

# Netrust Internal PKI

## Executive Summary

**Necessity of Internal Enterprise PKI:** The implementation of an Internal Enterprise Public Key Infrastructure (PKI) is increasingly acknowledged as crucial by organisations for securing their digital communications and transactions.



### Challenges in Implementing PKI:

- **Expertise Deficit:** Notable lack of in-depth technical knowledge in PKI setup and management.
- **Scalability:** Difficulties in augmenting PKI solutions to align with organisational growth.
- **Compliance:** Complexities in adhering to evolving regulatory and industry standards.
- **Security Management:** Ensuring robust defences against a range of threats.
- **Operational Reliability:** Maintaining uninterrupted availability and minimising downtime.
- **Cost Constraints:** Addressing budgetary limitations for comprehensive PKI solutions.

### Advantages of Netrust's PKI Solutions:

- **Tailored Solutions:** Catering to diverse organisational needs with fully managed to self-managed options.
- **Expert Support:** Access to specialised knowledge and assistance for all solution types.
- **Scalable Infrastructure:** Solutions that adapt and grow with the organisation.
- **Regulatory Compliance:** Assistance in meeting industry standards and regulations.
- **Enhanced Security:** Advanced security measures tailored to organisational requirements.
- **Operational Efficiency:** Reliable and efficient PKI infrastructures for each deployment model.
- **Cost-Effective Options:** A range of solutions to accommodate various budgetary needs.

# Netrust Solutions for Internal Enterprise PKI

Solution Features	Netrust Hosted & Managed CA	Entrust PKIaaS	Dedicated On-Premise CA
Deployment & Management	Netrust hosted, fully managed	Cloud-based, self-managed	Customer's premise, designed by Netrust
Certificate Issuance	Scalable, automated/manual issuance	Customisable, on-demand issuance	Full control over issuance process
Issuer Identity	Issued by Netrust CA	Issued by customer's chosen CA name	Issued by customer's own CA
Customisation & Control	Standard customisation, high reliability	Moderate customisation, flexible setup	High customisation & control
Security & Compliance	Meets industry standards, IMDA-accredited	Robust security & compliance	Flexible security, full control in compliance
Data Residency	Singapore	Overseas	Full control
Ideal Use Case	Enterprises seeking reliability & simplicity	Organisations needing cost-effective PKI	Large enterprises with specific needs

## Common Use Cases for Internal Enterprise PKI

- 01 Email Encryption:** Ensuring the confidentiality and integrity of email communications
- 02 Document Signing:** Establishing document authenticity and averting unauthorised alterations
- 03 File Encryption:** Protecting sensitive data in files from unauthorised access
- 04 VPN Security:** Securing remote access to enterprise networks, assuring data confidentiality
- 05 Wireless Security:** Enhancing security against unauthorised access in wireless networks
- 06 Windows Logon:** Strengthening user authentication for secure system access
- 07 Mobile Device Security:** Safeguarding mobile devices and their data
- 08 Code Signing:** Assuring the integrity and origin of software code
- 09 Client Authentication:** Authenticating clients accessing servers
- 10 Server Authentication:** Confirming the legitimacy of servers to clients
- 11 Smart Card Authentication:** Implementing secure access via physical tokens
- 12 Secure IoT Communications:** Protecting data exchange in IoT devices

All solutions adhere to PKI best practices, including a multi-tier PKI architecture, offline Root CA, and the utilisation of FIPS-certified Hardware Security Modules (HSMs) for key storage, thus ensuring the utmost security and trustworthiness for internal PKI requirements.

## ABOUT NETRUST

Netrust is Asia's first public Certificate Authority (CA) and Singapore's only commercial IMDA-accredited CA. Established in 1997, it has been providing digital ID certificates widely used for secure authentication, secure VPN, secure email, digital signing and other applications. Private sector companies and Government agencies such as Building and Construction Authority, Singapore Land Authority and Land Transport Authority employ Netrust's PKI solution in their environment to enhance security and convenience, and to safely complete their electronic transactions on the Internet.

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