

**Telework Promotion by Japanese and the U.S. Governments  
: Difference of Time, Society and Culture**

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## **Abstract**

*More than a decade passed since both Japanese and the U.S. Federal Governments first introduced telework promotion programs for their nations. They both have sustained the programs in their own ways and added new ones including the most recent pilot project for Government workers in Japan which was carried out in early 2005. In 2002, 6.1% of total workforce was teleworkers in Japan, while the equivalent number for the States was 21.2%.*

*Telework promotion by a national government, in general, reflects what its society expects from the telework and what the barriers to promote telework are there, both under specific social/cultural background and in particular time period. In turn, promotion's setting and characteristics; such as its goal, its methods, its agencies in charge and collaboration system between them, can indicate how telework will expand and be woven into the society of that nation. However, authors could not find a research on governmental telework promotion from this point of view, at least none in the States and in Japan.*

*The objective of this paper is to elucidate and compare the telework promotion by Japanese and the U.S. Governments. We will illustrate the followings of both countries;*

- Frame work of the promotion and structure of the agencies/ministries in charge*
- Key programs run by each agency/ministry and their goals*
- Development process of promotion with its social background*
- Position of the programs for Government employees in the telework promotion system for the nation*

*The comparison was intend to bring into the light the unique environment around telework in each setting, which will eventually help us find if we see teleworkers of different types in their work styles, work/residential locations and socioeconomic backgrounds in the future cities of both nations.*

*Series of legal materials, Government publications and white books from both countries were gathered and analysed. We also conducted 6 person-to-person and 9 phone interviews to the agencies/ministries in charge.*

*One of the key findings is different orientation of their promotion system; we named the one by the U.S. Federal Government "Benefit-pursuing Type" and the Japanese one "Obstacle-clearing Type".*

*In the former, each promotion program was introduced to take advantage of telework benefits that society called for most at the certain period of time. Therefore, although the promotion covers variety of benefits and programs are run by many agencies, there is no organization to control all related program. Telework is a tool not a goal here.*

*In the latter, programs are to clear the obstacles in introducing telework into the nation. To accomplish the ambitious goal of teleworkers as 20% of the total workforce by 2010 under the national policy (; e-Japan) of becoming the most advanced nation in the IT field in the world, framework of promotion is hierarchically organized with IT Strategy Committee of the Cabinet as a controller and coordinator and four related ministries underneath it. Telework expansion itself is a goal here.*

*Another finding is the difference of telework benefits that two Governments sought after. In 90's, Japanese Government focused on the decentralization of office, rural development and "yutori" lifestyle to go with it, and employment of the disabled. During the same time of the period, the U.S. Federal Government directed its attention to the environmental benefit of telework.*

*In the new century of 21st, telework benefits that Japanese Government aims for have become unclear in the programs due to the obstacle-clearing nature of them, although we can have a glimpse of existence of some benefits such as reversing the declining birthrate in the background.*

*Meanwhile, the U.S. Federal Government has been attracted to the telework benefits of the employment of the disabled, rural development, expansion of entrepreneurs and facility management. In addition, after 9/11, telework as a part of emergency management plan has been spotlighted especially for the continuity of operation plan for the Government under the war with Iraq.*

## **1. Introduction**

More than a decade passed since both Japanese and the U.S. Federal Governments first introduced telework promotion programs for their Nations. They both have sustained the programs in their own ways and added new ones including the most recent pilot project for Government workers in Japan which was carried out in early 2005. In 2002, Japan had 4.08 million teleworkers which was 6.1% of total workforce. In the same year, 21.2% of American workforce, which was 28 million people, were teleworking .

Telework promotion by a national government, in general, reflects what its society expects from the telework and what the barriers to promote telework are there, both under specific social/cultural background and in particular time period. In turn, promotion's setting and characteristics; such as its goal, its methods, its agencies in charge and collaboration system between them, can indicate how telework will expand and be woven into the society of that nation. But this aspect of telework policies by the nations has been neglected in academic studies so far.

The objective of this paper is to elucidate and compare the telework promotion by Japanese and the U.S. Governments. We will illustrate the followings of both countries;

- Frame work of the promotion and structures of the agencies/ministries in charge
- Key programs run by each agency/ministry and their goals
- Development process of promotion
- Position of the programs for Government employees in the telework promotion system for the nation

This comparison is not intended to evaluate the effectiveness of the promotion in increasing the teleworkers in two countries. Instead, it is meant to expose the different environment of telework expansion in each nation thus to help us find if we will see teleworkers of different types in their work styles, work/residential locations and socioeconomic backgrounds in the future cities of both nations.

Key findings include different telework benefits two Governments sought after and different orientations of their promotion system; we named the one by the U.S. Federal Government "Benefit-pursuing Type" and the Japanese one "Obstacle-clearing Type". In the former, promotion programs are designed to take advantage of certain telework benefits that time and society called for most. In the latter, programs are to clear the obstacles in introducing telework into the nation.

## **2. Preceding Studies**

There is no preceding study that covers whole system of telework promotion by the U.S. Federal Government. Only the telework promotion from transportation points of view on the State level, not Federal level, was discussed by many including Henderson (1996) and Mokhtarian (1998). Yoshida & Tagawa (2003) well summarized the telework promotion activities in Japan, yet their focus was not in Government policies. Mokhtarian & Sato (1994) did the valuable comparison of telecommuting in Japan and the U.S. in the early stage of its development focusing on the cultural and social differences. Spinks (1998) carried out the empirical study to compare the satellite offices in Japan and the States from human resource management point of view. These two studies of international comparison, however, were not around the Government programs, and almost a decade passed since then.

## **3. Study Method and Structure of This Paper**

Series of legal materials, Government publications and white papers from both countries

were extensively gathered and analyzed. We also conducted 6 person-to-person and 9 phone interviews to the related agencies/ministries. Interviews took place in March, June and July 2005. The purpose of the interviews was to find out how programs that were written out as a form of acts, public announcements and others, were carried out in the reality and to see the status of corporation between the related departments and agencies/ministries.

In the subsequent sections of this paper, after the general status of telework expansion in the both countries is stated, we first described the Governmental telework promotion in the States followed by the one in Japan.

#### **4. Telework Population in Japan and the U.S.**

Demographic data of teleworkers in both countries are compared to see to which group of people each Government is addressing to for telework promotion. Table-1 shows telework population in both countries based on the most recent data of 2001 and 2002. The ratio of telework population to the total workforce in Japan is 6.1% which is less than one third of American equivalent; 21.2%. The growth rate of telework population is about 15 % per year in both countries.

Percentages of the employed teleworkers among all teleworkers are close between the two countries; 76.2% in Japan and 71.3% in the U.S. Teleworkers are much more likely to be male (74.4%) than female(25.6%) in Japan, while we see smaller gender difference in the States (;54.4% are male, 45.6% are female). We do not see significant difference in age distribution here with average age of 39.2 years old for Japanese employed teleworkers and the largest distribution to age cohort 35-44 in the States.

Overall, teleworkers have similar background except for gender-ratio in both countries and their populations are growing steadily in comparable rate. Yet, in the total number, the U.S. goes far ahead of Japan which should create the different environment for policy makers of two nations in launching telework promotions.

#### **5. Telework Promotion by the U.S. Federal Government**

##### **5-1. Frame Work in the U.S.**

Figure-1, which is drawn based on the interviews, shows the names of Federal Agencies in charge of telework promotion along with their goals or roles in the promotion. There are total nine agencies which are currently active in telework promotion. Among them, six agencies promote telework to the nation in general, and five work for telework by Federal employees.

Following five are clear from this frame work. First, Federal agencies of the wide range participate to the promotion to the nation. Four telework benefits; environmental improvement, employment of the disabled, rural development and entrepreneurship expansion, are covered by six agencies.

Second, telework population expansion is not the goal of Federal telework promotion to the nation. Rather, agencies pursue the benefits that telework brings to the society such as environmental improvement. We here name telework promotion of this type as “Benefit-pursuing Type” promotion. In this type of promotion, telework expansion is not a goal but one of the tools to gain certain social benefit.

