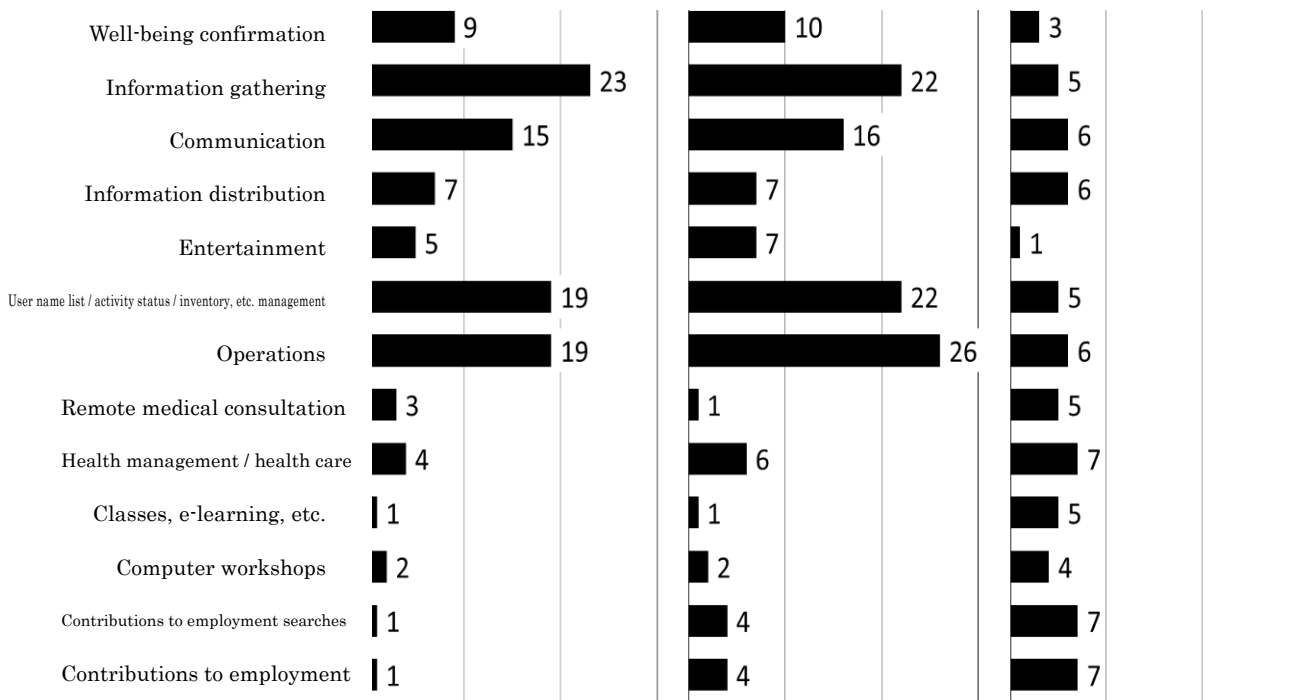
Questionnaire Responses 32(Breakdown)

Affiliation : Support personnel (16), administrative personnel (14), disaster victims (2)

Usage Locations (Multiple Answers Accepted)

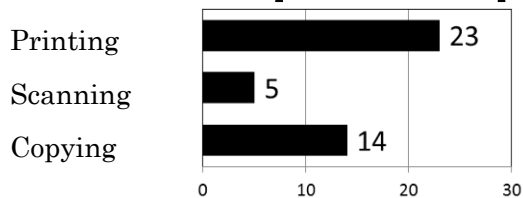:Emergency shelter (17), organization providing relief in disaster region (9), public facility (8)

## Computer Usage Conditions

(Multiple Answers Accepted)

