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Legal Issues Related to Electronic Passport

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2008. 5. 31.

국문 요약

가 .
가가

가

가
가 가

가

※ : , RFID, , ,

Abstract

The government of Korea will introduce a new electronic passport (e-passport) system with enhanced security features, according to a report from the Korea Herald. The system will be implemented first on diplomatic passports starting December and will be expanded to the public by July 2008, according to the Ministry of Foreign Affairs and Trade.

Since 2005, the Foreign Ministry and Ministry of Information and Communication of South Korea have been developing the e-passport system with an embedded memory chip that contains personal information such as mug shots, fingerprints and iris patterns.

The main purpose of the law is to prevent the forgery of passports. With the new e-passport system, the rate of use of forged passports in the region is expected to drop from the current 0.06 percent to around 0.02 percent. Under the system, all data will be encoded in the chip to allow for secure identification of the passport holder and to prevent the copying of information thus, making the use of fraudulent documents difficult. In line with this, citizens are required to visit government offices and have their fingerprints taken for new passports. Meanwhile, people with old passports can continue using them until they expire, according to the report. Korea will centralize the process of issuing passports and revise related laws and regulations to minimize inconvenience for citizens and the risk of fraudulent use or personal information leaks.

Despite its high-tech security measures, civic groups and some individuals are against the system due to issues on privacy of information

and inconvenience. Travel agencies, whose margins will get affected once the e-passport system gets implemented, also opposed the system. Most newly issued passports carry an embedded RFID containing digitally signed biometric information. Access to this chip is wireless, which introduces a security risk, the possibility that an attacker might be able to access data on a person's passport without the owner knowing. Security precautions ought to prevent unauthorised access to data held on a next-generation e-passport. But a trio of researchers from Lausitz University of Applied Sciences, Germany and Radboud University, in The Netherlands, have shown that it's trivial to at least remotely detect the presence of a passport and determine its nationality. "Although all passports implement the same international standard, experiments with passports from ten different countries show that characteristics of each implementation provide a fingerprint that is unique to passports of a particular country," the researchers explain.

To frustrate wireless reading of passport content without an owner's consent, e-passports use a mechanism called Basic Access Control (BAC). The approach means that in order to read data from the RFID chip you need to optically read a key, printed in passports. This key is based on a passport serial number. Subsequent communication between a passport and a reader is then encrypted to prevent eavesdropping. All EU passports implement BAC.

Weaknesses in the encryption mechanism used in BAC in withstanding brute force attacks have already been reported. The latest research uncovers a different shortcoming - the possibility that thieves could use technology to detect the presence and nationality of passports in a crowd, the sort of information that might be useful for a hi-tech pickpocket.

The attack works because ICAO(International Civil Aviation Organization) specs do not prescribe a standard response to particular malformed requests, leaving room for diversity among implementations. If the ICAO specs did require a standard response for commands not listed in the specs and all malformed requests, this would make distinguishing passport nationalities much harder or even impossible, the researchers note. Using this scanning approach the team who are able to reliably detect the nationality of passports from 10 different countries: Australia, Belgium, France, Germany, Greece, Italy, the Netherlands, Poland, Spain, and Sweden. E-passports from other countries implementing BAC might also be vulnerable.

Eavesdropping on e-passports has been shown to be possible from up to nine meters for passive eavesdropping. Scanning passports involves generating a stronger magnetic field, creating practical problems for would-be thieves.

※ Keywords : Electronic Pasport, RFID, U.S. visa Waver Program,,
ICAO, Biometric Data

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1.	73
2.	73
3.	76
4.	95
5.	103
4	108
3.	112
5	113
6	118
1.	•	118
2.	121
3.	127
7	134
6	137
	141

제 1 장 서 론

제 1 절 연구의 목적

가 2006 3

2008 2 26

1) 가

가 2008

2007 2

(U.S. Visa Waiver

Program)

가 2001 9.11 Immigration and Naturalization Service Data Management Improvement Act of 2000, Visa Waiver Permanent Program Act of 2000, USA Patriot Act of 2001 Border Security Act of 2002

United States Visitor and Immigrant Status Indicator

1) 2008.3.28 8990 , 2008.6.29.

Technology Program (“US-VISIT”) , 2006
가
가

가
가

제 2 절 연구의 범위와 방법

(ICAO)

ICAO

RFID

, 가 , (Clandestine Tracking),
가
가
가

, , ,

가

轉載

2

(ICAO)

, , ,

3

가,

가

4

RFID

5

“ ”

, ,

제 2 장 국제민간항공기구의 전자여권 표준

제 1 절 의 의

2001년 9.11 테러 이후, 미국 정부는 2004년 2월 26일 제정된 전자여권(epassport)의 표준을 제정하고, 2005년 10월 1일부터 시행하였다. 전자여권은 기존의 종이여권과 달리 칩(IC : integrated circuit)을 내장하여, 생체정보(biometric data)를 저장하고, 무선주파수 식별(RFID: Radio Frequency Identification) 기술을 이용하여 보안(security features)을 강화하고, 189개국을 대표하는 UN(United States)의 국제민간항공기구(ICAO)에서 제정한 표준(standards and recommended practices ("SARPs"))을 따른다.²⁾

전자여권은 크게 2가지로 구분된다. 하나는 전자여권(epassport)으로, 기존의 종이여권과 달리 칩(IC : integrated circuit)을 내장하여, 생체정보(biometric data)를 저장하고, 무선주파수 식별(RFID: Radio Frequency Identification) 기술을 이용하여 보안(security features)을 강화하고, 189개국을 대표하는 UN(United States)의 국제민간항공기구(ICAO)에서 제정한 표준(standards and recommended practices ("SARPs"))을 따른다.³⁾

2) United States General Accounting Office, Electronic Government: Aviation Security: Challenges in Using Biometric Technologies, GAO-04-785T, May 19, 2004, p.24

3) 2008년 2월 40차 회의에서, 전자여권(epassport)의 표준을 제정하고, 2008년 2월 28일, 2008.2.28., p.1.

4) Int'l Civil Aviation Org. (ICAO), Making an ICAO Standard, http://www.icao.int/cgi/goto_m.pl?icao/en/anb/mais/index.html.

가 , 2005 3 ICAO ,5) “ 가 (Machine Readable Travel Document: MRTD)” 가 ICAO Doc. 9303 .6) , .7) (specifications) 가 .8) , 가 , , , , , .9) 가 가 (the Machine-Readable Zone : “MRZ”) 1 45字 2 (printed text) , .10) 가 , (optical cards) 가 ,

5) ICAO Annex 9(Standards and Recommended Practices on Facilitation) 3.9 Recommended Practice “ Doc 9303 ” , .

6) Int'l Civil Aviation Org. (ICAO), Machine Readable Travel Documents - Biometrics: Introduction, <http://www.icao.int/mrtd/biometrics/intro.cfm>.