Third, there is no organization that controls all six agencies which work for the promotion to the nation. Except between EPA and DOT, there is no cooperation or coordination among the agencies, neither. Each agency does not have information what others do for telework promotion, therefore, even though this survey was conducted with greatest possible care, there is no way to guarantee that every single promotion is in our knowledge. This lack of control and information exchange is a proof that telework expansion itself is not a goal of the Federal Government.

Fourth, the promotion to the Federal employees is independent from the one to the nation. There is no cooperation between the two except for the fact that EPA and DOT functioned for both at the beginning. This should be largely due to the non-existence of control organization on the promotion for the nation side. We found through interviews that even in each agency, a department in charge of the promotion for the nation and the personnel department who engages in telework for its employees have no connection.

Fifth, the frame work of telework promotion to Federal employees and the roles of each agency that participates in it are much clearer than the ones to the nation. This is because that Federal telework expansion itself is the goal of the promotion as in Public Law 106-36. It instructs that 100% of Federal Workforce should have access to telework, and the Congress monitors the progress. Described below is the detail of roles of the agencies for the promotion to the nation followed by the ones for the Federal employees.

The roles of six Federal agencies in charge of telework promotion to the nation are as follows; Department of Agriculture (USDA) tries to help bring telework jobs to rural America as a part of Rural Development policy. Expansion of the broadband to the rural area should be prerequisite for this promotion. National Telecommunications and Information Administration (NTIA) of Department of Commerce (DOC) takes care of that part by filling the gap of digital divide between the urban and rural America. Department of Labor (DOL) explores the usage of IT and telework for the people with disability to have more access to jobs. Small Business Administration (SBA) promotes the usage of IT and entry to e-commerce among entrepreneurs and small businesses which will lead to the expansion of telework by self-employed. Telework is promoted by Environmental Protection Agency (EPA) as an air pollution mitigation policy, and also by Department of Transportation (DOT) as a transportation demand management (TDM) tool.

As for telework promotion to Federal employees, General Service Administration (GSA) and Office of Personnel Management (OPM) are the main agencies in charge. GSA provides technology and equipments necessary to introduce telework, gives guidance on telework know-how and investigates how innovative workplace should be in the Government. OPM helps each agency to implement telework policy (; operation standard of telework) of its own. Federal Emergency Management Agency (FEMA) has joined to this frame work in the last few years to elevate the incorporation of telework into a Continuity of Operation Plan (COOP) of the Federal Government at the time of emergency such as terrorist attack. DOT and EPA were designated as responsible agencies to carry on the first Federal telework pilot at the time of Climate Action Plan issued in 1993. Currently, these two agencies do not work for telework by Federal employees specifically, except for the support to Washington D.C. Metropolitan Organization in promoting Federal telework in the capital area.

## **5-2. Social Background in the U.S.**

Table-2 is telework promotion programs run for the Nation listed by each agency. Table-3 is an equivalent for Federal employees classified by the focus of each program. In Figure-2, development processes of these two promotions are depicted with the change of social background that are described below.

In early 1990's, there was international movement to address the environmental issues. Earth Summit was held in 1992 when international community including the U.S. signed the agreement to stabilize greenhouse gas concentrations. The benefit of telework to reduce the traffic and to contribute to clean air gathered attentions then.

Around the same time of the period, the severe recession and following rapid growth of the

economy in the U.S. cast the spotlight on the welfare of family. In order to retain employees of good quality during that time, companies should develop tools to give their employees work-life balance one of which was telework.

U.S. economy hit the peak in 2000 and started to have anxiety for the future condition at the same time (DOC 2001). Average office rent per square foot was at its highest number of \$25.85 in 2000. These lead American companies to review their organizations and their management, including facility and personnel.

High unemployment rate of disabled (50%) in spite of good economy started to draw attention then (USBLN 2000). In addition, while general U.S. industry started to slow down, telecommunication industry was in record growth resulting in the shortage of quality skilled workers, which made a room to skilled candidates who happens to have disabilities (DOL 2001). These two conditions worked together to enable the telework supports for the disabled.

After the attack to World Trade Center in New York on September 11, 2001, the U.S. Government begun to focus on home land security and emergency management. Capability of telecenters and homes of teleworkers as evacuated offices was certainly to be counted on at the time of emergency.

### **5-3. Programs for the Nation and their Development Process in the U.S.**

With these social changes as a background, the U.S. Federal Government expanded their telework promotion to cover wide range of four benefits; environmental improvement, employment of the disabled, rural development and entrepreneurship expansion. However, since the programs treat telework as one of the alternative tools, are in the early stage of research or are indirect promotions through local governments, they are unlikely to generate large telework expansion in short time. Followings are the detail of the programs.

DOT started telework promotion as TDM in early 90's when the nation became environmentally conscious, implemented many programs and sustained them for more than a decade. Yet their programs have two limitations from the view point of telework expansion. First, Federal Government does not have authority on city planning done by Metropolitan Planning Organizations (MPO) and can only recommend TDM and telework as a part of it to them. Office of Policy, DOT, carried out researches and presented some proposals on telework implementation. Federal Highway Administration, DOT, provides technical assistance, such as TDM tool kit, to MPOs in introducing TDM and telework. But these two offices of DOT are not in the position of directing or ordering MPOs to TDM implementation including telework.

Second, since telework is positioned as one of many TDM tools at DOT, there are always chances that MPOs choose other alternatives than telework. Therefore, the promotion of TDM and the expansion of it as the result do not necessarily lead to the telework expansion. For example, DOT's Congestion Mitigation and Air Quality (CMAQ) program funds MPOs \$1 billion per year to be used for congestion mitigation strategies, yet how much is spent for telework is not under DOT's authority.

EPA's telework promotion started as the same time of period as DOT's. They have run two programs as a part of air pollution control strategies; e-Commute program and Best Work Places for Commuters program. E-Commute was an innovative pilot project run in five cities. Employers which have their employees work at home were awarded "pollution credits" which could be used as tax deduction credits and others. Its final report concluded, however, that incentives of telework are not high enough at least on employers' level.

Best Work Places for Commuters program started in cooperation with DOT in 2001. It is to establish a national standard in commute related welfare. Enterprises take part of the program

voluntarily and are certified by the Federal Government. Among the commute related welfare that are accepted in the program, the most frequently chosen by employers is a pass for public transportation, followed by car-pool and telework. Here again, telework is one of the tools of the program which means that the success of the program does not necessarily mean the expansion of telework. Yet so far, we found out that the number of companies which choose telework is increasing.

At DOL, Office of Disability Employment Policy as well as Women's Bureau is to work on telework promotion. However, the latter is not active in this field having failed to accomplish the implementation of flex-options including telework that are designated in 2004 DOL strategy. The former has just originated Telework Telecommute Pilot Research in 2004. The program is to find the use of technology for the people with disability to work. Yet the targets of this specific pilot are limited to people under Workmen's Compensation and to increasing military personnel with disability due to the current war with Iraq. Here we see another social background of telework promotion in which the Federal Government has to show great care for the injured veterans when the war prolonged.

At USDA, the establishment of rural telework institution in National level was authorized in 2002 Farm Bill, but was not appropriated, and as a result, there have been no progress on this. Other programs that can be applied to the telework expansion are Broadband Infrastructure Loan and Business & Industrial Loan. 1996 Telecom Act mandated USDA to fund broadband facilities. USDA also reported current status of rural telework with NTIA in 2000. It could be stated that the necessity of telework promotion is well recognized in USDA, but that key programs are still not under operation. We also have to add that rural telework promotion in some States is going ahead of the one by the Federal Government.

