Efforts to Promote Telework in Japan

September 8, 2011
Information Application Promotion Office, MIC
Summary:

■ In Japan, Telework (telecommuting etc. that uses ICT), which can improve labor productivity and realize a flexible working environment matched to each individual's lifestyle, is requested because of the population decrease coupled with the acceleration of the declining birthrate and the growing proportion of elderly people. Telework can enable a flexible way that might not cause restrictions of the place and time to work, and it will lead to a work life with a good balance among work, child care and nursing.

■ It is expected that there will be, “Seven million home teleworkers by 2015” in the “New ICT Strategy (June 2010, the IT strategy headquarters)” in Japan.

■ This presentation explains the MIC’s efforts concerning telework system experiments and the major movements of government and enterprises after the Great East Japan Earthquake of March 11, 2011.
1. Effect of Telework

- **Effective solutions to an era of lower birth rate and an aged society**
  - Easy to work, nurse, bring up children and do housework
  - Women, elderly, disabled et al expand opportunities for employment
  - Improvement of the alternative situation which require the ‘birth and bring up child’ or ‘work.’
  - Contributes to an increase in the population of employees.

- **Improvement of work life balance**
  - Create more time with the family and more time for enlightening.
  - Improvement of environment for bringing up children safely

- **Promotes regional revitalization**
  - Regional revitalization through the U-turn etc., starting up business in rural areas.

- **Gathering competent employees, Improving productivity**
  - Telework allows for flexibility in working style, which in turn, helps to make it possible for companies to secure diverse human resources who are able to utilize their abilities.

- **Improved business efficiency and Customer satisfaction**
  - Telework enables businesses to visit clients more often, to devote more time to each visit, and to be faster and more flexible in addressing client needs.

- **Business continuity plan (BCP) in emergency**
  - Telework enables rapid response to emergency situations resulting from disasters; it helps ensure that businesses and services are not disrupted.

- **Reduces environmental load**
  - Contribute in preventing global warming through reducing CO2 replacing transportation means etc.

- **Cost Reduction**
  - Reduction in office cost such as space and paper and moving time and traffic cost
2. Expanding conditions of Telework

Transition of Teleworker population
（Investigation of Teleworking population conditions in 2010, MHIT）

Population’s ratio of Teleworkers
- Proportion of teleworkers to total population of employees -

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2005</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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</thead>
<tbody>
<tr>
<td>Population</td>
<td>4.0million</td>
<td>6.7million</td>
<td>10.1million</td>
<td>10.9million</td>
<td>16.5%</td>
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Introduction of Telework in Private Company
（Communication trend investigation, MIC）

<table>
<thead>
<tr>
<th>Year</th>
<th>Introduction planned</th>
<th>Not include home-based telework (11.9%)</th>
</tr>
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<tbody>
<tr>
<td>FY2005</td>
<td>3.2 (1406)</td>
<td>7.1 (1836)</td>
</tr>
<tr>
<td>FY2006</td>
<td>2.2 (1836)</td>
<td>7.6 (2158)</td>
</tr>
<tr>
<td>FY2007</td>
<td>3.5 (2012)</td>
<td>10.8 (2158)</td>
</tr>
<tr>
<td>FY2008</td>
<td>5.2 (1834)</td>
<td>15.7 (2158)</td>
</tr>
<tr>
<td>FY2009</td>
<td>4.0 (1834)</td>
<td>19.0 (2158)</td>
</tr>
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※ Here, the teleworkers are defined as those who work over 8 hours per week using a telework system

※ Numbers in brackets are the numbers of valid responses
3. Government policy concerning telework

New ICT Strategy (IT Strategy headquarters decision (May. 11, 2010)) (excerpt)

2. Reproduction of connection in region
   (2) Effort to senior citizen etc.
   iii) Promotion of telework
   Environment development, awareness raising, and other efforts aimed at fostering more widespread adoption of telework are promoted in order to increase participation in society by the elderly and the disabled, to create employment opportunities for those seeking varied work formats, such as women forced to take a leave of absence in order to raise children or to care for family members, and in order to contribute to regional revitalization and other positive outcomes.

