

e-Governance of Japan -- From the perspective of e-healthcare

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e-Governance of Japan

-- From the perspective of e-healthcare --

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e-Governance is no longer a hot issue in Japan
... except for the e-Healthcare area.

- Implementation of e-Governance is consistently expanding.
- The current issue is utilization of cloud-computing technology for the e-Healthcare area.

Self-Criticism of Japanese Government -- e-Governance is not only for efficiency --

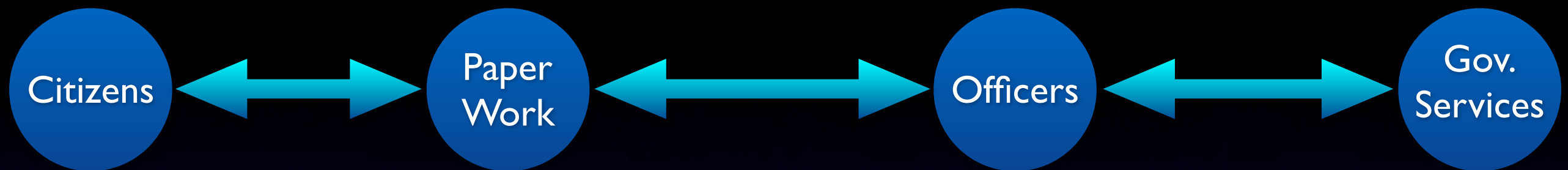
“e-Government has been promoted under the e-Japan Strategy [...], and the New IT Reform Strategy [...] has been undertaken with the aim of establishing the world’s most *useful, efficient electronic government*. However, presumably, *little attention has been paid to user-friendliness* [...]. (Section 1.2 of “E-Government Usability Guidelines” of July 1, 2009, Liaison Conference of Chief Information Officers (CIOs) of Government Ministries and Agencies)

http://www.kantei.go.jp/jp/singi/it2/guide/security/kaisai_h21/dai37/h210701gl.pdf

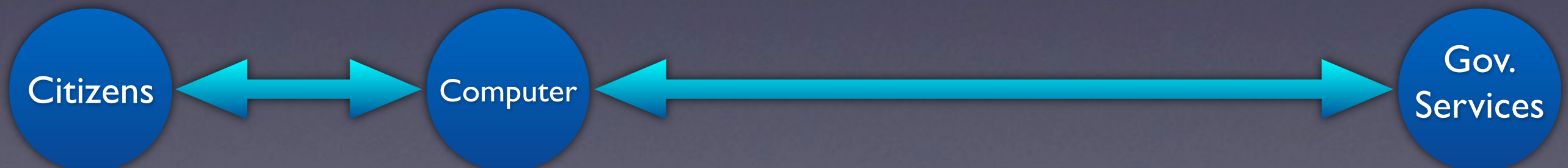
What are the major purposes of e-Governance?

- “Efficiency” and “Availability”
 - ▶ Self-criticism by the Japanese government shows that they sought the efficiency of governance but their consideration on the availability of governmental services to citizens was not satisfactory at the earlier stage of e-Governance.

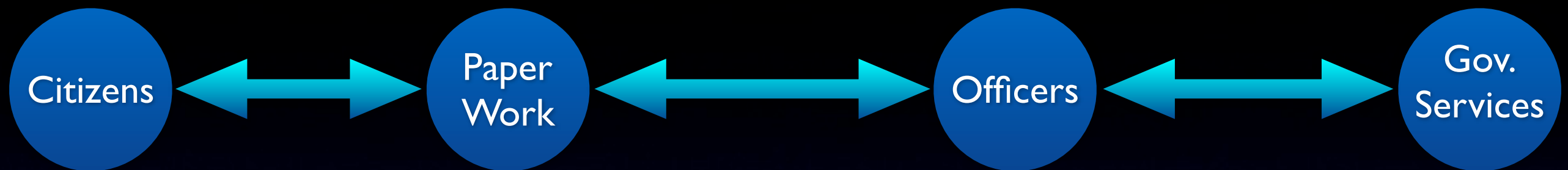
What “efficiency” is sought by e-governance?



