Leading Security Certification Company based on PKI technologies
KICA is Korea’s first Certification company which was founded in 1999, providing Certification services based on PKI technologies. KICA is a leading company in the integrated certification industry and has established Certification systems and consulting services in many countries such as Philippines, Vietnam, Costa Rica, Mongolia, and Indonesia based on its technical expertise and knowhow.

- **Certified certification company(No.1)**
  - Ministry of Information and Communication 2000.02

- Information Security Management System(ISMS) Certificate
  - Korea Information Security Agency 2004.10

- **Certified digital contents trade certification company(No.1)**
  - Ministry of Information and Communication 2007.11

- Certified with security feasibility by National Intelligence Service

Stockholders
- DAOU
- SAMSUNG SDS
- SK Telecom
- LG Electronics
- KCA - Korea Communications Agency
- KT

Major Customers
- Government authorities
- Major banks
- Samsung electronics, LG electronics, SK, GS
- LG chemicals, CJ, Hyundai etc.
- Telecom companies: KT, SKT, LG

Business Areas
- Wired/Wireless certification service, domain service, solution, consulting, service development

Year of Foundation
- July 1999

Main Website
- www.signgate.com

Location
- 16 Fl Nurikkum Square Business Tower, 1605 Sangam-dong, Mapo-gu, Seoul, Korea
- +82 1577 8787
Established Korea Information Certificate Authority

- Established the electronic government for Panama
- Assessed the feasibility of establishment of Indonesia’s PKI
- Established electronic procurement program for Vietnam
- Established Certification system of the Philippines
- Conducted the long term ICT consulting of Kenya PKI System

- Assessed the feasibility of establishment of Mongol’s electronic procurement
- Conducted PKI Framework Master plan in Brunei
- Assessed the feasibility of establishment of Moroccan certification system

- Awarded special prize in the second Information Security Award
- Provided licensed certification service for the electronic tax payment system for public organizations
- Provided licensed certificate to ‘Home tax service’ of National Tax Service
- Established electronic procurement and Certification system of Costa Rica
- Conducted PKI feasibility study in Egypt

- Conferred ISMS(Information Security Management System) certification
- Developed wireless e-bidding system of Public Procurement Service
- Passed the security test by the National Intelligence Service
- Implemented the online security section and document distribution part for the Internet customs systems owned by the Korea Customs Service

- Provided the Linux banking solution for the Korea Post and started model services
- Conducted PKI feasibility study in Egypt

- Designated as the first national certification authority by the government
- Provided licensed certification service for the electronic tax payment system for public organizations
- Provided licensed certificate to ‘Home tax service’ of National Tax Service
- Established electronic procurement and Certification system of Costa Rica
- Conducted the long term ICT consulting of Kenya PKI System

- 1999
- 2000
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
Global Leading Company
Largest reference overseas

KICA has been building a platform for e-Government system around the world with Safety, Trust, and Convenience based on our own PKI core technologies. KICA is a trustworthy partner of Korean government and top-level nationwide accredited CA as well.

ASEM
- World-first certificate authority service for ASEM

Egypt
- F/S consulting on establishment of Egypt’s e-government system

Morocco
- F/S consulting on establishment of Moroccan certification system

Kenya
- Long term ICT consulting of Kenya PKI System

Cameroon
- F/S consulting on establishment of Cameroonian certification system

Iran
- F/S consulting on establishment of Iranian certification system

Mongolia
- F/S consulting on establishment of Mongolia’s electronic procurement system

Vietnam
- Establishment of Vietnam’s electronic procurement program

Philippines
- Establishment of Philippines certification system

Costa Rica
- Establishment of Costa Rica’s electronic procurement and certification system

Panama
- Establishment of Panama’s electronic government and remote education system

Indonesia
- F/S consulting on establishment of Indonesia’s PKI

Brunei
- PKI Framework Master plan in Brunei
Electronic tax reports
Online banking
Online trading
Online billing and payment
Medical EDI
Online insurance
Online college
Electronic government service
Electronic contract/purchase
Electronic bid
Confirmation of certification cards

ID certification with certification cards on public and private online services

Solution
Provide PKI based solutions for better security
Certification solutions : KGS, CA, RA
Security solutions : SecuKit, OCSP, TSA

IT service
Mobile certification and SSL service for higher web security
Certification of digital contents trade
Certification of device
Mobile key
SSL
Domain