   【New ICT Strategy schedule】 Seven million home-based teleworkers by 2015

Vision of Child and Child Bringing up (Cabinet decision (January. 29, 2010)) (excerpt)

4. To the society that harmonizes work and life (Improvement of the work life balance)
   Promotion, etc., of telework will further the development of an environment geared towards the reassessment of working styles and formats. Reference index: seven million home-based teleworkers by 2015

Electric power supply and demand measures in summer (Electric power supply and demand emergency task force (May. 13, 2011)) (excerpt)

Addressing power supply and demand needs during summer
   II. Specific awareness raising actions
   The government strongly promotes various energy-saving awareness measures, centering on the initiatives given below.
   1. National, Private Company
   3) Thoroughness in Cool Biz
   Energy conservation is promoted via such approaches as lifestyle changes which go beyond merely wearing lighter, more casual clothing in response to reduced air conditioning usage but which also include decentralization and extension of business holidays and breaks, telework and other changes.
4. MIC’s efforts concerning telework experiment

- **Current Approach**: Supply teleworking experience, demonstrate telework in specific fields, construct a teleworking system which uses NGN

- **Approach in future**: MIC will focus on home-based telework, presenting its merits as well as examining technical and operational solutions to issues keeping it from being widely adopted, thereby accelerating the pace of its adoption nationwide.

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<tr>
<td><strong>Content of execution</strong></td>
<td>Companies, public organizations and others throughout Japan are offered opportunities to take advantage of telework in order that the effects of telework can be studied and issues hindering its widespread adoption can be identified.</td>
<td>A telework system introduction experiment on private company teleworking, disabled person’s teleworking, qualified teleworking, SOHO teleworking, medical teleworking, etc., was executed.</td>
<td>A telework system utilizing a next-generation network will be constructed to see how it performs in accommodating advanced business tasks during shared usage testing involving multiple companies.</td>
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<tr>
<td><strong>Verification item</strong></td>
<td>■ Verification of ASP type thin client system (Operativeness, security, and easy introduction, etc.) ■ Consciousness survey, etc. on participating companies and public organization of telework.</td>
<td>■ Verifying the applicability of the telework system of IPv6 technology, etc. ■ Verification of a thin screen forwarding type client system (Operativeness, security, and easy introduction, etc.)</td>
<td>■ Individual elemental technology to be validated during usage of the next-generation network; stability of next-generation network and thin client system large data transactions to be validated.</td>
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Telework Trial / Experiment Project (FY2007—2009)

- Simply by inserting a USB key, a safe, simple and low-cost telework system with a thin client system and Internet VPN was realised.
- Many private companies and local public entities experienced teleworking by this system (Project coordinated with the Ministry of Health, Labour and Welfare).
- Promotion of understanding telework and supplying useful information regarding telework introduction.

**Number of participation groups and people**

<table>
<thead>
<tr>
<th>Year</th>
<th>Groups</th>
<th>People</th>
</tr>
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<tbody>
<tr>
<td>FY2007</td>
<td>108</td>
<td>507</td>
</tr>
<tr>
<td>FY2008</td>
<td>115</td>
<td>368</td>
</tr>
<tr>
<td>FY2009</td>
<td>75</td>
<td>373</td>
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</table>

Users are able to securely connect to the office system simply by inserting a USB authentication key into existing computers at various telework hubs.
Validation field testing was carried out at the Aomori Prefectural Office, so as to publicize the diverse benefits of telework, such as enabling local governments to avoid disruptions in their services and operations during disasters.

(1) Business Continuity Plan (BCP) in case of disasters
• By combining the existing prefectural office system environment with a highly-secure telework system, the work and administrative services of the prefectural office can avoid disruption during disasters and other emergencies.

(2) Achievement of staff’s work life balance
• Improvement of the work life balance of the staff who holds missions in child care and nursing.

(3) Workforce optimization
• Confirm the effect of efficiency improvement and productivity enhancement of business.
Experiment of Shared type system (FY2010)

Summary

Many physically disabled people have lost the chance to start due to reasons such as "Difficulty of commuting" and "Non-suitability of the working environment" in general society. In this experiment, disabled people (teleworkers), a business purchasers, the agent group, etc. jointly maintain a "Teleworking system that uses a Next Generation Network (NGN)". Along with achieving production of digital contents etc., in a client environment and training with a secure connection and a communications functions, the function, the performance of shared type system, and the operability, etc. are verified from the aspects of the teleworker, the business purchaser, the agent, the system provider, etc., and so are the operativeness of mass data and security by the line attestation.