7) Int'l Civil Aviation Org. (ICAO), Technical Report: Development of a Logical Data Structure-(LDS) for Optional Capacity Expansion Technologies, Revision 1.7, 10-16(May 18, 2004), available at <http://www.icao.int/mrtd/download/documents/LDS-technical%20report%202004.pdf> [“LDS Technical Report”].

8) Ibid.
 9) Ibid.
 10) Ibid

(Logical Data Structure: “LDS”)

가
 ICAO
 MRZ
 가
 .11) 가
 ,
 (contactless
 integrated electronic chip) ,12)
 (biometric identifier)
 가

제 2 절 생체정보기술의 적용

“Biometrics”()
 .13)
 ,
 “ ” .14)
 (identification) (verification)

11) Ibid
 12) U.S. Dep't of State, The U.S. Electronic Passport, <http://travel.state.gov/passport/eppt/eppt2498.html>.
 13) Int'l Civil Aviation Org. (ICAO), Biometrics Deployment of Machine Readable Travel Documents: Technical Report, Version 2.0, 8 (May 21, 2004), available at <http://www.icao.int/mrtd/download/documents/Biometrics%20deployment%20of%20Machine%20Readable%20Travel%20Documents%202004.pdf>.
 14) Ibid

“ ” , .15)

(template) (compilation) 1 對
(one-to many) .
가
1 1 . ICAO
- 가가
.16)
, ICAO 가
, (contactless integrated circuit)
.17) ICAO
가 1 ‘ ,
.18) , , .
.19)

제 3 절 무선주파수식별을 이용하는 비접촉식집적회로

ICAO , 가
ISO/IEC 14443 .20)

15) Ibid
16) LDS Technical Report, op.cit., p.22
17) Ibid., p.13
18) Ibid., p.22.
19) Ibid.
20) Int'l Civil Aviation Org. (ICAO), Use of Contactless Integrated Circuits in Machine

가 : (1)

가 ,²¹⁾ (2)

(“IC”) ,²²⁾ (3)

(RF) 가 ,²³⁾ (4)

, (5) RF (multiple readings)

, (6)

(7) 가

.²⁴⁾ (impracticality)

가 (bar codes)

가 ,²⁵⁾

(“ ”)

.²⁶⁾ , (physical swiping)가

.²⁷⁾

,

가

Readable Travel Documents: Version 4.0, 6 (May 5, 2004), available at <http://www.icao.int/mrtd/download/documents/Annex%20I%20-%20Contactless%20ICs.pdf> [“Use of Contactless ICs”].

21) Ibid. p.7 (ISO/IEC 14443가).

22) Ibid.

23) Ibid.

24) Ibid. at 7-8.

25) Ibid. at 9.

26) Ibid.

27) Ibid.

(Radio Frequencies Identification: RFID) 가 .28)

E-ZPass가 가 .29) ,

가

.30)

.31)

가 ,

.32)

가

.33)

, (control module) •

. ISO/IEC 14443 RFID

22.1m

13.56 MHz

10cm

. ,

. IC

가 (電荷) 10 .34)

28) Ibid.

29) Francis Fungsang, "Government Information Collection: U.S. E-Passports: ETA August 2006: Recent Change Provide Additional Protection For Biometric Information Contained in U.S. Electronic Passports," Journal of Law and Policy for the Information Society, Vol.2(2006), p.530.

30) Use of Contactless ICs, op.cit., p.9.

31) Ibid., p.10.

32) Ibid., p.11.

33) Ibid. pp.10-13.

34) Ibid., p.17.

제 4 절 디지털 서명: PKI 및 능동적 인증 (Active Authentication) 사용

ICAO (Public Key Infrastructure: PKI)

.³⁵⁾ PKI (authenticity) (integrity)

.³⁶⁾ PKI (authentication), (confidentiality)

가

가

35) Electronic Passport, 70 Fed. Reg. 8,305, 8,305-06 (proposed Feb. 18, 2005) (to be codified at 22 C.F.R. pt. 51), available at <http://edocket.access.gpo.gov/2005/05-3080.htm> [“Proposed Rule”].

36) Int’l Civil Aviation Org. (ICAO), Technical Report: PKI for Machine Readable Travel Documents Offering ICC Read-Only Access: Version 1.1, 4, (Oct. 1, 2004), available at <http://www.icao.int/mrtd/download/documents/TR-PKI%20mrtds%20ICC%20read-only%20access%20v1%201.1.pdf> [“PKI Technical Report”].

가

가 (authentication), 가

(integrity)

.37)

(Sym-
metric Cryptosystems) 가 가 . (Sym-
38) 가

(Asymmetric Cryptosystems)

가

가

.39)

가

가

가

가

37) / / / / , (

, 1999.12), pp.75-77 .

38) (key) “ (, , , , , , , ,)

(, 1996), p.260 .

39) , “ ”, '98 , p. 84

4 : PKI (Active Authentication)

, 가 가 ‘
가 .40)
가
, 가 , 3 가
가
가

가 . 가

가 .41)

, 가
.

.42) (Integrity)

3 가 가

40) , “ ”, 12 1
(2008.02), p.75.

41) Ibid.

42) LDS Technical Report, op.cit., p.12.

MAC(Message Authentication Code

:) 43) .44)
(confidentiality)

가

.45)

(authentication)

가

가

.46)

43) 2 2
가

, 1999

(, 1999), p.207.

44) , “

”, op.cit., p.78.

45) Ibid., p.76.

46) Ibid.

(Non-repudiation)

가 , .47) 가

가 가

가 .48) 가 가 (authentic)

가

.49) 8

“ (challenge)” , “

(sign)”

(public key) .50)

가 (authentic)

.51) (active authentication)

가 (private key)

가가

(certificates) 가

47) , op.cit., p.211.

48)

, 2000, p.31.

49) Ari Jules, David Molnar & David Wagner, Security and Privacy Issues in E-passports 9, available at <http://eprint.iacr.org/2005/095.pdf>.

50) Ibid.

51) PKI Technical Report, op.cit., p.18.

2

.52) ,

.53) 가

1

제 5 절 기본적 접근통제(Basic Access Control)

(BAC) “ - (reader)

”

PKI

. BAC

3DES

54)

(secure channel)

가

가

가

ICAO

가

52) Ibid., pp.12-13.

53) Proposed Rule, op.cit.,p.8,306.

54) NIST

(Data Encryption Standard)

3

Key

가 56bit

DES가 brute-force

Key 3

가 168 bit가

BAC

9

(Machine Readable Zone: MRZ)

가 , BAC 가

제 6 절 ICAO 표준 전자여권의 안전성 문제

2006 8 가 BlackHat (Lu-
kasGrunwald) 2 ICAO
, RFID
가 2006 11 (Adam Laurie)
, 2007
, ICAO
가 / 가
(Adam Laurie)가 56)

55) , “ ”, 『 』,
, 2008.5.9. pp.24-25.