Three types of programs that tie into telework expansion started to take place at SBA around 2003. First is to research on computer usage and current status of e-commerce entries by small business and to hold conferences on them. Second, SBA guarantees loans for and gives education and counseling to those who want to use computers and to start e-commerce. There are two free online seminars in this field, and 120 people take each of them per month. Third, they constructed the system of Government-to-companies business on internet as a part of e-Government, through which they encourage and educate small businesses in e-Commerce environment. SBA started Business.gov in 2004.

These programs would promote the use of computer and the participation to e-commerce among self-employed, thus expand the self-employed teleworkers which are one third of American teleworkers. Yet, SBA's focus in launching these programs is in the growth of IT usage and of the number of entrepreneurs caused by it, and not in telework as work-life style.

#### **5-4. Programs for Federal Teleworkers and their Development Process**

The purpose of the telework promotion to Federal workers has always been to help achieve important public goals as well as to set an example for the nation (OPM 1998, 2001). The public goals described here were large. Some of them are; protecting environmental quality by reducing traffic and vehicle emission, improving employees' work lives by allowing better work-life balance, and improving the Government's ability to recruit a high-quality workforce (OPM 2001).

There are four Public Laws principally directed to telework. The most primal one is Section 359 of Public Law 106-346 issued in October, 2000. The Law requires each Executive agency to establish a policy under which 100% of eligible employees may participate in telecommuting to the maximum extent possible without diminished employee performance

within 4 years.

Fourteen telework promotion programs were launched in last 15 years (Table-3, Figure-2). Although they have targeted number set in the Public Law, focus or purpose of each program was always clearly stated. Their focus can be classified into five fields; environment improvement, work-life balance, employment of the disabled, facility management and emergency management. In this sense, telework promotion to Federal employees can be also called as “Benefit-pursuing”, although in this case, telework is the only one tool in the programs to go after those benefits. We also noticed that the focus of newly launched programs shifted from the above mentioned first two benefit fields to the last three around 2000 under the social changes described in Chapter 5-2. This shift of focus eventually has widened the view points of telework promotion to the Federal employees. The followings are the details of the programs.

In the programs in 90’s, telework was considered to be one of the flexible work arrangements that benefited to Federal workers work-life balance. Federal Flexible Workplace Pilot Project in 1990 was the very first program for Federal telework by the President Clinton’s Council on Management Improvement. In 1994 and again in 1996, President Clinton issued Memorandums directing to establish a program to support flexible family-friendly work arrangements. Telework was one of 13 arrangements including alternative work schedule and job sharing then.

Another focus of Federal telework in the 90’s was environment. In 1993, Presidential Global Climate Change Action was launched which identified telecommuting as a technique to help meet environmental goals and enhance quality of life. OPM and EPA were directed to implement pilot project with a goal of 1 to 2 % of employees teleworking at home.

One pilot project and one initiative issued during that time were intended for both better work-life balance and environment. In 1993, Congress appropriated funding GSA for establishing, equipping and operating telecenters as part of a demonstration called Interagency Telecommuting Pilot Project. It was intended to test the effectiveness of telecenters to help alleviate area air quality and support and promote telecommuting as a part of family-friendly work initiative (GSA 2001). In January 1996, the National Telecommuting Initiative was introduced as a mid-term goal of telework promotion.

Telework as a tool for people disability to work started to gather attention around the time of presidential administration change in 2000. President Clinton released Presidential Memorandum in 2000 to help increase Federal employment of the disabled through greater use of alternative work sites. President George W. Bush extended this policy in New Freedom Initiative of 2001 by asking Congress to create a fund to help people with disabilities to buy equipment needed to telecommute. The effect of this Memorandum is seen in 86% increase of Federal employees teleworking due to disability between 2001 and ’02 (OPM 2002).

At the end of 90’s, the idea of facility management came into the view of Federal telework. In 1999, Integrated Workplace Initiative was introduced by GSA. It meant to assist Federal agencies not only in attracting quality workforce, but also in creating cost effective, flexible, and efficient office environments by offering new types of telework such as hoteling and moteling (GSA 1999).

The cost-conscious approaches to telework not only amplified its expansion but also brought serious review on one of the teleworking system created in 90’s. Sixteen telecommuting centers, built between 1993 and 1999 in Washington D.C. area were evaluated in 2001, and were recommended to be phased out except for the most utilized one (GSA 2001). In 2002, Office of Information Resources Management conducted a

Flexiplace/Hoteling Pilot Project. One of its key findings was effective space utilization with total saving of \$805,838 over 3 years per 100 employees (ORIM 2002).

After September 11, 2001, telework has been integrated into the Continuity of Operations Plan (COOP). In a Federal Preparedness Circular 67, dated April 30, 2001, the Federal Emergency Management Agency positioned virtual offices, which include work at home, telecommuting facilities and mobile offices, as candidates for alternate facilities in worst case scenario. House Office of Government Reform held three hearings in the last one year to monitor the progress of telework implementation as a part of COOP.

These promotion programs of wide range did not fully yield what they supposed to unfortunately. Federal teleworkers increased ten times from 9,094 to 90,010 between 1998 and 2002. However, only 43% of the eligible employees currently have access to telework, a far cry from the 100% goal set in the Public Law (OPM 2004). The Congress found this delayed progress was problematic in terms of emergency management under the war, and set the penalty of \$5 million to each of six agencies which are far from meeting the goal (Section 622 of Public Law 108-447(2004)).

### **5-5. Summary of Telework Promotion by the U.S. Federal Government**

The U.S. Federal Government covers wide range of telework benefits in its telework promotion. The programs for the nation run by 6 agencies include four telework benefits in their goals; environmental improvement, employment of the disabled, rural development and expansion of entrepreneurs. The ones for the Federal workers run by 5 agencies embrace five benefits of telework; environmental improvement, work-life balance, employment of the disabled, facility management and emergency management. This wide perspective in the promotion became reality because the Federal Government run the “Benefit-pursuing Type” promotion in which they tried to take advantage of telework benefits that the society and the time needed most. And as the result, this promotion created the framework with which Americans could enjoy many advantages of telework.

However, especially in the programs for the nation, telework tends to be one of many tools for seeking after certain benefit. Since telework expansion itself is not the united goal of the all programs, there is neither organization to control the related agencies, nor the cooperation between them. In addition to these, independency of the local governments from the Federal one and the fact that some programs are new with limited target suggest that the promotion by the U.S. Federal Government will not impact the telework expansion in short time of the period.

As for the promotion to the Federal employees, it could not reach the goal set in the Public Law on time in spite of the wide range of programs it issued. Also, there is no system to feedback its experience to the promotion to the nation. In these senses, it has not satisfied one of the original purposes of Federal telework to set an example of the Nation.

## **6. Telework Promotion by Japanese Government**

### **6-1. Frame Work in Japan**

Telework promotion by Japanese Government for its nation is currently under control of IT Strategy Committee of the Cabinet as a part of the later described e-Japan Strategy. Underneath it, four ministries; Ministry of Public Management, Home Affairs, Posts & Telecommunications (MPHPT), Ministry of Economy, Trade & Industry (METI), Ministry of Health, Labor & Welfare (MHLW) and Ministry of Land, Infrastructure & Transportation (MLIT), were designated as responsible organizations for the promotion (Figure-3). As in the other e-Japan Strategy programs, each of four ministries sets its own goal, plans the date to

accomplish that goal, designs programs based on the future visions by IT Strategy Committee. The Committee then evaluates them, coordinates them between the ministries and monitors the progress.

Current goals of the four ministries are the followings; MPHPT will support companies to build secure information environment and will promote telework for the Government employees. MHLW will ensure the good working environment for the teleworkers who are employed by the companies. It also will review labor-related laws to allow white collar employees to work more with his/her discretion, in a way to allow telework and other flexible work-style. METI and MLTI, along with two other ministries, will promote telework to the private companies.