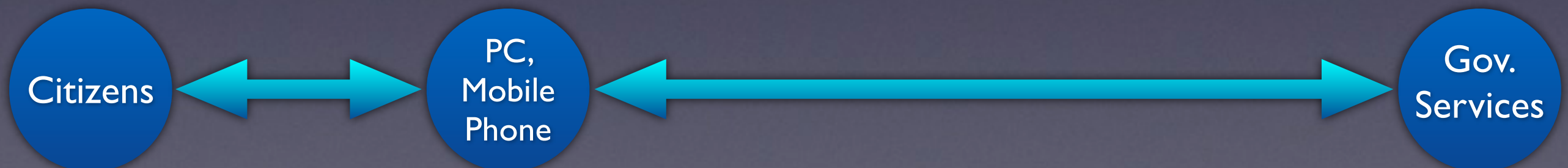
- From the perspective of Social Network Analysis, e-Governance seeks to reduce the cost of the government to maintain the paths that enable citizens to access governmental services.



What “availability” is sought by e-governance?



- From the perspective of Social Network Analysis, e-Governance seeks to reduce the length (or, the degree of separation) of the paths that enable citizens to access governmental services.



What are the major concerns of citizens that are critical to e-Governance?



- “Integrity” and “availability” are no longer major concerns in Japan.
- Adverse effect on the protection of personal data (“confidentiality”) is the major concern.

Little concern was raised in the business-world.

Financial Services Agency

EDINET = Electronic Disclosure for Investor's Network (2000 -)



Japan Patent Office

Electronic Patent Application (1990 -)



Serious concerns were raised by citizens regarding governmental services that handle personal data

-- Disputes surrounding Resident Registry Network --

1999: “The Act for Partial Revision of the Act on the Basic Resident Registers” (Law No. 133 of 1999) was promulgated.

2002: The Launch of the Resident Registry Network.

2002-: Several lawsuits have been filed seeking to stop the Resident Registry Network.

2008: The Supreme Court of Japan held that the Resident Registry Network does not infringe the personal rights assured by Article 13 of the Constitution of Japan. The Supreme Court Judgment of 6 March 2008, 2007 (o) No. 403, 2007 (ju) No. 454.



Recently, some citizens have been protesting against the over protection of personal information that might obstruct citizens' availability to governmental services.

- 2011: Tokyo District Court held for the plaintiff citizens who demanded that the local government connect its local resident registry system to the national Resident Registry Network. Tokyo District Court Judgement of 4 February 2011, 2009 (gyo-u) No. 628.

Why Healthcare?

- Healthcare is the area in which “Confidentiality,” “Integrity” and “Availability” are extremely important.
- Medical data is generated and utilized both in the private and public sectors.
- The changing attitude of the Japanese government regarding medical data clearly indicates their struggle to strike a balance between “Confidentiality,” “Integrity” and “Availability.”

Healthcare is an area in which we have experienced long-term conflicts between “confidentiality” and “availability” as well as “integrity.”



- (Availability) Electronic storage of medical records aids patients' and doctors' ability to access records anytime they need them.
- (Integrity) It also aids the assurance of the integrity of medical records by means of authentication and keeping logs.
- (Confidentiality) Electronic storage of medical records increases the risk of the undesirable dissemination of personal data when information security is breached.

The reason why the Japanese government regulates the electronic storage and management of medical records.

- (Confidentiality) Medical records are a collection of one of the most sensitive types of personal data.
- (Availability and Integrity) The storage and management of medical records is an essential part of the national health insurance system.
- Health insurance program operators have to inspect the correct medical records before paying medical charges to doctors, hospitals or clinics.
- Every member of a clinical team providing medical care to a patient needs to have full access to the patient's medical records to provide the proper care.
- Doctors need to access their patients' past medical records to provide better care.

Japanese regulations on the handling of medical data

-- Legal obligations of medical practitioners and medical facilities --

- Confidentiality: Required under the Penal Code, and the Act concerning Protection of Personal Information
- Integrity: Required under the Medical Practitioners Act, the Medical Service Act, and Act concerning Protection of Personal Information.
- Availability: Required under the Medical Practitioners Act, and the Medical Service Act.

Act concerning Protection of Personal Information (Law No. 57 of 2003)

Article 15 (1) Businesses handling personal information shall, when handling any personal information, specify the purpose of use (hereinafter referred to as “Purpose”) as far as possible.

(2) Businesses handling personal information are forbidden from changing the Purpose to a point where the new Purpose could not be reasonably considered to be substantially related to the previous one.

Article 16 (1) Without the prior consent of the principal, any business handling personal information shall not use or handle personal information beyond the extent to which it is necessary for achieving the Purpose specified under Article 15 above.

(2) If a business handling personal information has taken over any other business handling personal information for the reason of merger or any other reason and obtained any personal information from that other business through such business succession, it shall not use or handle the personal information beyond the extent to which it is necessary to achieve the Purpose specified before that business succession.