56) <http://www.rfidiot.org/phil.png> /
NO2ID Phil Booth ,
. ibid., p.25

< >57)

가		가		가		가	
	06.09	가	06.08		05.10		06.08
	06.06		06.05		06.08		06.03
	04.11		06.10		06.08		05.10
	06.09		06.10		06.10		05.11
	06.08		06.10		06.08		08.03
	06.04		06.08		06.08		05.08
	06.08		06.08		05.10	가	06.08
	05.11		-		06.09		07.02
	06.08		06.08		06.03		07.05

57)

(가 , ,)

(2009.6) 가

: .

제 3 장 미국의 전자여권 도입배경 · 시행경과 및 법적 논쟁

제 1 절 전자여권의 도입배경과 특성

2006 8 14

가

.58)

가, 가, 가,
가 가
가

“ ” “
(origin), (identity) (travel
)
document) 가 ”
.59) 가 , 가

58) Fungasang, opcit., p.521;

59) 8 U.S.C. X'7F' 1101(a)(30) (2005).

가 ,⁶⁰⁾
(biometric identifier)
(facial recognition technology)

제 2 절 미국의 범세계적 전자여권제도 도입을 위한 프로그램

1. US-VISIT

(United States Visitor and Immigrant Status Indicator Technology
Program: “US-VISIT ”)⁶¹⁾ .
. US-VISIT (Department
of Homeland Security)

가

2000 (Immi-
gration and Naturalization Service Data Management Improvement Act of

60) 22 U.S.C. X'7F' 211a (2005).

61) United States Visitor and Immigrant Status Indicator Technology Program, 69 Fed. Reg. 53,318 (Aug. 31, 2004) (to be codified at 8 C.F.R. pts. 215, 235, 252), GPO Access, available at <http://a257.g.akamaitech.net/7/257/2422/06jun20041800/edocket.access.gpo.gov/2004/pdf/04-19906.pdf> [“US-VISIT”].

2000), 2000 (Visa Waiver Permanent Program Act of 2000), 2001 (USA PATRIOT Act of 2001)
2002 (Border Security Act of 2002)

가

US-VISIT

RFID 가

가

US-VISIT

Jim Williams

가

104

4 7

가 1,000

가

, Visa Waiver Program

30

(Mexican Border Crossing Cards)

I -94A

RFID

, US-VISIT

I -94A

E-ZPass가

가

E-ZPass

I -94A

. I -94A

passive chip

((Automated Biometric Identification System: IDENT)
가

가 IDENT

RFID

2. (U.S. Visa Waiver Program)

가가

US-VISIT

27

90

.62)

가 ICAO

가 (machine-readable) 가 가 (tamper-resistant)

가 가 2005 10
가 2006 10 26

.63)

2005 10 26 가

2005 10 26 2006 10 25

62) U.S. Dep't of State, Visa Waiver Program (VWP), <http://travel.state.gov/visa/temp/without/without1990.html#2> (twenty-seven countries participating in the Visa Waiver Program are: Andorra, Australia, Austria, Belgium, Brunei, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Japan, Liechtenstein, Luxembourg, Monaco, the Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom).

63) Fungsang, op.cit., p.524.

가

(薄板)

.64) , 2005 10 26

가

가 .

ICAO 2006 10 26
가

(3,300) .65)

27 25 가가

2005 10 26

가

3. Patriot Act 2001

USA Patriot Act(the Uniting and Strengthening America by Providing Tools Required to Intercept and Obstruct Terrorism Act 2001)

.66)

64) U.S. Dep't of Homeland Security, Visa Waiver Program: Passport Requirements Timeline, http://www.dhs.gov/dhspublic/interapp/content_multi_image/content_multi_image_0021.xml.

65) Press Release, U.S. Customs and Border Patrol, Majority of VWP Countries to Meet Digital Photo Deadline (Oct. 26, 2005), http://www.cbp.gov/xp/cgov/newsroom/news_releases/archives/2005_press_releases/102005/10262005.xml.

66) 1996 the Illegal Immigration Reform and Immigrant Responsibility Act

가

. USA Patriot

Act

RFID

RFID

제 3 절 최초 제안된 미국의 전자여권 방식과 반대 의견

1.

2005 2 18 ,

,

가 , “ 가

” ICAO가 가 .

2005 2 18 (Federal Register)

, 2005 4 4 45

.67) , 2,335
98.5%가 1% ,
0.5% .68) 가

가 , IC
RFID

RFID 가
가 . RFID
가 가 : IC
IC (: skimming) IC
가
(eavesdropping)가 .69)

2.

(1)

(skimming)

가

.70) ,

67) Proposed Rule, op.cit., p.305.

68) Electronic Passport: Final Rule, 70 Fed. Reg. 61,553, 61,553 (Oct. 25, 2005) (to be codified at 22 CFRpt. 51), available at <http://edocket.access.gpo.gov/2005/05-21284.htm> [“Final Rule”].

69) Ibid. p.61,554.

70) Electronic Frontier Foundation (EFF) et al., Commentary, Comment in Response to U.S. Department of State's Request for Comment Regarding the Issuance of E-Passports Using RFID Technology 7 (Apr. 4, 2005), available at <http://www.eff.org/Privacy/Surveillance/>

가

,
.71)

: (1)

. (2)

가

. (3)

.72)

,

.73)

(2)

RFID

,

가

,

. Electro-

nic Frontier Foundation

Lee Tien

RFID (tags)

가

: (1)

(promiscuity): 가

(2)

(remote readings): RFID

, (3)

(stealth):

가

.74)

National Institute of Standards and Technology

RFID

가 -

10

RFID/RFID passport.pdf [“EFF Comment”].

71) Proposed Rule, op.cit., p.8,306.

72) Ibid.

73) EFF Comment, op.cit., p.7.

74) Lee Tien, Electronic Frontier Foundation (EFF), RFID Policy: What Does Congress Need to Know?, available at [http://www.eff.org/Privacy/Surveillance/RFID/RFID one pager.pdf](http://www.eff.org/Privacy/Surveillance/RFID/RFID_one_pager.pdf).

ICAO (specifications) - 30
가 가

.75) , 가

,

. Association of Corporate

Travel Executives 76) Business Travel Coalition 77) 2005 3 28

가 가

.78)

,

IC 가

가 .79)

가

Michael Faraday “Faraday cage”

.80) “Faraday cage” RFID

.81) “Faraday cage”가 , “Faraday

cage”가 가

75) Junko Yoshida, Tests Reveal E-Passport Security Flaw, EE Times, Aug. 30, 2004, <http://www.eetimes.com/news/latest/showArticle.jhtml?articleID=45400010>.