What are clear from this framework in Japanese Government are the following four; first, the system is simple and hierarchical. This allows IT Strategy Committee to coordinate the programs to exchange information with and among the ministries in charge. (Japan Telework Association, which is not a Government organization, also plays a role of place for information exchange in operational level.) Second, as the goals of ministries show, they are not to go after the certain telework benefits. Rather, the goals are set to take away the obstacles in introducing telework. We name the promotion of this type “Obstacle-clearing Type” telework promotion. Third, all ministries promote telework by “the employed” specifically. Fourth, telework promotion for the Government employees, who are also “employed”, is clearly positioned as one part of the promotion to the nation.

It was after 2000 when IT Fundamental Law enacted and 2001 when e-Japan Strategy issued that Japanese Government established this framework headed by IT Strategy Committee. Therefore, telework promotion programs and system largely differ between before and after e-Japan. In the following three segments of Chapter 6, we describe e-Japan Strategies first, and then programs before and after e-Japan separately.

## **6-2. e-Japan Strategies and Their Social Background**

### **a) e-Japan**

Figure-4 shows the development process of telework promotion in Japan, and Table-4 is the list of key programs launched by each ministries. They are created based on the interviews and information on Governmental website.

IT Foundation Law presents national principles and responsibility in building highly networked society. It stated the establishment of IT Strategy Committee in the Cabinet and assigned it to make priority plans which became e-Japan Strategies. Final goal of e-Japan was for Japan to become the most advanced IT nation in 5 years by 2005. All of telework promotion programs after this are based on the e-Japan and subsequent e-Japan II Strategies.

In the background of this IT Foundation Law and e-Japan, there was recognition and frustration in the Government that “IT environment in Japan fell behind the standard of leading countries” (MPHPT 2004). This “delayed” development was caused by the recession after the bubble economy burst and also by the Japanese companies’ not so aggressive attitude in utilizing IT for restructuring the businesses (White Paper on Telecommunication 2003). The largest delay was seen in the IT infrastructure development; in 2000, the number of Japanese DSL subscribers was one ninth of the one in the U.S. and was one twentieth of the same in Korea. Japan was falling behind not only in the global level but also in the Asian level.

Therefore, what e-Japan meant by becoming “most advanced” was to catch up the other leading countries in IT infrastructure development and its adoption. Specifically, it aims to have 30 million households connected with DSL or CATV and another 10 million with FTTH.

## **b) e-Japan II & Telework**

E-Japan produced the result more than expected. In 2003, two years ahead of set due, the infrastructure development exceeded the target. This made IT Strategy Committee to launch e-Japan II Strategy in July 2003 whose focus was in utilization of IT. There, seven fields of our life were selected as the model fields in which IT utilization will be selectively promoted.

Telework promotion is included in one of these seven model fields; Work and Labor. In that field, it is intended that variety of work-styles enabled by IT will be realized. And as a part of that large aim, e-Japan II clearly demanded that number of teleworkers in good working environment should become 20% of total workforce by 2010.

## **6-3. Programs after e-Japan**

Under this clear and ambitious goal of teleworkers as 20% of workforce, programs run by the ministries tend to be meant to take away the obstacles in introducing telework to Japanese society as were their goals shown in Figure-3. Obstacles here were the lack of strategies for information security, the absence of know-how on telework in the companies, the working environment of home workers that are not ensured by the Government and, most of all, the low level of recognition on telework benefits in the nation. This last obstacle requires some enlightening feature in the promotion program such as seminars and symposiums. Followings are the detail of the promotion programs.

MPHPT has three telework promotion programs. First, in order to technically support companies, it issued Telework Security Guideline in 2004. Second, it run the telework pilot by six Government employees for two months in 2005. Both in security and in human resource management points of view, positive results were already reported. A pilot of larger scale will be held in 2006, and Government telework is planned to be introduced to every ministry in 2007. In addition to these two programs served to the two goals already mentioned, MPHPT established Telework Promotion Forum in 2005 for businesses, academics and Government to exchange information and advices so that each company does not have to struggle with the problems in introducing telework.

MHLW issued Labor Management Guidelines for Introducing Home Telework in 2004. At the same time, it opens Telework Consulting Center on regular intervals and hold symposium to ensure that the employed home teleworkers can work in good working environment. It also started to review some labor-related laws for white collar employees of management and professional class to be allowed to work with his/her own discretion, in other words, to be able to work in more flexible style such as telework.

MLIT and METI, along with above two ministries, are preparing guidebook for the employers to introduce telework. In addition, these two ministries have run various surveys on telework. METI, for example, carried a study called Application of Telework for Rural Development Study in 2002. MLTI accomplished five researches in the last two years including the Current Status of Telework Population in Japan. MLTI also have online and in the class room seminars for those who want to start telework. Besides these enlightening promotions, METI started loan to be used for purchasing IT equipments for SOHO owners and for the businesses who want to introduce telework, however, it was discontinued in 2002 due to the small demand.

As shown, telework promotion by Japanese Government tends to have “Obstacle-clearing” nature due to the pressure that the ministries should accomplish the goal of telework population. However, this does not necessarily means that Japanese Government does not

recognized social benefits of telework. Their understanding of telework benefits can be seen, for example, in the fact that current programs by MHLW and METI are carried out using the budget for reversing the declining birthrate. Birthrate in Japan dipped below 1.5 in 90's and then hit 1.29 in 2003. Combined with aging population, this has become one of the largest social issues, and telework can benefit to reverse this phenomenon by helping women to have work-life balance. Another example is u-Japan policy launched by MPHPT in 2005. The idea of u-Japan is to solve the social problems of the country by using ubiquitous network as a tool. MLIT also mentioned telework as environmental improvement strategy in its Grand Design of the Nation in 21st Century.

#### **6-4. Programs before e-Japan and Their Social Background**

In Japanese Government before e-Japan, three ministries promote telework by independently respond to the then social issues. They were former Ministry of Posts & Telecommunication (now MPHPT), former Ministry of Trade & Industry (now METI) and former Ministry of Labor (now MHLW) (Figure-4).

In the first half of 90's, Japan was still in the bubble economy. It raised the office rent as high as 80% per year, which required the nation to start considering the decentralization of the offices. As more women advanced into the workforce and aging of the society progressed, flexible work styles were demanded more than ever. At the same time, that was when Japanese, who always worked hard as working bees through the years of economic growth, began searching for new lifestyle with relaxation called "yutori" lifestyle for the first time (Spinks 1991). The concept of "yutori" includes work-life balance, yet it has stronger connotation with leisure. All of these social backgrounds lead the Government and society to the attempts to create satellite and resort offices in 90s' Japan.

Former Ministry of Trade & Industry established Decentralized Office Promotion Committee in 1990. It also funded Yatsugatake Resort Office Pilot which was collaboration with private enterprises who had aims for office decentralization and "yutori" lifestyle. In 1996, it established Telework Promotion Committee with former Ministry of Posts & Telecommunication. After Hanshin Great Earthquake in 1995, it carried the satellite office experiment on emergency time as well.

From the very early stage of telework promotion, former Ministry of Posts & Telecommunication worked on it from the view point of taking advantage of office decentralization for rural development. In 1994, it funded rural telework centers including ones in Kumamoto and Yamagata. It also initiated telework pilot by Government employees using telework centers in 1997. 285 employees participated for 4 months at two telework centers located in outer suburbs of Tokyo.

Former Ministry of Labor focused on telework as a device for the disabled to work. It run the research in 1992, and the pilot in 1993, both for the disabled at the satellite offices. At the end of the 90's, it generalized the target of telework promotion and started telework counseling and published the introductory guidebook for telework.

Four characteristics of telework promotion before e-Japan are elucidated here. First, telework promotion in Japan started as early as the one in the States and functioned without hierarchical system of e-Japan. Second, especially in the first half of 90's, promotion was targeted to telework centers, not telework in general. This is also seen in the difference of telework pilot by Government employees between before and after e-Japan; it was at centers

before, and at homes after. Third, at this time of the period, Japanese Government spotlighted telework benefits of decentralization of office, rural development and “yutori” lifestyle to go with it, and employment of the disabled. Accordingly, the ministries in charge are those of trade & industry, of posts & telecommunication, and of labor, not the one of transportation or of environment as they were in the States. What all these suggest is, before e-Japan, telework promotion by Japanese Government, too, was “Benefit-pursuing Type.”