Additional service
Expand the certification service to cover trades and equipment

Global business
Establishment of National PKI
PKI center for e-Government
Set up of CA centers : Panama, Philippines, Vietnam, Cameroon
Consulting on certificate authority services for e-Government
To establish safe and reliable Information society

Management
Organization
Budget
HRD
Standards
Security
IT Management
Privacy

Economic Development (G2B)
e-Customs
e-Support for Foreign Firms
e-Intellectual Property
e-Procurement

Public Service (G2C)
Public Admin. Reform (G2G)
e-Land Registry
e-National ID

Shared Services
Database
National ID DB
Land Resources DB

Infrastructure
Public Key Infrastructure
Public Access Point
Government Information Network

Law, Policy, Standards
Certification Service
E-procurement, Internet Banking, E-commerce, etc

Establishment Law
(Electronic Signature), PKI Standards
Building PKI Center
Developing PKI enabled Applications
To establish safe and reliable Information society

PKI Model
Government
License
Root CA
Accredited CA
Accredited Certificate
Application Service organizations or companies
Accredited Electronic Signature
USER
National PKI Establishment

Implementation Steps

Phase 1. Preparations
- Designing of PKI scheme
- Launching of PKI TFT
- Finding ways to finance

Phase 2. Law & Regulation Setup
- Revision of IRR (E.S)
- Administrative Orders
- Executive Orders

Phase 3. PKI Center Construction
- PKI systems
- Facilities / Equipment
- Operation guideline

Phase 4. PKI Application Development
- Pilot project
- RA Constructions
- Planning of long-term national PKI services

Phase 5. PKI Application Development
- Education & Training
- Development of Promotional policies

Proposed PKI Scheme

Foreign Certification Authority
- Cross Certification

Root CA (PKI Center)

Government
- Certification Policy
- Designate ACA
- Int’l cooperation

Law, Policy, Standards
- Government Certification Policy
- Int’l cooperation

Accredited CA
- Issuance of certificate

Private Sector
- Accredited CA
- Issuance of certificate

Public Sector
- Issuance of certificate

Citizens
- Issuance of certificate

Public officials
- Issuance of certificate

Interoperability

NATIONAL PKI ESTABLISHMENT

Implementation Steps

Proposed PKI Scheme

National PKI

Mutual Recognition

International cooperation

Root CA Management Support ACA Auditing ACA Develop Technical Standards

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Project scope is the establishment of roadmap and guideline for PKI including objective model which can be derived from analyzing the subject of citizen, business, and government.

- Dispatch Korean PKI experts
- Establish a future HRD plan including invitation training, seminar etc.
- Provide guidelines on legal frameworks related to digital signature use
- Determine methods to design and manage accredited CAs
- Provide Certification Practice Statement (CPS)
- Provide guidelines on PKI development and security regulators
- Introduce successful applications using PKI
- Introduce international standards and educate related people
- Provide the outline of major standards

Regional Administration
- Service for counties
- Access with certificates

Taxation
- National Tax Agency
- Access with certificates

Petition Service
- Identify oneself online by certificates

4 Major Insurances data exchange
- Labor, Medical care, Pension, Industrial disaster
- Internet access with certificate

Personal Management inside Government
- All employees inside Government

Digital Signature & Seal
- Distribute certificates
- Develop and enhance system adopting certificates

E-Supply (G2B)
- Online bidding with certificate

Enhance computerization
- Sharing national resource information

Education Administration System
- Teachers can assess with cert.
SignGATE KGS (Key Generation System) is to generate a private key which will be used on CA and RA and allowed by only 3 or more authorized administrators.

**Functions**
- Generate a digital signature creation key that over 1,024 bit of RSA security is applied to
- Able to be independently operated, not connected with internal/external information networks
- Encrypt a digital signature creation key and keep the key at a creation key storage medium
- Delete a digital signature creation key promptly after generating and storing the creation key
- Guarantee the integrity of the digital signature creation key in a creation key storage medium
- Generate a digital signature creation key by 3 or more authorized staff
- Keep details on fact, time, behavior, etc. as audit logs

**Features**
- Verified solution operated by Accredited CA in Korea
- Linkable with HSMs like LunaCA and nCipher
- Able to create K of N via Secret Sharing method
- Provide administrator authentication by using smart cards
- Able to install 2 KGSs at the same spot
- Provides to create a key for CA administrators
SignGATE CA - Certificate Issuance and Management System issues a digital certificate upon subscriber’s request after RA identifies and registers the subscriber. Also the system provides search service when a subscriber verifies a certificate by periodically updating a directory server.