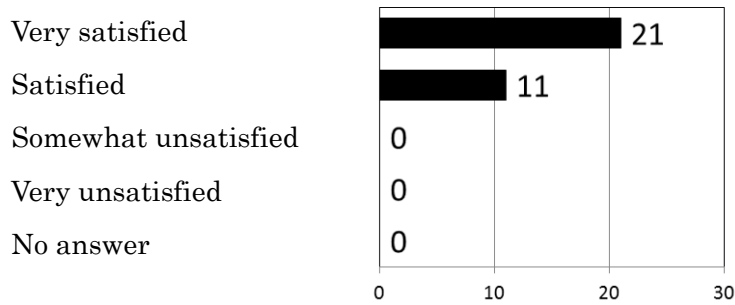| | Initially Envisioned Usage | Actual Usage | Usage Respondent Would Like to Attempt in Future |
|---|---|---|---|
| Well-being confirmation | 9 | 10 | 3 |
| Information gathering | 23 | 22 | 5 |
| Communication | 15 | 16 | 6 |
| Information distribution | 7 | 7 | 6 |
| Entertainment | 5 | 7 | 1 |
| User name list / activity status / inventory, etc. management | 19 | 22 | 5 |
| Operations | 19 | 26 | 6 |
| Remote medical consultation | 3 | 1 | 5 |
| Health management / health care | 4 | 6 | 7 |
| Classes, e-learning, etc. | 1 | 1 | 5 |
| Computer workshops | 2 | 2 | 4 |
| Contributions to employment searches | 1 | 4 | 7 |
| Contributions to employment | 1 | 4 | 7 |

## Printer Usage Conditions

○Functions Used (Multiple Answers Accepted)

| | |
|---|---|
| Printing | 23 |
| Scanning | 5 |
| Copying | 14 |

0   10   20   30

| Satisfaction with Support Equipment Usage | | |
|---|---|---|
| Very satisfied | ████████████ | 21 |
| Satisfied | ██████ | 11 |
| Somewhat unsatisfied | | 0 |
| Very unsatisfied | | 0 |
| No answer | | 0 |