76) Press Release, Jack Riepe, ACTE Global Communications Director, ACTE Says Passport "Bugs" Could Put U.S. Travelers At Risk (Mar. 28, 2005), available at http://www.acte.org/resources/press_release.php?id=56.

77) Press Release, Kevin Mitchell, U.S. State Department Proposed Passport Program Is Bad Policy (Mar. 28, 2005), available at <http://btcweb.biz/rfidstatement.htm>.

78) Ibid.; Riepe, op.cit., p.90.

79) Jules, Molnar & Wagner, op.cit., p. 5.

80) RF Safe, Faraday Cage, http://www.rfsafe.com/research/rfradiation/shielding_rf_hazards/faradaycage.htm.

81) Jules, Molnar & Wagner, op.cit., p. 2.

, RFID 가 “가 (eavesdropping)”
 .82) Bill Scannell, Electronic Frontier
 Foundation, Electronic Privacy Information Center ()
) IC RFID
 가 .83)
 “ (skimming)” “가 (eavesdropping)”

.84) RFID

가 “2-D ”

(optical memory stripe cards)가 .85)

가 Bruce Schneier 가
 가

.86)

(3)

IC 가 , 가

82) Ibid.

83) EFF Comment, op.cit., p. 6.

84) Ibid.

85) Ibid.

86) Bruce Schneier, Does Big Brother Want to Watch?: Passport Radio Chips Send Too Many Signals, INT'L Herald TRIB., Oct 4, 2004, available at <http://www.iht.com/articles/2004/10/04/edschneiered3.php>.

.87) RFID

RFID 가

.88) RFID

Wal-Mart Walgreens

. Walgreens RFID

.89) 70 Wal-

Mart가 Hewlett-Packard /

RFID

Dallas Wal-Mart 가 .90) Consumers Against Supermarket Privacy Invasion and Numbering("CASPIAN) Katherine Albrecht

.91) Albrecht RFID

87) EFF Comment, op.cit., p.82.

88) Ibid.

89) Press Release, GOLIATH Solutions, GOLIATH Solutions to Install Display Tracking System at Walgreens Stores Chainwide (Dec. 5, 2005), available at http://www.forbes.com/prnewswire/feeds/prnewswire/2005/12/05/prnewswire200512050901PR_NEWS_B_MWT_CG_CGM022.html.

90) CASPIAN Anti-RFID Protest: Dallas, Texas, <http://www.spychips.com/protest/walmart/protest-slideshow/index.html>.

91) Laurie Sullivan, Consumer Group Calls for RFID Protest at Dallas Wal-Mart, InformationWeek Oct. 14, 2005, available at <http://www.informationweek.com/showArticle.jhtmlmessid=0CHHDQNIXBLSWQSNDBECKHSCJUMKJVN?articleID=172301047>.

(4)

.92)

“(function creep)

(social security numbers) . 가 가
가

가 .93)

“(unique identifiers)

(,)

“hotlisting”(

》 “profiling”(Data profiling

(,) 94)

) .95)

92) Paul Rosenzweig, Alane Kochems & Ari Schwartz, Biometric Technologies: Security, Legal, and Policy Implications, The Heritage Found.,June 21, 2004, <http://www.heritage.org/Research/HomelandDefense/lm12.cfm>.

93) Jane Wakefield, Doubts Over Biometric Passports, BBC NEWS, Oct. 27, 2005, <http://news.bbc.co.uk/1/hi/technology/4381160.stm>.

94) American Civil Liberties Union of Northern California,RFID: Government Identification Documents and “Tracking” Issues 6, 8 (Dec. 2, 2005), available at <http://www.aclunc.org/privacy/technology/yes768/050808-rfid-packet.pdf>.

95) Government Accountability Office, Radio Frequency Identification Technology in the Federal Government, Report 05- 551 25-26 (May 27, 2005), available at <http://www.gao.gov/new.items/d05551.pdf#search=%22Government%20Accountability%20Office%2C%20Radio%20Frequency%20Identification%20Technology%20in%20the%20Federal%20Government%22>.

, ,

가

(compile:

)

,

.

가

IC

가

.

. Electronic Privacy Information Center

US-Visit

,

(mission creep function creep)

가

Computer Assisted Passenger Prescreening System

(“CAPPS II”)

.96)

,

CAPPS II

,

.

(6)

가

, ,

96) Electronic Privacy Information Center (EPIC), Comments in Response to Department of Homeland Security Border and Transportation Security Directorate, Docket No. BTS 03-01: Interim Final Rule and Notice, 5-6, <http://www.epic.org/privacy/us-visit/us-visit-comments.pdf>.

“ ”

. ICAO

Barry Kefauver

가

.97)

Kefauver “

가

가 ”

Frank E. Moss

.98)

(Social Security Administra-

tion: SSA)

“ ”(passport lookout system)

U.S.

Marshals Service

.99)

- INTERPOL -

FBI

(Integrated Automated Fingerprint Identification

97) Wakefield, op.cit., p.112.

98) Improvements Needed to Strengthen U.S. Passport Fraud Detection Efforts: Hearing on GAO Report 05-477 Before the S. Comm. OnHomeland Sec. & Gov't Affairs, 109th Cong. (June 29, 2005) (statement of Frank E. Moss, Deputy Assistant Sec'y for Passport Services, U.S. Dep't of State), available at http://travel.state.gov/law/legal/testimony/testimony_2552.html.

99) Federal Bureau of Investigation, Criminal Justice Information Services Division, Integrated Automated Fingerprint Identification System or IAFIS, <http://www.fbi.gov/hq/cjisd/iafis.htm>.

System: IAFIS) (Automated Biometric Identification System: IDENT)
(the Federal Bureau of Investigation: FBI)

2
가 .100)
(7)

IC

.101) EU가 EU
(Schengen Treaty) 15

,102) ICAO

.103) 2007 3
.104)

100) Richard Sobel, "The Demeaning of Identity and Personhood in National Identification Systems", Harv. J.L. & Tech., Vol.15(2002), p.319.

101) Ibid. pp.364-65.

102) Mark Oliver & Agencies, Cost of Standard UK Passport to Rise, GUARDIAN UNLIMITED, Nov. 17, 2005, <http://www.guardian.co.uk/uknews/story/0,,1644867,00.html>.

103) LDS Technical Report, op.cit., p. 22.

104) Victor Homola, World Briefing Europe: Germany: Debut for Electronic Passports, N.Y. TIMES, Nov. 2, 2005, at A8, available at <http://query.nytimes.com/gst/fullpage.html?res=9E0CE5DA163EF931A35752C1A9639C8B63&fta=y>.