**Functions**
1. Manage certificate policy, CRL policy and directory policy which are important information as the basis of PKI center operations by Database
2. Provide policy settings of certificate and CRL profiles
3. Implement certificate management works by administrator such as certificate issuance, re-issuance, revocation, suspension and recovery for subscribers registered
4. Register/modify/delete CA/RA administrators
5. Manage subscriber registration/certificates/information

**Features**
1. Complied with PKI international standards (PKCS, IETF): national and international technical standards
2. Supports to link HSM like Luna CA and nCipher and PKCS#11
3. Supports administrator authentication using smart cards
4. Able to real-time distribute CRL via DP (distribution point)
5. Provides programs only for CA administrators and RA administrators
SignGATE RA is a system to register user information to a CA (Certificate Authority) in order to issue certificates which are necessarily used in a PKI-security environment. It is able to manage user certificates more efficiently by complying with RFC 2510 and 2511.

**Functions**
- Encryption of user information by using symmetric or public key algorithm
- Create digital signature of specific data and verify the signature value
- User certificate suspension/recovery/revocation
- User registration/information modification/re-registration/deletion
- BRA administrator registration/modification/deletion/search
- User registration status (daily/weekly/monthly/yearly)

**Features**
- As a single server, linkable with other CAs
- Passed NIS security tests and verified by Korean government authorities
- Complied with international certificate processing standards (RFC2510/2511)
- Provides high-stability and reliability
- RDBMS support: ORACLE, IBM DB2, INFORMIX
SignGATE SecuKit, which consists of server and client toolkits, provides developers with APIs to easily use digital signature and encryption technology regardless of specialized knowledge of PKI.

**Functions**

- Public key-based digital signature, encryption/decryption
- Complied with international standards (PKCS)
- Support national and international algorithms of public key, symmetric key and message digest
- Active-typed client toolkit
- Complied with technical standards of accredited certification and digital signature management schemes
- Create XML SOAP messages
- Enable XML documents by applying XML encryption and XML Signature Spec

**Features**

- Supports a diverse of development environments such as Plug-In, ActiveX, Java, Windows, Unix and Linux
- Supports multiple development languages such as Unix C, .NET, ASP, PHP, JAVA, etc.
- Easy to install modules, easy to apply to application programs by calling APIs
SignGATE OCSP is a system to verify the validity of certificate in real-time via an OCSP server. SignGATE OCSP conducts real-time certificate status service, interlocking CA database. When a problem occurs on the database, an operator verifies a respective certificate by using a CRL published on a Directory Server.

**Functions**
1. Provide rapid and reliable services relating to verification of the validity of user certificates
2. Able to process multiple requests and to efficiently use resources as it is Multithread-based
3. Logging service for various-level OCSP messages
4. Notify operators of the fact that an error occurred in a server via SMS
5. Able to send error information of OCSP server to operators per every hour

**Features**
1. Applied by RFC 2560 in order to implement the management procedure for status inquiry messages
2. Applied by RFC 3280 in order for certificate verification
3. Diverse types of OCSP clients (jar, dll, so) that are based on Web Application development
4. TCP Socket daemons C/S based for OCSP message transactions
SignGATE TSA is a system to issue electronically signed tokens by using reliable time information in order to prove the fact that a document or data has not been altered since a specific time. It can be applied to time-based applications such as e-Bidding, e-Contract and others.

**Functions**
- Issue time-stamping tokens and confirm forgery and altering
- Provide reliable time resources like GPS and support time modification
- Able to process multiple requests and to efficiently use resources as it is Multithread-based
- Able to search the details of time-stamping service, errors and management logs created by administrators
- Notify operators of the fact that an error occurred in a TSA server via SMS
- Able to send error information of TSP server to operators per every hour

**Features**
- Applied by draft-ietf-pkix-time-stamp in order for requesting or issuing time-stamping tokens
- Applied by RFC 3161 in order to prevent forgery or altering
- Diverse types of TSP clients (jar, dll, so) that are based on Web Application development
- TCP Socket daemons C/S based for TSA message transactions