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0    10    20    30
```

○Positive Points

· Computers were used to efficiently record and manage data of disaster victim support recipients. It was possible to attach photographs to activity reports.

· Equipment was offered immediately after earthquake, which was extremely helpful.

· Internal Wi-Fi was easy to use (especially printers).

· There is frequent reshuffling and relocation inside emergency shelters, so notebook computers were optimal.

· The printers were multifunction printers, making them very versatile and convenient.

· Elimination of hand-written notes and information made operations smoother.

· Information could be quickly reported to or received by headquarters.

· Computers are essential for information gathering and document creation, and recipients expressed gratitude for their rapid provision, given that there was no funding or material supply infrastructure in place for activities initially.

· Internet usage was instrumental in receiving material support.

· The computers were used to assess special needs such as where there was insufficient support for women, and to issue support requests to clothing manufacturers, who then delivered relief supplies.

· With no estimates for the restoration of telephone lines, computers were utilized as information tools by those who had lost their homes.

○Negative Points

· The notebook computers did not have CD drives, so printer drivers needed to be downloaded from the Internet over poor connections, which took time.

· Consumable supplies, such as ink and paper, were unavailable, as stores had also been hit by the disaster, so there were days at the start when the equipment could not be used. If possible, it would be best if the equipment and related supplies were offered together.

- There were occasionally programs which would not function with Windows7, and operations which could not be carried out as a result.
- From July 1, Internet usage fees were levied.
- From an operational problem perspective, consideration needed to be given to content filtering for children's use.

## ○Other Comments

- At emergency shelters, large computers (15 inch screens) were preferred over more compact computers. Reasons for this included that their screens are easier to see, they are brighter, and they have larger keyboards.
- Mouses are essential. Touch panels are too hard to use.
- We realized that it was important that computers have cameras and microphones. Foreigners use webcams on computers to talk with relatives living in their home countries. This provides peace-of-mind to their relatives as well. There are many foreigners who don't have mobile phones.
- The fact that it was possible to send many nurses to disaster regions and continue medical activities immediately after the earthquake was thanks to the ICT Support Team and the companies that supplied the support equipment. We would like to express our profound gratitude. We will continue to make optimal use of the support equipment, and provide long-term support to speed the restoration of the affected regions.
- Please continue your support activities in the event of future disasters. We would appreciate it if support periods could be extended in the event of similar future long-term support situations. The fact that manufacturers have donated equipment or extended the periods for which they have lent equipment has been very helpful.
- Thank you very much for your support, despite uncertainty of the situation. Though case-by-case inconveniences were not so overwhelming, in a situationwhere we were unsure of even where to start, this type of support perfectly hit the spot, and we are very thankful for it.
- The computer support we received was very helpful. We would like to take this opportunity to convey our deep gratitude. Thank you very much. We look forward to your continued support in the future.

# 6. Findings

## (1)      Organization Startup and Support Structure

From immediately after the earthquake, ICT companies and organizations dedicated themselves to providing support, and did their utmost to save disaster victims and restore affected areas. The ICT Support Team was founded on the concept that carrying on and aggregating these activities would be an effective way to speed this recovery.

With regards to the establishment of the organization, approximately two weeks after the earthquake, which occurred on March 11, the Intel Corporation and the Microsoft Japan Co., Ltd., seeing the necessity of these efforts, reached out to one of the organizations they were involved in. In response, JEITA began coordination between related organizations and governmental agencies, announcing the founding of the ICT Support Team on April 7. This relatively speedy response has been rated highly. From a speed perspective, one of the advantages the organization enjoyed is that it was launched not with a fixed organizational form, but able to gradually gather supporters from the point at which supporting companies and local support organizations were started up.

By serving as a central pillar of collaboration and coordination between the support organizations working in the affected areas, our support structure was able to quickly and accurately respond to the needs of the people and areas affected by the disaster, offering precise and granular support. With regards to our support scheme, by accepting only support requests from organizations registered as local support organizations, we were able to receive requests only for what was necessary, and deliver support when needed, where needed.
We requested that companies supplying equipment register as support companies, and notify our head office somewhat in advance with what resources they would be able to offer. This made matching between support requests and resources go smoothly.

With regards to activity promotion and implementation, by holding regular contact meetings (held a total of 18 times) between support companies and administrative organizations, and using them as vehicles for decision-making regarding operation processes and approaches, etc., we were able to provide flexible support for the constantly changing needs of the disaster areas.

The head office was established within JEITA, and was constantly manned by personnel from support companies, administrative organizations, and 3 or 4 JEITA employees. The physical support contributions of Intel Corporation were particularly noteworthy.


## (2)    Support Equipment Utilization Conditions

Initially, support primarily consisted of supplying computers to emergency shelters themselves, the NPOs which administered these emergency shelters, and municipal employees. These computers were initially used for confirmation of safety and well-being, the creation of evacuee lists, and the gathering of administrative information. As time went on, computer usage patterns diversified, with the computers being used for a range of needs which varied from person to person, from gathering current affairs information such as news, to computer usage education, entertainment, and employment searches. Many emergency shelters used the Internet to procure their own relief materials, an example of a new form of support made possible during this age of the Internet.

From the perspective of equipment operation in emergency shelters, emergency shelters with highly ICT literate staff were able to provide usage support, maintenance, and management, and support via local support organizations was carried out smoothly. However, it was rare for emergency shelters to have managers who were well versed in ICT, and it appears that there is a need, in addition to hardware support, for physical support, such as computer usage instruction, installation support, and maintenance. Another issue that was brought up at emergency shelters was the need to take into consideration child users and the type of content they would be able to access online. In some cases, constant monitoring was necessary, and it was clear that computers needed to be outfitted with filtering functionality.

