

New Services Realized with the “My Number” System

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Abstract

The “My Number” system was established as a social infrastructure to help realize a fair and just society. All Japanese citizens will be advised of their individual numbers starting in October 2015, and from January 2016 onward this number will be used for social security, taxation and disaster management purposes. In the future, its use is expected to spread into the fields of healthcare, finance and private enterprises. The role that NEC will play encompasses not only the development of the necessary systems and networks, but also in helping to expand the usage of the number system. It will thereby contribute to the realization of a more efficient and convenient society. This paper introduces NEC’s activities with special emphasis on solutions for local governments, as well as on the potential for creating new services for the future that will be based on the “My Number” system.

Keywords



My Number, social security and taxation number system, local government, IC card, individual number card

1. Introduction

The “My Number” system was started as a result of, The Act for the Use of Numbers to Identify a Specific Individual in the Administrative Procedure, which was promulgated in May 2013.

This act assigns a unique 12-digit number, called the “My Number,” to all of the residents in Japan and links all of the personal information to these numbers that has previously been managed independently by multiple administrative bodies.

Every eligible person will be notified of his or her “My Number” from October 2015, and its use in administrative procedures related to the social security, taxation and disaster management services will start in January 2016. After that, the information linkage between administrative organs is scheduled to begin in January 2017 (the linkage of local governments is scheduled to begin in July 2017).

In this paper, we introduce the outline of the “My Number” system and NEC’s solutions in support of the system as well as the potential for future developments.

2. Background to the “My Number” System

The primary background cause of the establishment of the

“My Number” system was the inflexibility of the social security system. When the current Japanese social security system was established in 1961, the percentage of people aged over 65 years of age in the total population was 6% and eleven persons of the still working generation were supporting one person in the aged generation. Since then, a rapid advancement of the declining birth rate and a growing proportion of elderly people has resulted in the fact that in 2015 two persons from the still working population will have to support one person in the aged generation. In addition, the advancement of medical care and the extension of the average life expectancy have contributed to an inevitable rise in medical expenditure. This has raised the need for fair and efficient operations in the social security system to become a critical issue.

Furthermore, the taxation system is currently seen as being very unfair because of the impossibility of accurate forecasting of the incomes and assets of individuals. While 100% of the taxable salaries of most workers are reported to the tax office, the income reported rates of sole proprietors and persons working in agriculture, forestry and fisheries are less than 50%. If the consumption tax rate increases further in the future, a further regressive trend is to be expected, in which case, low-income people will be required to bear higher tax burdens

Diagram showing numbering, code generation and information linkages

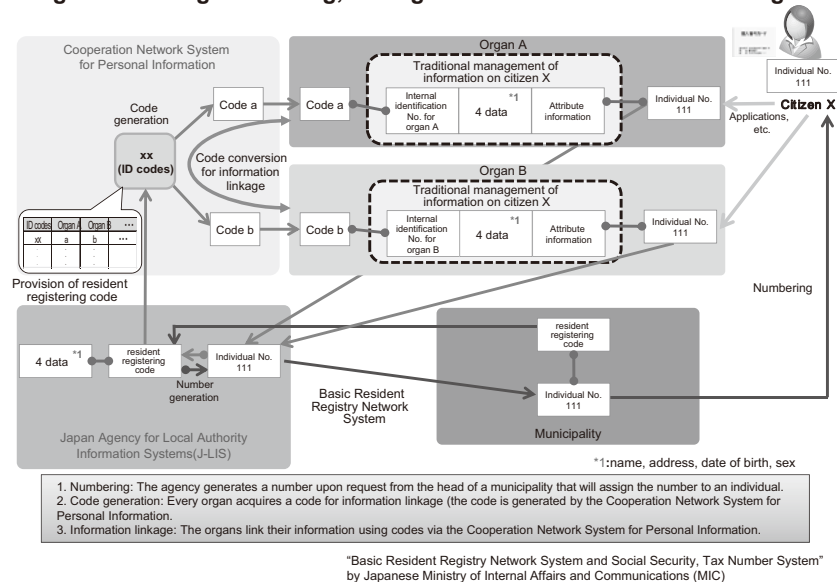


Fig. 1 Diagram showing numbering, code generation and information linkages.

than wealthy people because of their higher rate of daily necessities to be purchased from their income.