Act concerning Protection of Personal Information (Law No. 57 of 2003)

Article 16

(3) The provisions of the previous paragraphs do not apply if the use or handling of the personal information is:

1. done under laws or regulations;
2. necessary for protecting the life, body or property of any person and it is difficult to obtain the consent of the principal;
3. especially necessary for improving the public health or promoting the sound rearing of children and it is difficult to obtain the consent of the principal, and/or;
4. done in cooperation with national agencies or local governments or their delegates in their performance of any conduct under the law and such performance is expected to be hampered by obtaining the consent of the principal.

Penal Code (Law No. 45 of 1907)

Article 134 (1) A physician, pharmacist, pharmaceuticals distributor, midwife, attorney, defense counsel, notary public or any other person formerly engaged in such profession who discloses, without justifiable grounds, another person's confidential information that has come to be known in the course of such profession, is liable to imprisonment with work for not more than 6 months or a fine of not more than 100,000 yen.

Medical Practitioners Act (Law No. 201 of 1948)

Article 24 A medical practitioner shall, when he has performed medical care, without delay enter the matters concerning such medical care in the patients' medical records.

2. Of the patients' medical records under the preceding paragraph, those concerning medical care performed by medical practitioners under service in a hospital or clinic shall be preserved by the administrator of said hospital or clinic, and those concerning medical care [...] for five years.

Medical Care Act (Law No. 205 of 1948)

Article 1 The purpose of this Act is to contribute to the maintenance of the health of the citizens protecting the interests of persons receiving medical care as well as ensuring that the system efficiently provides quality, appropriate medical care by deciding matters necessary to help persons receiving medical care to make a suitable choice of medical care; to ensure the safety of the medical treatment; to establish and manage a hospital, clinic and birth center; and to promote the maintenance of these facilities, *function sharing between related medical facilities*, and cooperation in operations.

Medical Care Act (Law No. 205 of 1948)

Article 21 (1) Hospitals shall have the following personnel and facilities, and keep the following records pursuant to the provision of Ordinance of the Ministry of Health, Labour and Welfare [...].

[...]

(ix) Medical records.

[...]

The changing attitudes of the Japanese government to the electronic storage and management of medical records.



- *1993: Commercial use of the Internet begins.*
- *1990s: Many local governments established regulations prohibiting the connection of their LAN (local area network) with outside networks.*



- 1999: The guidelines of the Ministry of Health and Welfare (“MHW”) permitted electronic storage of medical records. However, the guidelines were silent about the location of the storage.



(-1999) Paper in Hospital



(1999 -) Disks in Hospital

- *2002: The Launch of the Resident Registry Network.*
- 2002: The guidelines of the Ministry of Health, Labour and Welfare (“MHLW”) required that the electronic storage of medical records should be located in hospitals, clinics, or other places controlled by the medical facilities.

(2002 -) Servers in Hospital



- 2005: The guidelines of the MHLW permitted storage of medical records at a commercial data center. However, the purpose of such storage was *limited to crisis management* including data loss due to earthquakes, etc.



(2005 -) Commercial data center for the purpose of crisis management

- 2010: The guidelines of the MHLW permitted storage of medical records by ASP (Application Service Provider) and SaaS (Software as a Service) providers on the condition that these providers are subject to the security guidelines issued by the Ministry of Economy, Trade and Industry (“METI”).



(2010 -) Commercial data center for everyday use



- **2011: The Great East Japan Earthquake (“3.11”).**
- **3.11 reminded us of the importance of the “availability” of medical records.**
- **300 or more hospitals and more than 1,200 clinics were damaged due to 3.11.**
 - <http://www.mhlw.go.jp/stf/shingi/2r9852000001uo3f-att/2r9852000001uo7y.pdf>
- **Medical records in paper-form or stored on hospital servers were destroyed by the TSUNAMI.**
- **However, the electronic medical records stored outside of the hospitals were safe.**
 - <http://www.microsoft.com/ja-jp/casestudies/saiseikan.aspx>

Transition of the Japanese government's attitude to e-Governance

- 1990s: Emphasis on “Efficiency”
- 2000s: Emphasis on “Confidentiality”
- 2010s: Balance of “Confidentiality,” “Integrity” and “Availability.”

Continuous Efforts

- E-healthcare was not satisfactorily realized at the time of 3.11.
- However, efforts to implement e-healthcare utilizing cloud computing technology are on-going.
- NEDO (New Energy and Industrial Technology Development Organization, <http://www.nedo.go.jp/english/index.html>) of Japan decided to fund several e-healthcare projects in 2012.

An increasing number of companies are providing e-healthcare services corresponding to MHLW guidelines and participating the e-healthcare development projects funded by the government.

Thank you.