.105)

(8)

(authentication)

authentication

system

.106)

(anti-collision)

IC

.107)

(gelatin)

가

80%

(蝕刻)

가 가

.108)

(authentication system)

.109)

105) Rich Lowry, The Power of the Fingerprint, JEWISH WORLDREV., June27, 2005, <http://www.jewishworldreview.com/0605/lowry062405.php3>; see also findBiometrics.com, Privacy - Friend or Foe?, <http://www.findbiometrics.com/Pages/privacy.html>.

106) EFF Comment, op.cit., p.13.

107) Use of Contactless ICs, op.cit., p.10.

108) John Leyden, Gummi Bears Defeat Fingerprint Sensors, THE REGISTER, May 16, 2002, http://www.theregister.co.uk/2002/05/16/gummi_bears_defeat_finger_print_sensors/.

109) Ibid.

제 4 절 국무부의 수정된 접근방식

2005 10 25 ,

, ICAO , (Government Printing Office)
· (National Institute of Standards and Technology)
logy)

가 .110)

1. RFID

RFID ,

IC .

RFID ,

3 (third party certification)

가 ,

(book-type)

가 .

110) Final Rule, op.cit., pp. 61,553-61,554.

2.

“ (skimming)

, RFID

가

가

“ 가 (eavesdropping)

가

가 .¹¹¹⁾ 가 Govern-

ment Printing Office National Institute of Standards and Technology , 가

10 ICAO

.¹¹²⁾

3.

, authentication

IC

(“Basic Access Control: BA”) .¹¹³⁾ BAC IC

(unlock) 가

(Personal Identification Number: PIN)

PIN , RFID

111) Jules, Molnar & Wagner, op.cit., p. 11.

112) Final Rule, op.cit., pp..61,554.

113) Final Rule, op.cit., at 61,554

用 PIN 가
(Machine-Readable Zone)

.114)

가

2 .115)

가

PIN

가 RFID

가 RFID 가

가 .116)

BAC 가 ICAO Document 9303

“ ” “ 가

” .117) BAC가

“ ”

BAC PIN 가 IC

가 .118)

BAC 가

2 가

.119) 가,

114) Ibid., at 61,554

115) LDS Technical Report, op.cit., at 10-11.

116) Kim Zetter, Feds Rethinking RFID Passport, WIRED NEWS, April 26, 2005, <http://www.wired.com/news/privacy/0,1848,67333,00.html>.

117) PKI Technical Report, sop.cit., at 15-17(active authentication, basic access control, extended access control, and encryption).

118) Zetter, op.cit., p.152.

119) Lin Yih & Sunny Ho, Summary Report of e-MRTD InterFest Testing Session 4 3 (2005), available at [http://www.itsc.org.sg/tc/6th term compo/SummaryofInterFest3Feb05 Final.pdf](http://www.itsc.org.sg/tc/6th%20term%20compo/SummaryofInterFest3Feb05Final.pdf).

-가

“ 가 ” 가

.120)

제 5 절 현행 전자여권 제도에 대한 미국에서의 논쟁

가

가

.121)

(RFID)

가

(capture), (2)

(clandestine tracking), (3)

“function creep;” (4)

, (5)

(6) (automation)

(active authentication)

120) Final Rule, op.cit., at 61,554.

121)

(Grunwald)가

PC

RFID

가

RFID

RFID

RFID

가

, 2006.8.8.

(Basic Access Control)

가 ,

가 .

2001 9 11

가

US- VISIT

,

ICAO

, 가

RFID

가 ,

, hotlisting,

(function creep)

,

가

RFID

,

BAC

capture

2006 4 BAC

.122)

122) Roy Mark, U.S. Completes E-Passport Testing, Internetnews. com, Apr. 20, 2006,

ICA
가
,
,123)

<http://www.internetnews.com/infra/article.php/3600526>.
123) Press Release, Dep't of Homeland Security, E- Passport Testing to Begin at San Francisco International Airport(Jan. 13, 2006), <http://www.dhs.gov/dhspublic/display?content=5342>.

제 4 장 전자여권과 RFID기술과 안전성 문제

제 1 절 RFID의 기술 · 시스템의 구성요소

RFID

124)

. RFID 가

(tag),

. tag

가

(passive)

(active)

가

RFID

(

)

125)

.126)

RFID

가

(power source)

가

가

.127) RFID

(challenge)

124) David C. Wyld, "IBM Ctr. for the Bus. of Gov't, RFID: The Right Frequency for Government (2005)", p.9, available at <http://www.businessofgovernment.org/pdfs/Wyld-Report4.pdf>; RFID 가

. Margaret L. Lorenc, pp.586; , RFID GPS

125) 가
. GAO 2005 Report, pp.6-7.

126) Ryan Singel, American Passports to Get Chipped, Wired, Oct. 21, 2004, <http://www.wired.com/news/privacy/0,1848,65412,00.html>.

127) active RFID tag the AeroScout T2 600
8 AA , 3

(response)

가
가

.128)

(Electronic Product Code: EPC)

EPC

가

가

.129)

제 2 절 RFID의 사용분야

1. RFID

RFID

RFID

RFID 가

가

. AeroScout T2 Data Sheet, [http://www.aeroscout.com/data/uploads/Aero-Scout%20T2%20Tag %20Data%20Sheet.pdf](http://www.aeroscout.com/data/uploads/Aero-Scout%20T2%20Tag%20Data%20Sheet.pdf).

128) Challenge-response signals

. Steve Bono et al., Security Analysis of a Cryptographically-Enabled RFID Device 2 (Jan. 28, 2005), available at <http://www.jhuisi.jhu.edu/institute/docs/RFID-Analysis.pdf>.

(challenge signal)

129) Lorenc, op.cit., p.587.

. , 가 가

Universal Product Code(UPC)

EPC
UPC RFID EPC
가 .130)

RFID -
- (tracking devices) .
가
-
(label) -

.131)

RFID

.132)

가 RFID

.133) RFID ,

130) Ibid., p.588.

131) Ibid.

132) Gal Eschet, FIPS and PETs for RFID: Protecting Privacy in the Web of Radio Frequency Identification, *Jurimetrics J.*, Vol.45(2005), pp.307-08.

133) Bill Machrone, RFID: Dogs! Cats! Guitars?, *PC Mag.*, July 13, 2004, at 75, available at <http://www.pcmag.com/article2/0,1759,1612809,00.asp>.

Speedpass

MasterCardPass

RFID

.134)

RFID가

RFID

.135)

VeriChip

RFID

RFID

.136)

2.

RFID

가

.137)

RFID

가

24 가

.138)

(Government Account-

134) Lorenc, op.cit., p.588.

135) David J. Warner, "Note & Comment: a Call to Action: the Fourth Amendment, the Future of Radio frequency identification, and Society", Loy. L.A. L. Rev., Vol.40(2007), p.857.