#### **6-5. Summary of Telework Promotion by Japanese Government**

Framework and programs of telework promotion by Japanese Government are different before and after e-Japan (2001) and e-Japan II (2003) strategies.

Currently, the telework promotion, as a part of e-Japan strategies, is in the simple and hierarchical system that is controlled and coordinated by IT Strategy Committee, Cabinet. What motivated the Government for this system was the frustration that IT environment in Japan fell behind the leading countries and the political ambition to be the most advanced IT nation in the world. The Government presented specific goal of telework population as 20% of total workforce by 2010. In order to accomplish this while the recognition of telework itself and of its social benefits is still low, goals and programs of “Obstacle-clearing Type” are presented. The targeted teleworkers are employed one, and telework promotion for the Government employees is positioned clearly in the whole system of promotion to the nation.

Even before e-Japan, telework promotion by Japanese Government existed. It actually started as early as the American one. There was no control organization and each of 3 ministries work independently. The goals of promotions were not IT or telework themselves but decentralization of the offices, rural development and “yutori” lifestyle to go with it, and employment of the disabled. In other words, telework promotion was “Benefit-pursuing Type” before e-Japan. It could be read that, since IT became the center and the goal of the related programs, the programs that use IT and telework as tools stepped back.

What caused this transformation was the fact that “IT did not expand enough even with the efforts by each ministry” (interview with IT Strategy Committee), yet it still is too early to see if the systematic and obstacle-clearing telework promotion after e-Japan is more effective than the one before e-Japan, and we need to observe the progress. In addition, when the 20% goal is accomplished and the Japanese society starts recognize telework, we need to find out which benefits of it will attract more attentions over the others in the future social condition of the country.

#### **7. Differences between Japan and the U.S.**

Table-5 presents the comparison of telework promotion by Japanese and the U.S. Governments. Two major differences are elucidated there.

First is the different orientation of the promotion; Obstacle-clearing Type of Japanese Government and Benefit-pursuing Type of the U.S. Federal Government. After e-Japan, Japanese Government have kept presenting the programs which would solve various problems or clear the obstacles in introducing telework such as lack of management system, security system or basic knowledge on it. On the other hand, the U.S. Federal Government continued to pay attention to the benefits that telework brings to the society, and launched promotion programs that take advantage of the telework benefit that time and society needed most. In this Benefit-pursuing type promotion, telework is a tool not a goal.

Japan is taking the direction of “Obstacle-clearing”, because it needs to accomplish the ambitious goal of teleworkers as 20% of the total workforce by 2010 under the national policy

(; e-Japan) of becoming the most advanced IT nation in the world. Promotion orientation is “Telework comes first” (it is “IT comes first” in e-Japan), and then the benefits that telework expansion would bring to the society are discussed here and there. Therefore, the programs are not necessarily designed to fit to the current condition of and the difference of people who will receive the benefits from telework. Having clear goal makes the framework of promotion very hierarchically organized with IT Strategy Committee as a controller and coordinator and four related ministries underneath it. Telework promotion to the Government employees is also clearly position in this framework.

In the States, telework expansion itself has never been the goal of national policy. Instead, Federal Government introduced new telework promotion programs of different nature by responding to the issues such as environmental, work-life and emergency preparation problems when they were spotlighted by the society of the nation. As a natural consequence of this promotion orientation, there is no organization to control all related programs, and cooperation between the agencies are hard to have. Telework by Federal workers was stated as an example of the nation, and its promotion has also been done from the wide point of view. However, the Government’s experience in this field has never reflected to the promotion to the nation due to the non-existence of its control organization.

Second, there are differences in the kinds of telework benefits that each Government has ever kept attention to since the beginning of its telework promotion. In 90’s, Japanese Government focused on the decentralization of office, rural development and “yutori” lifestyle to go with it, and employment of the disabled. Accordingly, three ministries that are related to these issues (; Ministries of Trade & Industry, of Posts & Telecommunication and of Labor) were in charge of telework promotion. During the same time of the period, the U.S. Federal Government directed its attention to the environmental benefit of telework, and DOT and EPA worked on its promotion.

In the new century of 21st, telework benefits that Japanese Government aims for have become unclear in the promotion programs. Yet, as seen in the situation that some programs are run with the budget for reversing the birthrate decline, it does not automatically suggest that Japanese Government does not recognize telework benefits. The fact that present programs are targeted only to employed teleworkers, which is also a difference from the U.S. programs, might also imply that the kinds of benefits that Government is looking at are the ones for the employees of companies or the ones created by less commuting and office decentralization. When the current “Obstacle-clearing” promotion is accomplished its goal, we need to observe which benefits of telework that the Government will focus most.

In the States after 2000, Federal Government has been attracted to the telework benefits of the employment of the disabled, rural development, expansion of entrepreneurs and facility management. In addition, after 9/11, telework as a part of emergency management plan has been spotlighted especially for the continuity plan of the Government under terrorist attack. Consequently, the House and FEMA started to take part in telework promotion which is a unique characteristic of telework promotion of this nation in the war.

Then why are we seeing these differences? For the second difference, apparent cause was the dissimilar social backgrounds of the two nations. For the first difference; the difference between Obstacle-clearing and Benefit-pursuing, the trigger that caused it is the change of direction on Japan side with its frustration on its delay in IT development and its ambition to be the frontrunner in the IT field. Yet we could see at least two more possible causes.

First one is the different level of autonomy of local governments in each country. In the U.S. where the states and municipalities have relatively strong autonomy, Federal Government can present the vision or suggest the landmark to be reached in certain issue, but usually could not

forth the choice of tools and methods to realize that vision to the local governments. Whereas in Japan, the hierarchy in policy planning is rather clear and it is possible to carry the goal and strategy from the national to operational level of municipality. This made possible for or encouraged Japanese Government to launch promotion as specific and practical as described.

Second possible cause is the difference of each Government's recognition on the current status of telework in private enterprises in its country. In the States, during the interviews, we repeatedly heard the statements such as "Private companies go far ahead of us (; Federal Government) when it comes to telework." Considering that many leading companies in telework such as AT&T and IBM are American companies, this is not wrong recognition. Yet this could cloud their ability to perceive the problems of not-so-large companies in introducing telework and to help them in "Obstacle-clearing" way. On the other hand, there is widespread misconception that telework can never fit in to Japanese corporate culture (Spinks2003, Masaki 2003). This seemed to have convinced the Government that there is limitation in telework expansion by private enterprises themselves, whose evidences we see in enlightening nature of promotion programs such as symposiums, seminars and counseling. In brief, we believe that, along with social background, the structure of the national and local governments and the relationship between the government and private sectors, gradually created the difference of telework promotion.

## 8. Concluding Remarks

This study illustrated telework promotion by Japanese and the U.S. Governments in their framework, key programs and social backgrounds, and exposed the differences between the two. The largest differences are their basic orientation and the kinds of benefits they seek in telework. Many promotion programs in both countries are too new to be evaluated which one is more effective. Moreover, the evaluation of the effectiveness in telework population expansion is not at the center of the academic interest of authors who are urban designer and scholar.

As stated in the first part of this paper, we would like to see if the found differences between the policies of two countries will yield the teleworkers of different types in their work styles, work/residential locations and socioeconomic background, which could result into dissimilar impact to the cities of the two nations. For that purpose, we would keep tracing both the progress of Governmental telework promotions and the transformation of telework status in Japan and the U.S.