There is another issue, which is the impossibility of the accurate identification of the incomes of individuals because individual numbers given to national and local taxes are different.

The introduction of the “My Number” system is expected to enable accurate identification of the income of every citizen and implement taxation according to their income and living status. Consequently, it will enable a reduction in social security expenditure by paying optimum benefit without overlap or waste according to requirements of benefit provision.

The “My Number” system is designed to create a fair and equitable future society where people may lead their lives in safety.

3. Implementation Method of the “My Number” System

The “My Number” system utilizes the Basic Resident Register System as the basis for numbering citizens without omissions.

The Japanese Basic Resident Register system is chosen to be used as the basis for numbering because there is no overlapped numbering in the resident registering codes and because it also covers non-Japanese residents staying in Japan for mid- or long-term periods.

In consideration of a past lawsuit^{*1}, the Basic Resident Register system adopts the “distributed management” method, which does not establish an organization for the integrated management of personal information of citizens. With this

method, personal information is owned by each administrative organization, therefore, when other organizations need to refer to or to have the personal information they have to ask for it to the organization that owns required information. The system was implemented in consultation with the Austrian national ID system, which uses two kinds of numbers, which are the “my numbers” (visible numbers) used by citizens for various applications and the “codes” (invisible numbers) used by administrative organs in inter-computer linkages (Fig. 1).

4. The Role of NEC

The role assumed by NEC in the “My Number” system includes the construction of facilities and networks required for the system and to expand the fields of application of the system in order to implement a more efficient and conveniently organized society.

At present, NEC is entrusted to design and development of the My Number-related systems by the Japanese MIC and is currently advancing development steadily, aiming at the enforcement of the “My Number” system.

As one of our activities targeting local public government, we provide the GPRIME package software for local governments so that they can modify their systems securely. The customers who have already installed GPRIME have also received a package from us to update their software version for My Number compatibility.

Another cloud service for local government is “GPRIME

^{*1} Japanese Supreme Court decision of March 6, 2009 on the demand for the elimination of resident registering codes

for SaaS” (Fig. 2). At present, we have the top share among the cloud services for local governments^{*2}.

On the other hand, the local governments need not only modifications of their existing systems but they also need reviews of their networks and enhanced security in order to protect specific personal information when connecting their systems to outside networks.

NEC provides local governments with a solution menu

Operation services available with GPRIME for SaaS

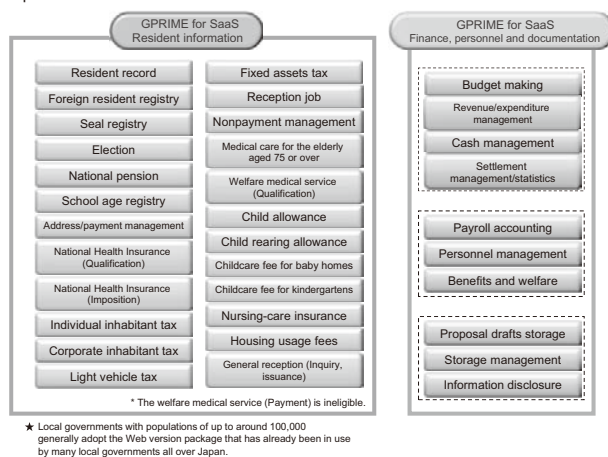


Fig. 2 Cloud services for local governments.

composed of the following three measures based on the MIC guidelines for local governments (Fig. 3).

- Measure 1: Actions for Specific Personal Information Protection Assessment (PIA)
- Measure 2: Actions for Intra-agency network connection to national governmental systems (Cooperation Network System for Personal Information, Intermediate Server Platform, etc.)
- Measure 3: Security measures accompanying the intra-agency installation of Intermediate Server connection terminals.

The solution menu that we propose contains not only the measures to be taken with general network equipment and security products, but it also features a menu of network optimization for an entire agency by means of SDN (Software-Defined Networking). This menu is proposed for customers who are planning to reconstruct the network of their agencies.

5. Future Expansion of the Scope of My Number

In the initial stage after enforcement of the act, the scope of the “My Number” system is expected to be limited to some areas related to taxation and social security.

Considering the original intent of the system (see section 2), the ideal form that it is expected to adopt in the future is as follows.

The local governments need network security measures following enforcement of the My Number act.

