



## A REVOLUTIONARY STANDARD

Cryptomathic Crypto Service Gateway (CSG) is designed for maximum ease of integration, operation and maintenance, to provide a revolutionary standard of software usability for developers needing to use encryption for data security. The result for your organisation is vastly reduced overheads and time delays for integrating crypto into projects. HSM based crypto can be integrated in weeks rather than months.

CSG achieves this through an innovative API design, which takes away unnecessary configuration and setup tasks from the everyday programmer, and through simplifying management, key provisioning and administration workflows in all areas of the product.

CSG provides client libraries in Java, .NET and C++ for integration, and supports an easy-to-use text representation of the commands called 'Cryptographic Query Language' (CQL) which can be used interactively by developers, testers and services administrators without programming experience, to confirm that the crypto services offered are behaving as expected. The CSG API includes encryption, MACing, digital signature and tokenisation and data security functionality, all of which can be pre-configured with default settings to offer the simplest possible integration experience.

The CSG uses a policy language to abstract away the difficult configuration tasks and compliance decisions that a programmer has to make when using open source crypto APIs such as JCE / 'BouncyCastle' / OpenSSL or when using HSM libraries. Instead the service administrators configure the policy of the CSG to provide a customised crypto experience for each user. The result is the simplest and most straightforward integration experience.

CSG can also optionally abstract away key management compliance tasks such as key rolling or algorithm change (e.g. moving away from SHA1) so that data is tagged with the identity of key and type of crypto used for encryption. This data can then be recovered in future without the need for record keeping by the application about the nature of the crypto. This is known as 'managed encryption'.

Applications or users accessing the CSG service are authenticated to CSG with username and strong password, which means that projects wishing to use cryptography can be issued a development account to a



crypto service based on CSG in a matter of hours or days. This means a OpenSSL or when using HSM libraries. Instead the service administrators configure the policy of the CSG to provide a customised crypto experience for each user. The result is the simplest and most straightforward integration experience.

CSG can also optionally abstract away key management compliance tasks such as key rolling or algorithm change (e.g. moving away from SHA1) so that data is tagged with the identity of key and type of crypto used for encryption. This data can then be recovered in future without the need for record keeping by the application about the nature of the crypto. This is known as 'managed encryption'. Applications or users accessing the CSG service are authenticated to CSG with username and strong password, which means that projects wishing to use cryptography can be issued a development account to a crypto service based on CSG in a matter of hours or days. This means a project can get underway developing with crypto without the usual lead times of procuring, configuring, and installing HSM hardware.

CSG cryptographic keys are managed with Cryptomathic Key Management System, an innovative KMS which uses distributed key management workflows to minimise or eliminate time consuming key management procedures at the back-end for operations teams.

## About Cryptomathic

Cryptomathic is one of the world's leading providers of security solutions to businesses across a wide range of industry sectors, including finance, smart card, digital rights management and government. With over 25 years' experience, Cryptomathic has assisted customers by providing systems for e-banking, PKI initiatives, card personalisation, ePassport, card issuing,

and advanced key management through best-of-breed security software and services. Cryptomathic prides itself on its strong technical expertise and unique market knowledge. Together with its established network of partners, Cryptomathic assists companies around the world with building security from requirement specification to implementation and delivery.

Learn more at [cryptomathic.com](http://cryptomathic.com)