136) Available at <http://www.spychips.com/press-releases/mexican-translation.html>.

[http://www.verichipcorp.com/contents/solutions/emergency management.](http://www.verichipcorp.com/contents/solutions/emergency%20management)

137) RFID가

Ari Juels et al., Security and Privacy Issues in E-Passports (2005), <http://eprint.iacr.org/2005/095.pdf>.

138) Press Release, U.S. Dep't of State, Most Visa Waiver Program Nations Meet Electronic Passport Deadline (Oct. 27, 2006), available at <http://usinfo.state.gov/xarchives/display.html?p=washfile-english&y=2006&m=October&x=200610271436211CJsamohT0.1565821>. For information on the developments of the United States using electronic passports, see The U.S. Electronic Passport, http://travel.state.gov/passport/eppt/eppt_2498.html.

ability Office: GAO) 2005 16 가
 25 RFID (Department of
 Energy) (Social Security Administ-
 ration) .139) 가

RFID .140)

제 3 절 미국에서의 RFID 기술사용에 대한 논쟁과 보호를 위한 접근방법

RFID

가 RFID
 .141)

(Federal Trade Commission)

가 가
 .142)

139) U.S. Gov't Accountability Office, No. 05-551, Information Security: Radio Fre-
 quency Identification Technology in the FederalGovernment (2005), pp.17-18. available
 at <http://www.gao.gov/new.items/d05551.pdf>. 가 RFID

16 15 RFID
 GAO 가

140) RFID: Airport Tracking, <http://www.spsychips.com/RFIDairport.html>.

141) David J. Warner, op.cit., p.872.

142) Fed. Trade Comm'n, Radio Frequency Identification: Applications and Implications

RFID

.143)

가

Wisconsin

,

RFID

.144) Rhode Island

RFID tag

, 가

.145) Texas

RFID

.146)

,

RFID

가

RFID

.147)

가

가

RFID

accommodate

ECPA(the Electronic Communications Privacy

Act) 148) 1974 Privacy Act 149)

. 1974 Pri-

for Consumers (2005), p.20(ibid. p.873).

143) Posting of Lawton Jordan, RFID Legislation: What You Need to Know About the Debate, to RFID Law Blog (Sept. 20, 2006), <http://rfidlawblog.mckennalong.com/archives/state-legislation-rfid-legislation-what-you-need-to-know-about-the-debate.html>.

144) Wis. Stat. § 146.25 (2006).

145) H. 5929, Gen. Assem., Jan Sess. (R.I. 2005).

146) H.B. 2, 79th Sess. (Tex. 2005).

147) 가 RFID tag
. , RFID tag

148) Oleg Kobelev, “Big Brother on a Tiny Chip: Ushering in the Age of Global Surveillance Through the Use of Radio Frequency Identification Technology and the Need for Legislative Response”, N.C. J.L. & Tech., Vol.6(2005), pp.339-40(RFID the Electronic Communications Privacy Act 가).

149) John M. Eden, “When Big Brother Privatizes: Commercial Surveillance, the Privacy Act of 1974, and the Future of RFID”, Duke L. & Tech. Rev., Vol.9(2005), pp 19-20, available at <http://www.law.duke.edu/journals/dltr/articles/PDF/2005DLTR0020.pdf>

vacy Act “ (fair information practices)

가¹⁵⁰⁾ RFID

.¹⁵¹⁾

2004 ID Chips Act RFID 가 Opt Out of

RFID

.¹⁵²⁾ , RFID

가

가

.¹⁵³⁾

, 가 RFID

RFID

가 RFID

RFID 가

가 RFID

(armband)

150) 5 U.S.C. § 552a (2000).

151) Ibid.

152) Warner, op.cit., p.874.

153) 가

2335 98.5%가

Jenna Wortham, How To: Disable Your Passport's RFID Chip, Wired, Jan. 2007, at 46, available at <http://www.wired.com/wired/archive/15.01/start.html?pg=9>

(wire)

Radio Frequency Identification(RFID) .154)

(unlock) . RFID

(track-

ing) (prepayment) .155)

가

가 가

가

.156)

(integrity)

.157)

가

.158)

154) U.S. Gov't Accountability Office, Information Security: Radio Frequency Identification Technology in the Federal Government (GAO-05-551) 1, 4 (2005) ["GAO 2005 Report"].

155) Jerry Brito, "Relax, Don't Do It: Why RFID Privacy Concerns are Exaggerated and Legislation is Premature", UCLA J.L. & Tech., Vol.9(2004), pp.7-9.

156) US-VISIT Biometric Requirements, 69 Fed. Reg. 468, 470 (proposed Jan. 5, 2004) (to be codified at 8 C.F.R. pts. 214, 215, 235).

157) Electronic Passport, 70 Fed. Reg. 61553, 61555 (Oct. 25, 2005) (to be codified at 22 C.F.R. pt. 51).

158) RFID News Roundup: DHS Testing Tags for US-VISIT Program, RFID J., Aug. 12, 2005, <http://www.rfidjournal.com/article/articleview/1801/1/1> ["RFID News Roundup"].

가

.159)

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.160)

RFID

가

RFID

가

.161)

159) Real ID Act of 2005, Pub. L. No. 109-13, § 202, 2005 U.S.C.C.A.N. (119 Stat.) 311, 312 (to be codified at 49 U.S.C. § 30301).

160) (Biometric information) (biometric identifier)

(attribute) (hand geometry measurements), (),

Reg. at 470.

161) Margaret L. Lorenc, "Comment: the Mark of the Beast: U.S. Government Use of RFID in Government-issued Documents", Alb. L.J. Sci. & Tech., Vol.17(2007), p.585.

제 5 장 개정여권법과 관련된 법적 쟁점과 개선방안

제 1 절 개정배경

2001

9 · 11

가

. 2005 3

(ICAO)

, ,

가

,

가

.162)

가

2008

,

.

“ 가

”

.163)

162) , op.cit., pp.14-15.

163) Ibid.

(Enhanced Border Security and Visa Entry Reform Act of 2002)¹⁶⁴⁾ 27
 가 165) (4 , 9
), 2007. 8. 3. (VWP: Visa Waiver Program)¹⁶⁶⁾ ‘2007 9/11 (Implementing Recommendations of the 9/11 Commission Act of 2007)¹⁶⁷⁾

가 (ETA: Electronic Travel Authorization)¹⁶⁸⁾
 가
 , 가
 . 169)

164) Public Law No. 107-173.

165) (5): , , , 가 / (22):

166) VWP가 (無) , 27 가
 VWP (B-1) (B-2) .
 90 , B-1 B-2가 180 .
 (非) , E(), F(), H-1B(), H-2B(), J(), L(), O(), P()

VWP 가
 B-1, B-2 2007 33 , 가
 95%
 95%

2008.4.30.