Current problems

- Performance gain of network infrastructure and safe data management
  - Preservation of data, e.g., digital contents.
- Shortage of business and practical skills
  - Time required for disabled people to understand the chain of flow of the business.
  - Education of disabled people hindered by lack of business training / employment support.

Points

- Verification of system function and performance in the case of disabled people.
- Verification of domination of NGN in production business, e.g., digital contents.
- Training effect by use of communication tools and expected effect of productivity enhancement.
- Teleworker's work status and verification of business progress management.

Anticipated efficiency

- Achievement of secure and steady digital contents production environment by using NGN
- The business purchaser, the agent, and the supervisor promote working efficiency by monitoring teleworker's work situation in real time.
- Business skill improvement of disabled people hindered by lack of training
  → Create opportunities to work at home.

Verification field / Teleworker

- Verification field
  - NPO "we can Setagaya" (Agent)
- Affiliated Company
  - Business purchaser (Client)
    - Campus create
      (The Univ of Electro- Communications TLO), etc.
  - Supervisor (Teleworker training)
    - ink
- Assumed teleworkers
  - About ten disabled people facing such problems as difficult commuting

Verification field / Teleworker

- Business assistance application
- Teleworking platform function
- Network security function
- Shared System Installation base
  - Purchaser base
    - The terminal and the Internet protocol telephone for the connection are set up at the purchaser base.
    - The work situation is understood in real time.
  - Agent
    - The management of the entire business is executed.
    - The work situation and the quality control, etc. of cooperation and the teleworker are executed in real time on the system.
  - Supervisor
    - Training is provided to teleworkers by using the Internet protocol telephone and the WEB conferencing system.
  - Supervisor
    - Photograph processing with Photoshop, floor plan by Illustrator, division chart, and information map in home teleworking environment.
    - The joint work that the purchaser, the agent, and the supervisor cooperated in is executed centering on the teleworker.

- NGN
  - Operational Administrative Function
5. Manuals for Introducing Telework

- **Introduction guide for Municipality Teleworking (FY2009)**
  - Explains the introduction process and key points of successful telework based on experiment outcomes.

- **Introduction guide for administrators (FY2008)**
  - Explains the major effects of telework.

- **Introduction guide for managers (FY2008)**
  - Explains the key points of introducing telework.

- **Telework Security Guideline (FY2006)**
  - Guideline for companies constructing a high level security environment.

http://www.soumu.go.jp/main_sosiki/joho_tsusin/telework/18028_05.html
6-1. Movements of telework after the Great East Japan Earthquake (part 1)

- Free provision of telework systems, etc. appeared immediately after the earthquake of March 11. Moreover, inquiries and consultations concerning telework systems have increased rapidly.

**Trend of telework system suppliers after the earthquake**

※ As of June 13, 2011
※ Based on MIC interviews and newspaper articles

- **Nihon Unisys**
  - Inquiries and consultations about the system for remote access tools using a USB authentication key, called "SATIK service" increase rapidly, to about five times the usual level. Moreover, this service is offered free for three months for companies and groups employing staff whom are difficult to commute due to the earthquake and power failures, etc.

- **NTT communications**
  - Inquiries and consultations about cloud-type thin client service called the "Biz Desktop Service" increased rapidly, to about five times the usual level (to 150 cases) in the two weeks following the earthquake.

- **NTT IT**
  - Applications for the ASP “Magic Connect” service increased rapidly, to about ten times the usual level after the earthquake.

- **Cisco systems, Fujitsu**
  - Support service for web conferences for telecommuting is offered free.

- **Microsoft**
  - A mail/portal cloud service, which includes the online version of Lync(Voice/Video, time management, instant messaging, online conference, etc. integrated software) is offered free of charge for 90 days.
  - Inquiries about online conference and IP phones through PCs are increasing rapidly.

- **IIJ, Cybozu, v-cube, Lifeness**
  - A joint project for providing a Cloud/SaaS type service began in April.
More and more companies planned to discuss and implement the introduction of teleworking as a power-conserving measure this summer, and also to respond to business continuity plan (BCP) due to commuting difficulty after the earthquake.