- **Actions for specific personal information PIA. (Measure 1)**
 - Access control to specific personal information (individual numbers and linked personal information) is necessary.
- **Actions for Intra-agency LAN connection to national governmental systems (Cooperation Network System for Personal Information NWS, Resident Registry Network, etc.). (Measure 2)**
 - Review of the intra-agency LAN is necessary.
 - (Examples of actions) Reconstruction of intra-agency network using SDN, FW connection to the backbone segment and the informational segment, etc.
- **Security measures accompanying the intra-agency installation of the Intermediate Server connection terminal. (Measure 3)**
 - The security measures prescribed in the MIC’s “System Method Design Specifications (Version 1.0)” for intermediate server software are necessary.
 - Provision of a dedicated environment for terminals ⇒ (Example of actions) Construction of network virtual environment with SDN, etc.
 - Shared environment use by terminals ⇒ (Example of actions) Malware countermeasure using sandbox, behavior detecting type malware countermeasure, etc.
 - Both exclusive/shared environmental use ⇒ (Example of actions) Limitation of connectable medium to USB, etc., encryption of external media, etc.

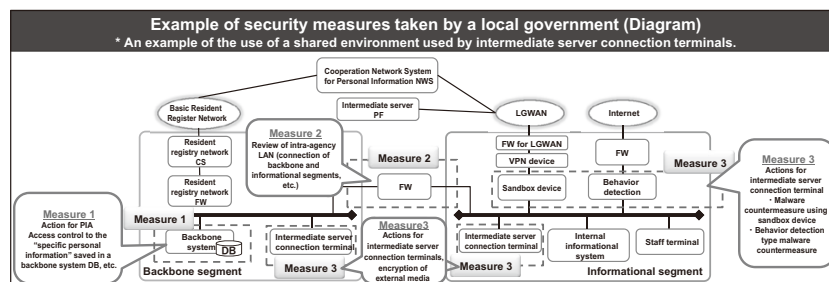


Fig. 3 Network security measures taken by local governments to deal with My Number.

^{*2} According to an NEC survey (as of the end of FY2012: Total number of contracted local governments).

(1) Medical care (Identification of personal time related medical data)

At present, personal medical data is stored individually in the archives of the medical and investigation organizations where an individual receives medical care or a health check. This means that the effects of treatment, drug administration and disease prevention measures cannot easily be determined accurately.

When personal medical data of individuals is collected at the national level and analyzed in the future, it will be possible to take effective preventive healthcare measures and to reduce medical expenditure by giving effective disease prevention advice to each individual.

The system also has benefits for individuals, such as its usefulness in health management as well as the possibility of a patient being able to receive accurate medical care anywhere in the country.

Furthermore, analysis of data over time will speed up the development of the medical and pharmaceutical technologies and eventually increase the global competitiveness of the Japanese medical care industry at a level equivalent to that of other advanced countries.

For the moment, although the excessive payments of medical benefits are assumed to be a huge amount, the actual status is for the present not clarified accurately.

The “My Number” system is expected to make a significant contribution to the optimization of medical benefit payments and to the resulting reduction of medical expenditure.

(2) Financing

At present, the financial accounts of individuals are not managed in an integrated manner, even within a single bank.

Linking the My Numbers system to financial accounts will support a name-based aggregation of financial accounts and will also enable accurate identification of the financial assets of individuals.

There is a deep-rooted opinion that fair taxation and social security would be possible if tax billing and benefit payment according to assets was possible.

The merits of the aggregation of financial accounts for individuals include simplification of the account opening procedure and the instant identification of inherited assets.

It is also considered that another merit of the system is the possibility of accurate identification of inactive accounts.

(3) A One-stop service capability by creating a private/public linkage platform

At present for example, when relocating, in addition to submitting the notification of a move to the local government office a person has to notify various administrations

of the new address. Promotion of the private/public sector linkage using My Numbers can improve the convenience of citizens in these procedures.

If the linkage is expanded to include power, gas, communication, financial services and other companies, the convenience can be further improved by simplifying the procedures required in relocating. It is additionally expected that the procedures required in performing other life events, such as retirement, marriage, family name change and death can be simplified and omissions can be prevented (Fig. 4).

(4) Postal cost reduction by electronic post box

If important documents of private businesses can be forwarded electronically and confidently, their postal and operations costs can be reduced significantly.

