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# Online Security in the Hong Kong Legal Cloud

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## The Hong Kong Legal Cloud

The Hong Kong Legal Cloud, jointly built by lawyers and IT specialists, is a secure, user-friendly online facility hosted in Hong Kong and set up for the purpose of enhancing access to justice and to speed up technology adoption in the legal profession.

Developed by eBRAM as a cybersecurity-by-design and privacy-by-design platform for the local legal and dispute resolution communities, the Hong Kong Legal Cloud provides users with secure, affordable and user-friendly data storage, research and translation services.

The Hong Kong Legal Cloud is equipped with three key features:

- a secure **document storage and exchange** platform for the storing and sharing of documents, with up to 100GB of storage for each user;
- a legal research platform (powered by **Lexis Advance® Hong Kong**) providing users with searchable access to the latest legislation, case law and commentary; and
- **secure machine-enabled translation** for translating legal documents to and from major Asian, Middle Eastern and European languages.

Designed with advanced, proactive information security technology at its core, eBRAM has undertaken rigorous measures to ensure that the Hong Kong Legal Cloud maintains the confidentiality, security and privacy of users' information.

This document outlines the approach taken and the applicable security measures in place for the Hong Kong Legal Cloud.

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## **Privacy Impact Assessment and Security Risk Assessment**

eBRAM engaged an independent external audit firm to conduct both a Privacy Impact Assessment and a Security Risk Assessment for the Hong Kong Legal Cloud to ensure that the platform met industry best practices for the necessary data privacy requirements, aligned with applicable data protection regulations and met required system security controls.

The areas assessed include:

- The design and functionality of the Hong Kong Legal Cloud.
- Relevant privacy-related policies and procedures relating to the Hong Kong Legal Cloud.
- Related third-party vendors and their corresponding privacy management measures.
- Privacy Notice and Terms of Use of the Hong Kong Legal Cloud.
- Management Responsibilities, Human Resource Security, IT Security Policies and Compliance.
- Physical and Environmental Security, Asset Management, Access Control and Cryptography.
- Operations Security, Network Communications Security, System Acquisition, Development and Maintenance.
- Outsourcing Security, Security Incident Management, IT Security Aspects of Business Continuity Management.
- Web Application Security (including anti-virus, login procedure, rate limits, transfer encryption, session management, HTTP Strict Transport Security).
- Cloud Security (including access controls, client certificates, firewall rules, activity logs).

Following the assessment, recommendation and remediation process, all areas reviewed were deemed compliant with necessary requirements.

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## Data Security

- ✓ Separate containers for individual users to avoid unauthorised access to files.
- ✓ Data and files are encrypted in the storage facility.
- ✓ Data of deleted users and unsuccessful registration are regularly purged from the system.
- ✓ Blockchain technology is adopted to trace every action on the Legal Document Exchange, providing an audit trail to protect the files from external tampering.
- ✓ Regular data backup employing daily, weekly and yearly (up to 3 years) backup rotation schemes.
- ✓ High availability (HA) system design with failover to ensure system availability.
- ✓ Documents uploaded to the AI Machine Translation engine remain localised in Hong Kong which means that for non-Hong Kong users, a safe and trusted environment is provided for their data, while for users in Hong Kong, their data is not inadvertently transmitted across borders in potential breach of legal or contractual requirements.
- ✓ Privacy Impact Assessment was undertaken to review applicable privacy regulations with an emphasis on the Hong Kong Personal Data Privacy Ordinance (PDPO), China Personal Information Protection Law (PIPL), and EU General Data Protection Regulation (GDPR).

## Application Security

- ✓ Multi-Factor Authentication is enforced. A One-Time-Password (OTP) will be sent to the user by SMS.
- ✓ Password complexity, mixing uppercase and lowercase characters, numbers and special characters is enforced.
- ✓ Guest users are required to use OTP to access files shared with them which helps to mitigate the risk of unintended recipients opening the files.
- ✓ Forced logout after 15 minutes for idle sessions.
- ✓ Continuous security patching to mitigate vulnerabilities.
- ✓ A role-based access control is implemented in the operation of the application.

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## **Infrastructure Security**

- ✓ The infrastructure is supported by one of the largest cloud providers with data centres located in Hong Kong and is compliant with ISO 27001 and ISO 27018.
- ✓ High availability for the critical system components.
- ✓ Disaster recovery to protect from single data centre failure.
- ✓ 24 x 7 monitoring and alerts on system resources as well as security events.
- ✓ Routine virus scanning on files to identify threats from viruses and ransomware.
- ✓ Vulnerability assessment and risk analysis tool continuously running to identify potential risks.
- ✓ Anti DDoS (Distributed Denial of Service) is enabled.
- ✓ Network firewall is enabled to deny traffic to unauthorised ports.
- ✓ Web application firewall is enabled to protect the web application from common attacks identified by Open Web Application Security Project®.
- ✓ End-to-end HTTP traffic is encrypted with TLS 1.2.

## **Third-party Data Transfer and Security Policies**

The Privacy Impact Assessment process undertaken by the independent external audit firm also assessed the security protocols relating to the transfer of data to and from third-party vendors that provide research and translation services within the Hong Kong Legal Cloud.

The security protocols relating to data transfer to and from the relevant third parties were deemed to meet the necessary security requirements.

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## About eBRAM

eBRAM International Online Dispute Resolution Centre Limited (eBRAM) is an independent, not-for-profit entity that tasks itself to elevate Hong Kong's arbitration and mediation services and build capacity to meet the rapidly expanding demand for online dispute resolution and deal-making services across borders. By utilising innovative technologies, eBRAM enables Hong Kong to become a LawTech centre and hub for international business dispute avoidance and resolution, and to collaborate with global organisations and participating economies such as the Asia-Pacific Economic Cooperation (APEC), the Association of Southeast Asian Nations (ASEAN), Belt-and-Road countries and beyond.



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