Trend of telework system supplier after the earthquake

- **Teijin**
  Staff who were not able to go to the office due to the transportation condition, etc. were notified to work as possible as they can after March 14. In addition, Teijin aims at telework introduction to staff of Tokyo Headquarters, office and laboratory in the jurisdiction of Tokyo Electric Power Company as Earthquake measures.

- **Fujitsu YFC**
  The rule concerning telework was changed, so all employees can do telework since last year. This summer the rule will continue as BCP.

- **NTT Groups**
  The use of the telecommuting system is examined by the holding company, DoCoMo, communications, and data, etc. as part of the power savings. Especially, the holding company, communications expand telecommuting for the all employees on the same floor as a method of floor closing.

- **Softbank Groups**
  Five group companies almost introduced a telecommuting solution for nearly all 20,000 employees in May, and the introduction will be finished in June. It aims a 30% office power consumption by changing the lighting and the air-conditioning temperature setting.

- **KDDI**
  As one means of reducing power consumption, a system is being introduced whereby work start times are moved up one to two hours and, after five hours of work at the office, employees work 2.5 hours at home via telework. Including employees who work the entire day from home, roughly 40% of all employees in the head office engage in telework.
7. The main efforts of the MIC after the earthquake (including future approaches)

1. Trial calculation and publicizing effects of power consumption reduction by telework (May this year).
   - Data from FY2010 survey studies, revealed power consumption reductions, thanks to the further introduction of telework. It was made public on the MIC Website (13 May).
   - (http://www.soumu.go.jp/main_sosiki/joho_tsusin/telework/index.htm)

2. Spread enlightening activity
   - ■ Making of teleworking leaflet for power-saving measures and BCP (Business Continuity Plan) (June this year)
     - A leaflet that supports telework introduction in response to BCP and power saving was printed and distributed to related organizations in cooperation with the Teleworking Society and the Teleworking Association.
   - ■ Introduction of teleworking system that agrees with corporate needs
     - The telework System and the introduction case which used the results of MIC corporate interviews are introduced widely on the Website of Japan Telework Association. (http://www.japan-telework.or.jp/bcp/index.html)
   - ■ Start up Facebook Page for public announcements
     - Start up Facebook page 「Change Japan by telework - TELEWORK.JAPAN」 in cooperation with related ministries (http://www.facebook.com/telework.japan)
   - ■ Holding of symposiums and seminars
     - Holding symposiums and business talks in cooperation with the "Teleworking promotion forum," which is the framework for industry-university-government cooperation.

3. Review of teleworking security guideline
   - As well as adding a Cloud-type service etc. considering a guideline based on latest corporate trends.

4. Job creation project for stricken area
   - Discuss a mechanism to enable people in the stricken area to carry out work from home and temporary shelters, through telework, so they can meet business orders received from companies all over Japan.
8. Effect of reduction for power consumption of teleworking introduction

- The reduced number of employees in the office, the reduced usage of office ICT equipment, the reduced usage of lighting for office space, the reduced length of time office air conditioning is used, etc., which stems from the introduction of telework, results in office energy consumption reductions of 40% or more per person.

- Even allowing for increased household energy consumption as a result of the introduction of telework, total office and household energy consumption can be reduced; however, it is crucial that energy saving efforts not be limited to offices alone.

![Graph showing power consumption per person before and after telework introduction (office)](image1)

![Graph showing power consumption per person before and after telework introduction (office and home addition)](image2)
Model verification of “Surveillance study on reducing environmental burden by telework” (FY2010)

**Summary of Model verification**

Prove the validity of telework, in terms of reducing environmental burden, by actually measuring the changes in the amount of the exhaust of CO2 thanks to telework, and by measuring the environmental contribution of telework, and quantifying the effects and making them visible.

**Experiment Image**

- Because the negative environmental impact of the car used by the commuting movement in executing a complete staying and a partial, home teleworking decreased about 260?,-CO2 has been reduced before and after the teleworking introduction.
- Remote conferencing reduced the environmental load created by business trips, resulting in roughly 7,600kg less CO2 being produced after the introduction of telework.