## Acknowledgement

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## List of Abbreviation

<b>COOP</b>	Continuity of Operation Plan	<b>MLIT</b>	Ministry of Land, Infrastructure & Transportation
<b>CMAQ</b>	Congestion Mitigation & Air Quality	<b>MPHPT</b>	Ministry of Public Management, Home Affairs, Posts & Telecommunication
<b>DOC</b>	Department of Commerce	<b>MPO</b>	Metropolitan Planning Organization
<b>DOL</b>	Department of Labor	<b>NTIA</b>	National Telecommunications & Infrastructure Administration
<b>DOT</b>	Department of Transportation	<b>OPM</b>	Office of Personnel
<b>EPA</b>	Environmental Protection Agency	<b>ORIM</b>	Office of Information Resources Management
<b>FEMA</b>	Federal Emergency Management Agency	<b>SBA</b>	Small Business Administration
<b>GSA</b>	General Service Administration	<b>TDM</b>	Transportation Demand Management
<b>METI</b>	Ministry of Economy, Trade & Industry	<b>USDA</b>	U.S. Department of Agriculture
<b>MHLW</b>	Ministry of Health, Labor & Welfare		

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**Table-1. Telework Population in Japan and the U.S.**

		JAPAN		U.S.A.	
		Teleworkers*	Total Workforce**	Teleworkers***	Total Workforce****
Population		4.08 million	—	28.00 million	—
% to the Total Workforce		6.1%	—	21.20%	—
Growth Rate per Year		about 15% <sup>1)</sup>	—	about 15% <sup>2)</sup>	—
Employment	Employed	76.2%	84.6%	71.3%	87.1%
	Self-employed	23.8%	15.4%	28.7%	12.9%
Gender	Male	74.4%	58.8%	54.4%	51.9%
	Female	25.6%	41.2%	45.6%	48.1%
Age		Average age 39.2 for employed, 47.5 for self-employed	the largest distribution for 30-34 and 50-54 cohorts (both are 11.7%)	the largest distribution(31.5%) for 35-44 cohort	the largest distribution(27.4%) for 35-44 cohort

\* Shozugawa & Sakamoto 2003, based on 2002 Survey by Japan Ministry of Land, Infrastructure & Transportation

\*\* Bureau of Statistics, Japan Ministry of Public Management, Home Affairs, Posts and Telecommunications, 2004

\*\*\* Davis & Polonko 2001

\*\*\*\* SIPP 1996 Panel, Wave 10 surveyed in 1999 (U.S. Census Bureau)

1) calculated by author based on Pratt (1999) and Davis & Polonko (2001)

2) Onishi 2003

**Table-2. Telework Promotion Programs by the U.S. Federal Government for American Workforce**

DOT		EPA	
<i>Policy Implementation of Telework as TDM Tool</i>	<i>Assist MPOs to Introduce TDM</i>	- 2001- Best Work Places for Commuters Program	- 1993 Transportation Measures. Telework is listed as one of alternative methods for MPOs.
-1993 "Transportation Implication of Telecommuting " report	- Hold seminars and Distribute TDM tool kit		- 1999-2004 eCommute program
-1994 "Implementing Effective Travel Demand Management Measures"	<i>Assist MPOs under Congestion Mitigation and Air Quality Program</i> - 1998- Financial assistance*		
DOL		SBA	
<i>For People with Disability</i>	<i>Research &amp; Advocacy</i>	<i>Support Entrepreneurs' PC Usages</i>	<i>Promote E-Commerce</i>
- 2004-06 Telework/Telecommuting Pilot Research	- 2004 Conducted 3 IT-related, 1 home business related researches.  - 2004-05 Three Entrepreneurship Conferences	- 2003 Online free courses started	- 2004 Started Business.gov
<i>For Women</i>		- Counseling by SCOREs**  - SBA Loans**	
- 2004 DOL Strategy embraced implementation of Flex-Options for Women including telework which was not achieved.			
USDA		DOC	
2002 Farm Bill - Telework was recognized as rural development strategy for the first time. - Plan for a national rural telework institute was authorized but not appropriated. - Broadband Infrastructure Loan - Business & Industrial Loan**		- 2000 "Advanced Telecommunications in Rural America" Report	

(based on the interviews conducted by authors in 2005)

\* CMAQ fund is to reduce air pollutions regulated by transportation in general. Telework is one of the alternatives and the amount of fund used for telework implementation is not clear.

\*\*These two loans are allowed to be used for the purchase of IT related equipments, yet the amount that was allocated for that purpose is not in the statistics.

**Table-3.**  
**Telework Promotion Programs for U.S. Federal Employees**

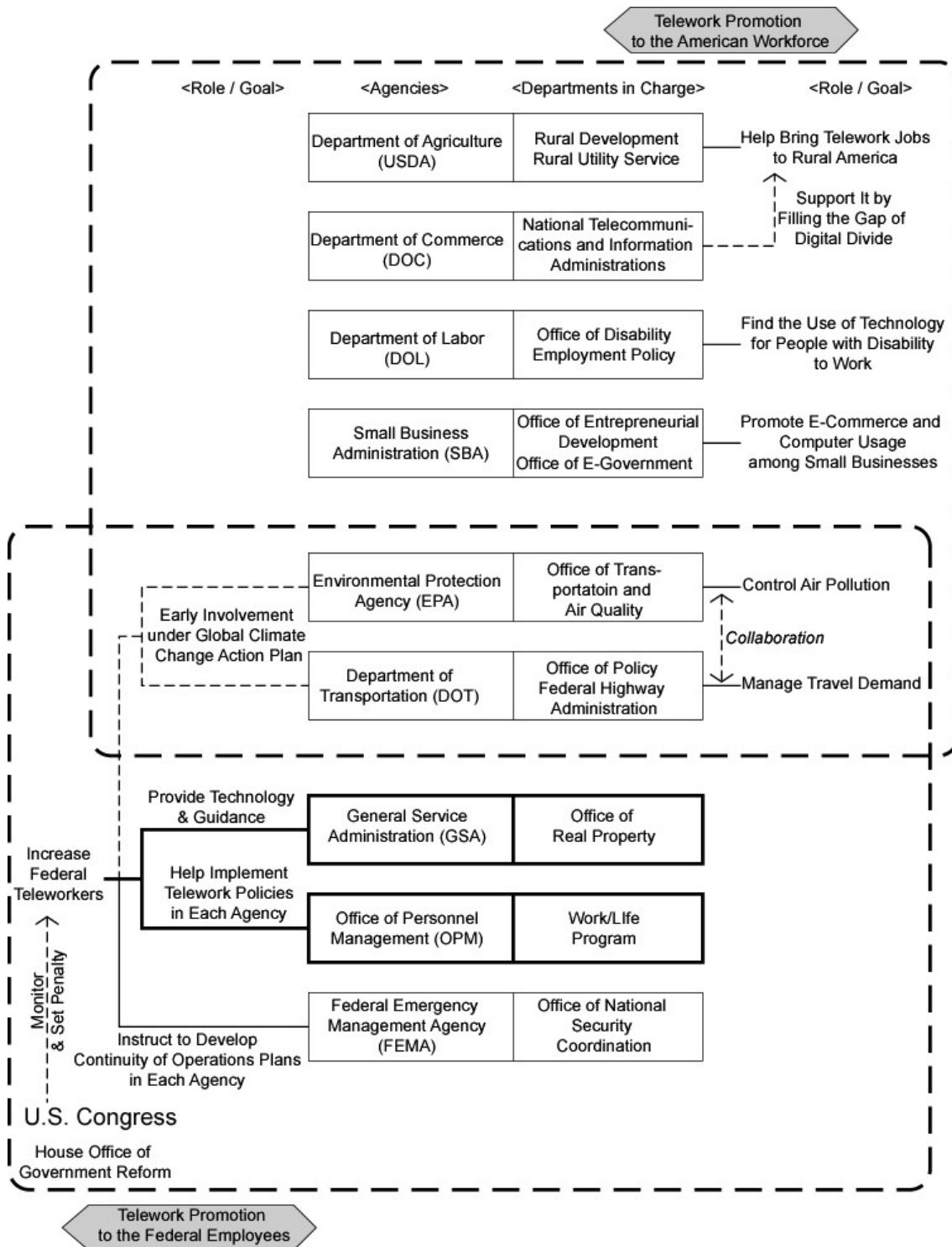
Telework Laws		Primary Purposes in Federal Telework Supports									
		Environmental Improvement		Work-life Balance/ Family-friendly		Employment of the Disabled	Real Estate/Facility Management	Emergency Management			
1993	(Telecommuting Centers Funded)	1993	Presidential Global Climate Change Action Plan	1990	Federal Flexible Work Place Pilot Project	1999	Presidential Memorandum to Increase Federal Employment of Disabled through Alternative Work Sites	1999	Integrated Work Place Initiative	2001	Federal Preparedness Circular 67, Continuity of Operation Plan
1996	Public Law 104-52	1993	Interagency Telecommuting Pilot Project					2001	Telecommuting Centers Evaluation		
1999	Public Law 105-277			1994	Presidential Memorandum for Flexible Family-friendly Work Arrangements	2001	New Freedom Initiative to Fund Disabled to Buy Equipment for Telecommute	2002	Flexiplace/Hotelling Pilot Project		
2000	Public Law 106-346										
2004	Public Law 108-447	1996	the National Telecommuting Initiative	1996	Presidential Memorandum for Flexible Family-friendly Work Arrangements						
				2000	STEP Program						