Private companies will also be able to forward documents confidently without considering the relocation and address changes of clients.

Creation of the electronic private mail box is under study in order to enable implementation of the above.

(5) Use of the individual number card (IC card)

The IC cards (individual number cards) that the local governments will issue to individual applicants from January 2016 may also be utilized by private sector businesses.

The individual number cards will store the “electronic certification of an individually recognized public service” that can be used for authentication in online use, etc. A private business will be able to utilize three of the electronic certificates including; 1) personal identification; 2) qualification confirmation; 3) modified registration details confirmation (Fig. 5).

A typical utilization scenario would be its use by medical institutions, with which the patient registration card and health insurance card required for an examination and the credit card required for payment can be grouped in a single IC card. With regard to the health insurance card function, there have been many cases of erroneous claims

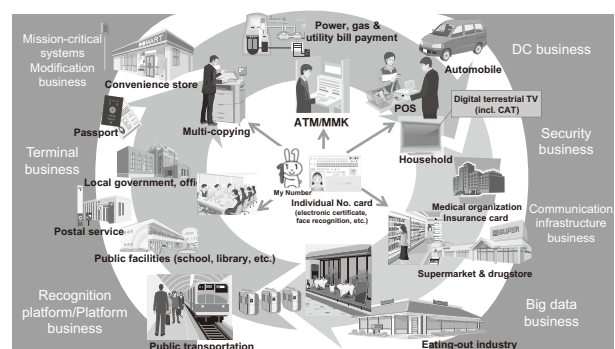


Fig. 4 One-stop services based on private/public linkage.

	Use of My Number (Individual No., code, etc.)	Use of JPKI (JPKI electronic certificate of individual number card)
Use start month	After October 2018 (Within 3 years after act enforcement) <small>* The possibility of use by private sector is not yet defined.</small>	After January 2016 (After enforcement of related acts) <small>* The act has already been promulgated.</small>
Use conditions (incl. supposed ones)	<ul style="list-style-type: none"> •Revision of My Number Act. •Revision of related acts •Revision of Personal Information Protection Act, etc. 	<ul style="list-style-type: none"> •Approval by Minister of Internal Affairs and Communications (The approval standard is under study.)
Diagrams of use (Examples of use cases)	<ul style="list-style-type: none"> •Opening a bank account by presenting My Number (entered in document) <small>The user can omit submission of an identification document (the bank can identify the individual securely).</small> 	<ul style="list-style-type: none"> •Online banking registration after individual identification using signature electronic certificate on the Internet •Online banking after authentication using electronic certification for use identification (Payment) <small>The user can register oneself without sending ID documents and can also simplify the identification procedure before every use.</small>

* JPKI: Japanese Public Key Infrastructure

Fig. 5 Utilizations of My Number and individual number cards.

being made to the wrong health insurance societies when the insurers have been changed following a career switch or resignation of an insured person. When the health insurance function of the IC card is used, the present health insurance society of the patient can be checked immediately so that the medical expenses can be claimed from the correct society of the patient without the risk of an erroneous claim.

The IC card can be accessed in many ways because it can be used on smartphones, tablets, convenience store terminals and household TV sets as well as on personal computers.

6. Conclusion

At NEC, we started the National ID Business Promotion Department as the organization to be responsible for promoting the “My Number” system. This organization is composed of three groups that are respectively in charge of solutions for government, the medical field and private businesses. Its activities include the proposal of solutions aimed at the start of the “My Number” system in January 2016 and the planning of new solutions that will make use of the system.

For the future, we are planning to complete the construction of systems and networks required for “My Number” and also to expand the scope of the system. It is hoped thereby to create a more efficient and convenient society so that people can confidently lead their lives in a more ordered manner.

Authors' Profiles

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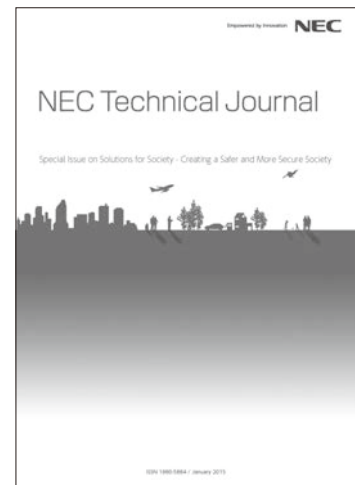
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