167) Public Law No. 110-53.

168) VWP 가)

ETA , 가

169) .

가

1,000

가

2008. 4. 19.

가

(MOU)

2007.4.11 ‘

“ . FTA

VWP 가

가

2005 9

3

2008

170)

170)

1
가

가

가

가

.171)

171) 「 」 1961 12 31 (940) 7
(2 9)

가

. ① (ICAO)

(7), ②

3

(8), ③

(借名)

(9), ④ “

(12), ⑤

(13), ⑥

가

(18), ⑦

(22 2), ⑧

(23).

가
가
가
172)
가

제 2 절 전자여권의 도입을 둘러싼 논쟁

1.

가
가
173)
가 IC
RFID
가

172) 「 」 7 , 「 」 24 , 「 」 38 , 「 」 10 , 「 」 2 4 .

173) , op.cit., p. 16.

가가

가

가

가

가

가

, VWP 가

가 ,

10

가

가

.174)

2.

175)

(1)

가

2005 9 30

.176)

174) 2006 9 , (EU) ICAO

가 FIDIS ICAO / (EU)

가

가

3

, RFID

. Ibid., p.17.

175) : <http://biopass.jinbo.net/epassport.pdf> .

176) “ ”, “

.” 2005.9.7

ICAO
(Machine Readable Travel Document)

, ,

가 가

가 . 2006 ,

, 1 ,

, ,

가 가 ,

가 가 ,

/

.177) 가 가 ,

가 가 .

가

가

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가 가 ,

가 가 . ①

,

② , ③

.178)

RFID

가 가 ,

RFID가

가 가,

177) , op.cit., p.19.

178) Ibid.

RFID 가 가 .
가 (Relay device)
RFID
가 .179)

(2) (relay device)

ICAO (Lukas Grunwald)
RFID
가
가 .

JPEG2000

가 , 가 가
180)

ICAO

PKI (digital signature)

, PKI

PKI
가 . PKI가
PKI

179) Ibid., p.20.

180) Ibid.

(Passive Authentication), 가

2007 9 19

‘PKI’, 181) . 182)

BAC(Basic Access Control) ‘

183)

가 . 가

BAC . BAC

(Active Authentication) “

”

가 가

가

가 ,

EAC(Extended Access Control)

EAC)

181) “ 가 PKI . PKI

.” 2007.9.19 中

, ibid., p.21 .

182) Ibid.

183) 2006 66,798 가 , 2007 8 51,511 가

. ibid., p.21.

가

ICAO BAC가

ICAO 가 가

184)

RFID

RFID 가

가 RFID

가 , RFID

가 ,185)

, RFID

가

가 ,

가 가

가 ‘RFID = ,

, RFID ,

,186)

ICAO

RFID

RFID

RFID가

가 , RFID 가

184) Ibid., p.23.
 185) Ibid.
 186) Ibid. p.24.

RFID

.187)

제 3 절 프라이버시 보호와 관련된 문제

1.

가

.188)

가

.189)

2.

190)

가

187) Ibid., p.24.

188) Ibid., p.41.

189) Ibid.

190) , “ ”, 『 』, op.cit., pp.74-77 轉載.

가 가 ,

,

가 .

,191)

(record integration)¹⁹²⁾

(computer matching)¹⁹³⁾

(computer screening)¹⁹⁴⁾

191) 2002. 8. 30. , 56
 , 347 99 218 , 3,886 가 126 7,529
 , 가 22 383 , 84 205 29
 , 4,373 452 8,421
 , 2004.1, p.175.

192) 가
 가
 , , , , , ,
 ,

, 1998, p.46.

193)

, 5 2 , 1995.6, pp.138~139.

194)

가 .195)

가
, 가가

,

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가

.196)

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가

2006 가 66,798 가 , 2007 8
51,511 가 가

.

24

,

(RMAS)

(SLTD)

가

가

.

. ibid., p.141.

195) , op.cit., pp.46~50.

196) , , 2005, p.251.

가

가

, , , , .

4 가
가

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가

가

가

가

가

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3.

(1) 197)

7 1 3

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, , ,

가

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,198)

.

가

197) , op.cit., 轉載.
198) , , pp5-6.

가

. (199)

EU 가 가

2009 6

200) 2010 1 1

(201) 가

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1950

가

가 가

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가 (202)

,

가

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(Access Control), ATM

(203)

199) 가 2005 60,063 , 2006 59,336 ,
2007 66,912 , (2007 1,029)
82%, 18%

200) EU 15152/04() (2)
“biometric identifiers should be integrated in the passport or travel document in order
to establish a reliable link between the genuine holder and the document.”

201) , “ ”, 24 , ,
p.167 .

202) , op.cit., p.25.

203) Ibid., p.26.

5

0.5%

1

가

5% 가

가

가

가

,204)

가

,205)

가

, Key Point

(template)²⁰⁶⁾

가

,207)

204) Ibid.

205) Ibid.

206) <http://www.biometrics.or.kr/bbs/data/PDS4/>

.pdf. 2004 3 25

207) Ibid., p.27.

(2) () 208)

① ICAO

(Doc 9303), ②

4

가 ,

, .

가

, ③ 「 」

가 ,

17

가

, ④

, .

가

. . .

가

가

가

가

,209) ⑤

가

가

EAC(Extended Access Control)²¹⁰⁾

.

가

,211)

208) op.cit.,pp. 轉載 .

209) 2005.5.26. 99 513, 2004 190() . ,

210) ‘ ,

가

,

가 가

가

가

211) , , op.cit., pp.27-28 轉載.

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7

,212)

,213) ①

, ②

가 가

가

, ③

2007 10 , 가 가 ,

3 , 2009 6 (EU)

, EU

가 / 가 , ④

, 가 가

가

가 가

가 , ⑤

가 .

212) Ibid., pp.28-29.
 213)

<http://biopass.jinbo.net/>.

(3)

(right to privacy)

1928 Olmstead ad v. U.S.

“

(right of be let

alone)

가

”

1965 Griswold v. Connecticut

가

“

(right to mental privacy)

”

.214)

가

가

214) , “ 13 2 (2008.02), p.10.

保護 研究”,

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 .215)
 가 가
 .
 , 가 가
 , 가 .
 , 가 가
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. 가 가
 가 가 .216)
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.217)
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 , 가 .

215) Ibid., p.10.
 216) Ibid., p.17.
 217) , op.cit., p.179 .

가

, 가, , , 가 .218)

1) 가 219)

가.