**Table-4.**  
**Telework Promotion Programs by Japanese Government**

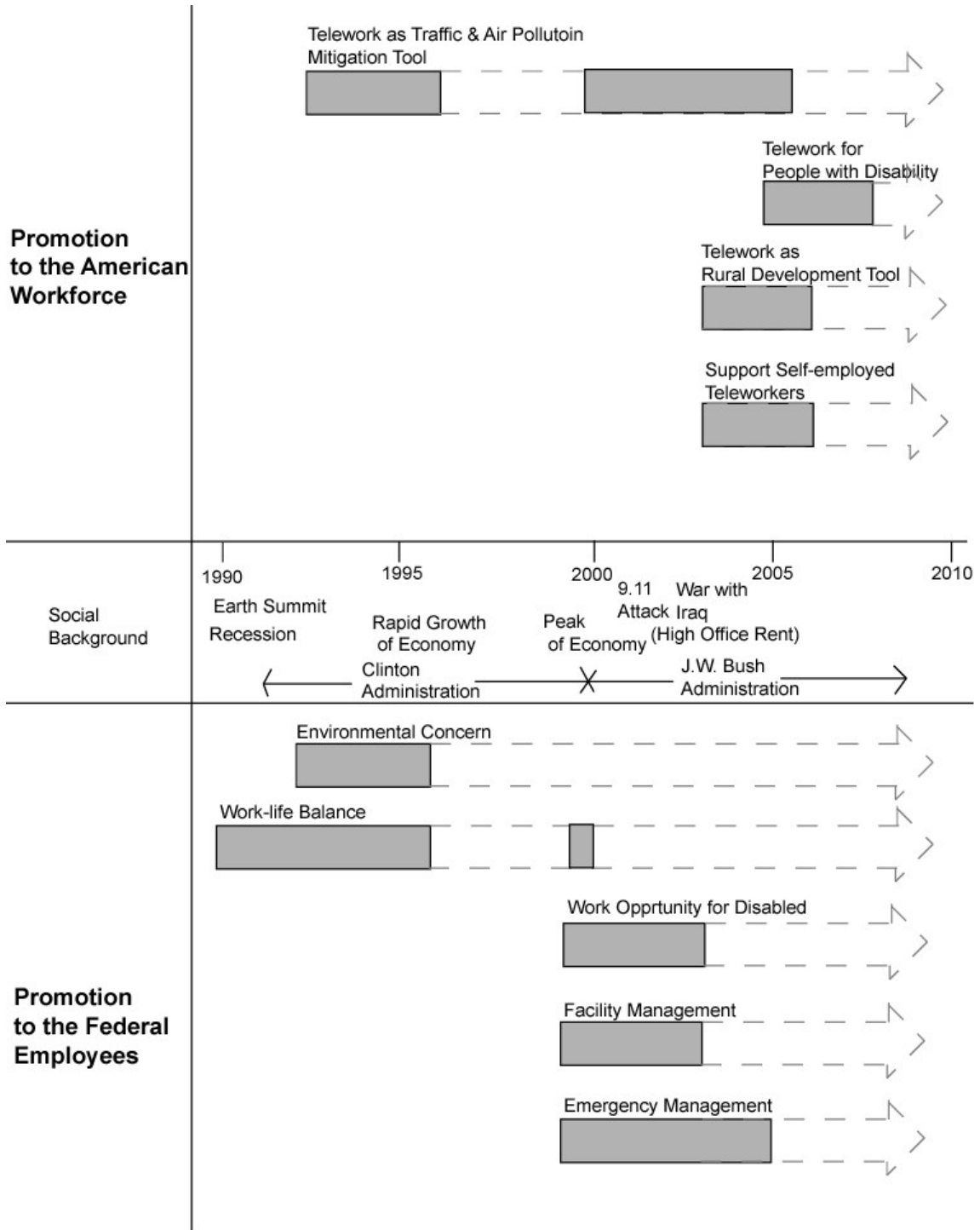
Cabinet, IT Strategy Committee			
2000	IT Fundamental Law		
2001	e-Japan Strategy		
2003	e-Japan Strategy II		
2005	e-Japan Strategy III (expected)		
M.of Public Management, Home Affairs, Posts & Telecommunication		M. of Economy, Trade & Industry	
1994	Telework Center Projects (Kumamoto, Yamagata etc.)	1990	Decentralized Offices Promotion Committee
		1990	Yatsugatake Resort Office Pilot
1996	Telework Promotion Committee		
1997	Telework Center Pilot PJ by Government Employees	1998	Experimental Use of Satellite Office on Emergency Time
2004	Telework Security Guideline	1999	Micro Business Study Committee
2005	Telework Promotion Forum	2000	A Research on Micro Business
2005-	Telework Pilot PJ	2001	A Research on SOHO & Decentralized
2005	Ubiquitous Society Charter	2001-2	Information Platform Experiment
2005	u-Japan Policy Plan	2002	Application of Telework for Rural Development Study
		2005	A Research on Status of Telework in Private Companies
2005	Guidebook for Employers		
M.of Land, Infrastructure & Transportation		M. of Health, Labor & Welfare	
2002	Telework Current Status Survey	1992	Satellite Office for Disabled Study
2003	Effects of Telework Survey	1993	Satellite Office for Disabled Pilot
2003	Telework Model City Study	1998	Guidebook for Introducing Telework
2003	Telework in Foreign Countries Study	1999	Start Telework Consultation
2003	Telework Symposium	2004	Labor Guidelines for Introducing Home Telework
2003	Telework Beginners Online Course	2005	Review of Labor-related Laws for White Collars to Have More Discretion
2004	Telework Promotion Seminar		
2005	Guidebook for Employers		