Computers provided to municipalities affected by the disaster were often used for extremely urgent operations (disaster victim consultation records and related operations, the issuing of disaster victim certificates, etc.), so support requests needed to be responded to quickly. In Fukushima Prefecture, there were cases of city halls themselves needing to relocate, so the computers were helpful in management and support work for residents who were, unavoidably, scattered within the prefecture, but depending on the timing and volume of support requests, there were some cases where support could not be offered when needed, which is something that will need to be reflected upon.

In addition to computers, the ICT Support Team decided initially to also provide telecommunications networking and printer support. However, local communications condition confirmation was difficult, and took time, so as a result, there were cases where only computers were initially supplied, without a corresponding networking environment, and networking support was attempted at a later time, onsite. We were successful in providing over 100 circuits, but in the event of disasters, wireless broadband is more effective, and its use would be expected to result in dramatic improvements in restoration speed.

Running costs present a burden to emergency shelters and volunteer organizations, so, although as a rule supporting communications carriers terminated their free support at the end of June, many support recipients indicated that they wanted this support to be extended.

Printers were primarily used in emergency shelters for the printing of administrative information, safety confirmation lists, and event notification fliers. In medical facilities, in addition to being used for medical charts and prescriptions, they were often used for staff round checklists and health check reception ledgers. However, it was difficult for disaster struck regions to acquire paper or ink, so there were also cases where users, concerned about depleting their consumable supplies, refrained from making use of the printers. Most sites also wanted copy functionality, and most of the supplied printers were inkjet multifunction devices, but there were requests from municipal bodies in disaster areas for faster laser printers, and specification confirmation by support companies sometimes took time.

Also, though not initially part of the ICT Support Team's support menu, during the later stages of support activities, we were able to offer projectors provided by support companies. We received feedback that projectors were very effective for conveying information, and given limited resources, a single computer and projector could be used to convey information to a large number of people simultaneously.

### (3)　　　Future Utilization of ICT in Recovery Efforts

The computers, printers, and other hardware provided over the past three months by the ICT Support Team will continue to be available for use, and we hope that they are utilized effectively, including equipment transferred from emergency shelters which have been shut down to temporary housing, assembly halls, and schools. Hopes are especially high for the utilization of ICT to provide mental care for residents of temporary housing complexes. There

are NPOs and volunteer organizations receiving equipment support who go onsite to disaster areas, helping users there search for and gather information, holding computer usage workshops and classes, and otherwise offering community-building support, and it is clear that ICT plays a role in mental care.

ICT also plays a vital role on the medical front. Initially, many medical teams conveyed information, both within their teams and externally, by writing it down and passing it along by hand. The support equipment was used not only in staff operations, but also in the creation of basic electronic medical charts, remote medical consultation, and relief supply procurement. Tablet computer usage also appears promising for the effective sharing of information between medical staff.

Through these recent support activities, we have become acutely aware of the importance of ICT literacy in city and town halls. We have heard that emergency shelters and municipal office contact desks with computer literate personnel not only had higher levels of operational efficiency, but also were able to more smoothly engage in new recovery actions. Although this is a middle to long term issue, hopes are high for the cultivation and proactive hiring of highly ICT literate personnel in the future.

With regards the potential of ICT use in future recovery, one utilization possibility is cloud computing. The proactive adoption of cloud technologies held great promise during the recovery phase for municipal operations, as they can be used to rapidly initiate the administrative functions needed after disasters, such as evacuee information acquisition, relief supply management, and disaster victim certificate and residential building disaster certificate issuance. We offered free cloud trial options, but due to the damage caused by the disaster to the ICT infrastructure itself, there were many cases where cloud utilization made little inroads amongst the confusion. In future reconstruction efforts, inclusion of cloud environments within municipal body ICT infrastructure reconstruction from the start holds great promise. With regards to company business continuation support, the utilization of highly specialized applications, etc., such as for data sharing/storage and web conferencing, are being recommended, but this will require further infrastructure maintenance during this period of rebuilding.

# Conclusion

The Great East Japan Earthquake of March 11 was an unprecedented, national disaster. However, there were those who stood up after the disaster, believing in the power of ICT, and began offering aid and recovery support. The ICT Support Team was started to pool the strengths of these people in offering support.

Although only active for 3 months, during that period, we coordinated with support organizations in disaster regions, acting as a model for efficient and effectively distributing computers supplied by support companies. By doing so, we have, perhaps, shown one possible way that ICT can be utilized in recovery efforts after disasters.

We would like to express our sincere gratitude to the Ministry of Internal Affairs and Communications and the Ministry of Economy, Trade and Industry for their advice, from our inception, to all the members of the 8 administrative organizations who helped us polish our support system, and, above all, to the support organizations that have responded so accurately and precisely to the needs of the affected disaster regions, and the members of the support companies, who, through our support team system, provided support supplies to disaster reasons in such a speedy fashion.

While our emergency ICT support phase is coming to a close, we believe that the recovery effort itself will continue for quite some time to come. ICT support efforts will still require wide-ranging physical support, and those in disaster regions will need easier to use contact points through which they can engage in direct consultation. From that perspective as well, we look forward to the continued dedicated efforts of the personnel in support organizations located in disaster areas, and we would like to consider, as support companies and organizations, what steps can be taken next.

We believe that the unlimited potential of ICT must be used not only in the restoration and recovery of areas affected by this disaster, but in the revival of our country itself. The key words behind this are contained in the recommendations of the "*Reconstruction Design Council in response to the Great East Japan Earthquake*": "cloud" and "smart". Cloud computing and smart communities, the pinnacle of ICT technology, are highly disaster-resistant, and as members of the ICT industry, we will attempt to utilize these in creating more competitive companies and a more competitive societal infrastructure.

As we draw our activities as the ICT Support Team to a close, we would like to, once again, extend our prayers for the rapid recovery of the areas struck by the disaster.

July 29, 2011

Great East Japan Earthquake Information & Communication Technology Support Team

President Hidekazu Hasegawa

(Operating Officer & Executive Senior Vice President, Japan Electronics and Information Technology Industries Association)