가 가

, , , . 가

DNA

가

.220)

가

가

가

218) 2001 (International Biometric Group) (Bio Privacy Impact Framework)

219) , op.cit., pp.32-52 轉載

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,222) (ACLU)
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,223)
1994 (Driver's Privacy Protec-
tion Act)

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1998 (Identity Theft and Assumption De-
 terrence Act of 1998)²²⁵⁾ (means of identifi-
 cation)

.224)

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.227)

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(ACLU) 가

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231)

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: Im

migration and Naturalization Service Accelerated Service System)

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가 21 1 가

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.239)

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.240)

. 241)

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.242)

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.245)

.246)

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.247)

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247) Singleton Soveig, op.cit., pp.21~23.

248) , “ 가 ”, 24 , 2004.12, p.234.

249) , op.cit., pp..50~51.

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251) Ibid.

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(萬人不同)²⁵⁴⁾,

(終生不變)²⁵⁵⁾

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(ACLU)²⁵⁷⁾

252) Ibid. p.78.

253) “ 488 (2006. 8. 22)

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254) 가

가 . ibid.

255)

가 13 4 , 2002, p.65(ibid.,).

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257) 9 · 11

(ACLU)

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, 2004, p.336(ibid.,).

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262) , op.cit., p.80.

263) Ibid.

264) (1) (2) , op.cit., pp.41-44 轉載 .

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268) 2005. 5. 26. 99 513

269) , “ 36 (2007.05), pp.317-22.

270) 2005.5.26, 99 5134; 2004 190().

271) 2005.7.21, 2003 282.

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272) , op.cit., p.32.

273) Ibid.

274) , op.cit., pp.44-45 轉載 .

275) 2003 282 .

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276) , op.cit., p.45.

277) “ 가

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[95 가 17] .

278) EU 1152/04 ()

279) Doc 9303 (Machine Readable Travel Documents) Part 1 Vol.2.

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280) , op.cit., p.46.

281) ibid., pp.46-47 .

282) “ , ,

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, Gramm-Leach-Bliley Act 284) , Fair Credit Reporting Act,285) Telephone Consumer Protection Act of 1991²⁸⁶⁾

283) , op.cit., p.47.

284) 15 U.S.C. §§ 6801-09 (2000).

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mation Act)²⁸⁷, 1974
Protection Act)²⁸⁸,
'289), '가

(Freedom of Infor-
(Privacy Act of 1974) 1988
(Computer Matching and Privacy
'290)

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'(Fair and Accurate Credit Transaction Act of 2003) 가
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287) 5 U.S.C. § 552(1997).
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.291) , RFID

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(Privacy Act of 1974) 가

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(individual responsibility).

EC Directive

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가 .294) , 1990

EC ‘

(Directive on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data)

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.297)

294) Ibid., p.26.

295) , “ ”, 13 2 (2007.6), p.430.

296) Ibid., p.431.

297) , op.cit., p.27.

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.298)

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.299)

(sector-basis regulation)

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298) , 15 11 (2006.3.4-3.10), pp.18-19.
299) Ibid.

제 4 절 여권법과 정보통신망법의 비교

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300) , “ IT ”, 『 』,

p.112.

301) Ibid.

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302) Ibid.

303) 「 3 2.

304) , op.cit., p.113.

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 307) Ibid., p.114.
 308) “ ”,
 2008.2.22. <<http://biopass.jinbo.net/op02.php>>.

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309) , op.cit., p.114.

310)

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311) , op.cit., p.115.

312) 가 4

313) 37 2

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.317)

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314) , op.cit., p.116.

315) Ibid.

316) 「

317) 「

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.318)

(316 2) .

제 5 절 전자인증제도의 운용과 관련된 문제³¹⁹⁾

“ ”³²⁰⁾ “ ”가 .
 (authentication)
 (identity) ,
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 (Public Key Infrastructure: PKI)³²²⁾

318) 48 ,

49 .

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(“ ”) .“

321) 190 가 (ICAO) 1995

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‘ICAO Doc 9303 6 ’ .

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(digital signature)

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(PKI)

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,324)

“ ” “ ”

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324) , (ePassport) , 2007.2.20, pp.6-8.

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326) , “
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327) 7 , 8 ;

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328) 15 ; 13 .
 329) 18 3; 13 4; 2002-48 .
 330) “ () by 가 ()” <<http://biopass.jinbo.net/tech01.php>>
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제 6 절 형사법상의 문제

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331) 225 : “ 10 .”

332) , op.cit., pp.91-91.

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333) Ibid., pp.93.

334) Ibid., pp.94.

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335) Ibid., p.92.

336) Ibid., p.93.

337) Ibid., p.94.

338) Ibid.

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339) Ibid., p.95.

340) “

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341) , op.cit., p.96.

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342) Ibid.

343) Ibid.

344) Ibid.

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345) (1988.5.24. 87 2696)

346) 1970.7.28. 70 837/ 1974.4.9. 73 2334.

347) , op.cit., p.97.

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348) Ibid., p.98.

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349) Ibid., p.99.

350) Ibid.

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351) Ibid.

352) , (

353) , “ , 2007) . ”, op.cit., p.72.

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.354)

OECD, WTO

.355)

.356)

354) Ibid.

355) Ibid., p.76.

356) Ibid.

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358) , “

”, op.cit., p.80.

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Communication Assistance for Law Enforcement Act of 1994)

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359) Ibid.

360) Ibid., p.83.

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361) Ibid., p.85.

362) 2 3 “ ” “ .

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363) 가 .
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364) (5)(, 1999), p.198 .
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.365)

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p. 202 . ” . () (, 1999),
 365) 12 3 “ , ,
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 366) , “ ”, op.cit., p.86.
 367) 5 가
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 368) 41 (h) , ,

. United States v. New York Telephone Co., 434 U.S. 159, 98 S.Ct. 364, 54 L. Ed. d376(1977).

(109 , 219). ,

.369)

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.371)

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.373)

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369) . , “ ”,
(II), , 1998, p.297.

370) . , op.cit., p.299.

371) , “ ”, op.cit., p.87.

372) 114 .

373) 120 , 219 .

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374),

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제 7 절 여행자정보공유협정의 합헌성 문제

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, op.cit., p.180.

376)

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”, op.cit., p.86.

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, op.cit., 183-184.

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379) , op.cit., p.81.

380) Ibid.

381) 1999. 5. 27. 98 70, pp.11-1, 643-644.

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382) , op.cit., p.82.

제 6 장 결 론

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383) , op.cit., p.122.

384) Ibid., p.123.

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389) 가

385) Ibid., p.123.
386) Francis S., Chlapowski, The Constitutional Protection of Informational Privacy, 71
Boston University Law Review, Vol. 71, 1991, pp. 133~134.
387) , op.cit., p.3.
388) "

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" (, op.cit., p.55) 가
389) , op.cit., p.100.

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2 가 390)
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.391)

(integrity of data)

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390) , 2007.3.5~5.10 가
 (Visa Waiver Program) 가

391) Ibid., p.101.

(encryption technology)

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392) Ibid.

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