**Table-5.**  
**Comparison of Telework Promotion by Japanese and the U.S. Federal Governments**

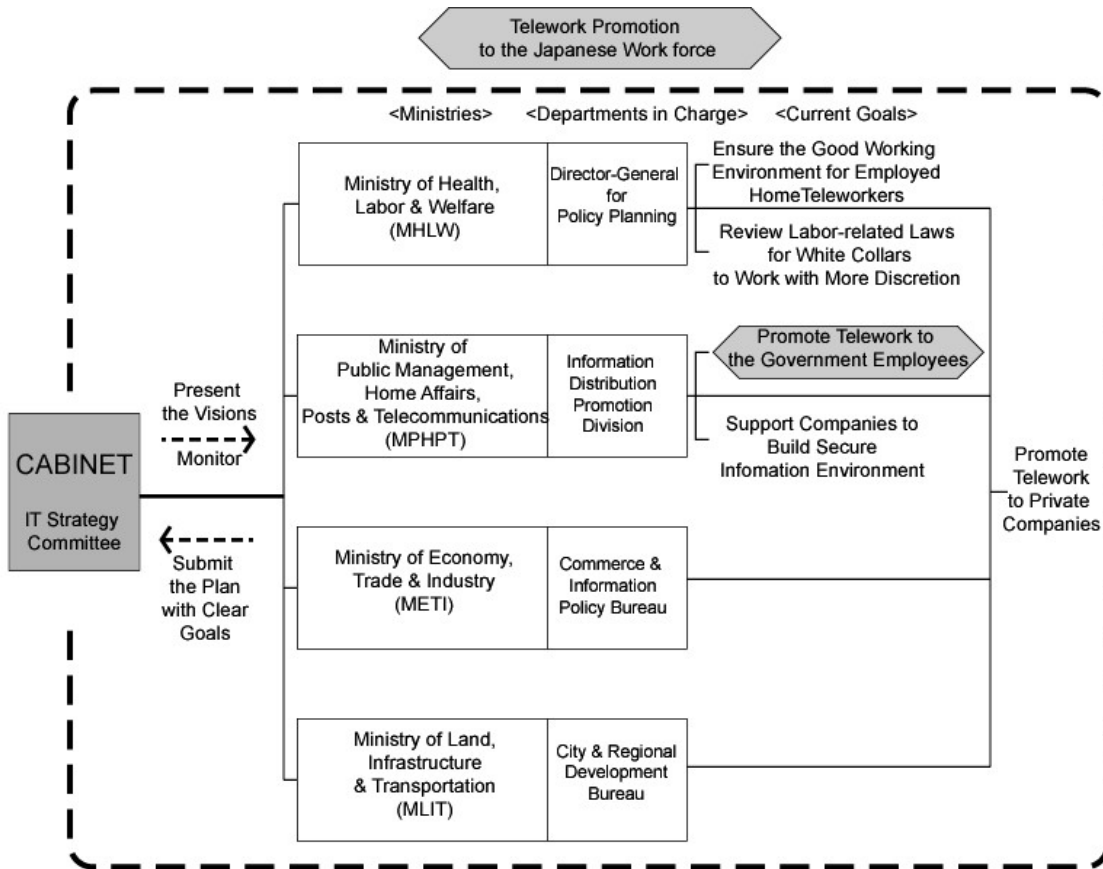
		<b>Japanese Government</b>	<b>the U.S. Federal Government</b>	
<b>Type</b>		Obstacle-clearing	Benefit-pursuing	
<b>Type Description</b>		Programs are designed to clear the obstacles in introducing telework and to reach the set goal of telework population.	Programs are designed to take advantage of certain telework benefits that the time and society call for most. Telework tends to be one of the tools to get certain benefit.	
<b>Control Organization</b>		IT Strategy Committee, Cabinet	-	
<b>Goal in Telework Population</b>		20 % of Total Workforce	<b>American Workforce</b>	<b>Federal Workers</b>
			-	100% of Eligible Employees Have Access
<b>Agencies/Ministries in Charge</b>		4 ( METI, MPHPT, MHLW, MLIT)	6 (USDA, DOC, DOL, SBA, EPA, DOT)	3 (GSA, OPM, FEMA) + 2 (DOT, EPA)
<b>Corporation Between Agencies/Ministries</b>		Yes	No	Yes
<b>Position of Government Telework in Telework Promotion for the Nation</b>		Part of the Whole System of Telework Promotion	Independent from the Whole System of Telework Promotion	
<b>Targeted Telework Benefits</b>	<b>90's</b>	Decentralization of Offices, Rural Development, "Yutori" Life, Employment of Disabled	Less Traffic Congestion & Clean Air, Work-life Balance	
	<b>2000's</b>	Not Clear in Ongoing Programs	Employment of Disabled, Rural Development, Facility Management Benefit, Emergency Management Benefit	
<b>Targeted Teleworkers</b>		Employed Teleworkers	-	



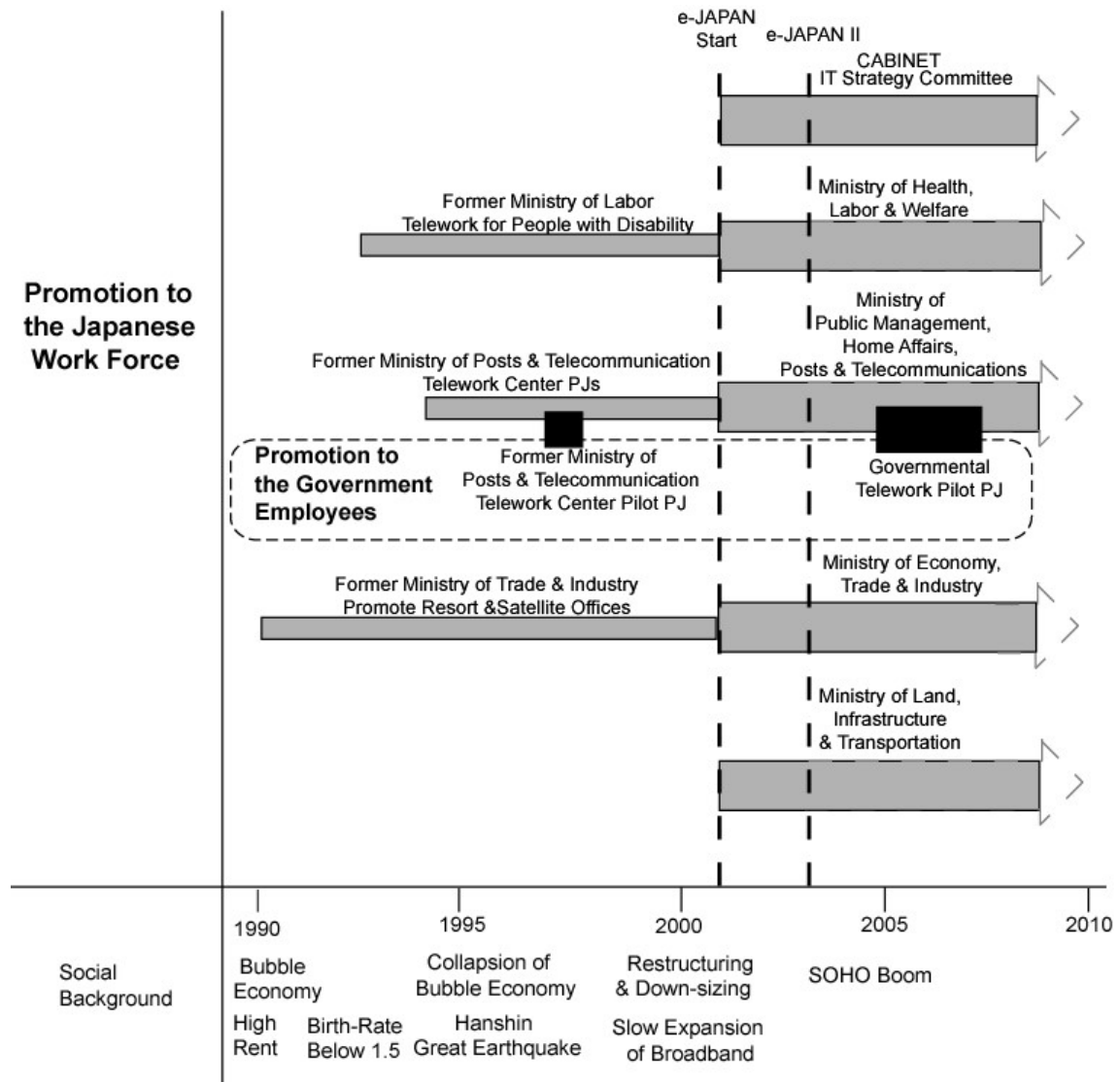
**Figure-1.**  
**Structure and Roles of the U.S. Federal Agencies**  
**for Telework Promotion**



**Figure-2.**  
**Development Process of Telework Promotion Programs in the U.S.**



**Figure-3.**  
**Structure and Goals of Ministries of Japanese Government for Telework Promotion**



**Figure-4.**  
**Development Process of Telework Promotion Programs in Japan**