



CRYPTOMATHiC

CRYPTOMATHiC MASC PRODUCT SHEET

Mobile Application Security Core for Android and iOS



Protect the Integrity and Valuable Data of Mobile Apps

MASC is a mobile app security solution based on SDK-and-Server model that protects application integrity, secrets and sessions through layered In-App defenses and policy-driven security controls. It helps financial institutions and regulated providers harden their applications against reverse engineering, tampering and runtime attacks while keeping release velocity high.

MASC Solution was originally developed to protect mobile banking apps in financial services and now also protects mobile payment wallets, cryptocurrency wallets, and public-sector eID wallets.

Key Outcomes

- Reduce tampering and instrumentation attempts through runtime self-protection and integrity checks.
- Shorten discovery-to-patch by pushing policy updates and telemetry-driven rules without major code changes.
- Support compliance efforts for PSD2 SCA, PCI DSS, PCI MPoC, DORA and NIS2 with feature-to-control mappings.
- Provide reliable device and app integrity signals to fraud and risk engines

Core Capabilities



Self-protection at runtime (RASP): debugger and emulator blocking, root and jailbreak detection, hooking and overlay detection, integrity verification.



Secret and asset protection: multilayer obfuscation, white-box cryptography, hardware-backed keystores where available and protection of sensitive assets and libraries.



Secure Storage and Virtual Cores: Provides a secure device bound storage for most sensitive credentials and assets. Virtual Cores allows DevOps and Security team to segregate access to storage.



Network channel hardening: certificate pinning, host allowlisting, OAuth2 support, HTTP Placeholders, Double Encryption, WebSocket and WebView support.



Transaction Signing and Authentication: Core can create secure asymmetric keys for transaction signing and customer authentication flows.



Trusted storage: secure storage of tokens, keys and session cookies gated by PIN or biometrics through platform keystores.

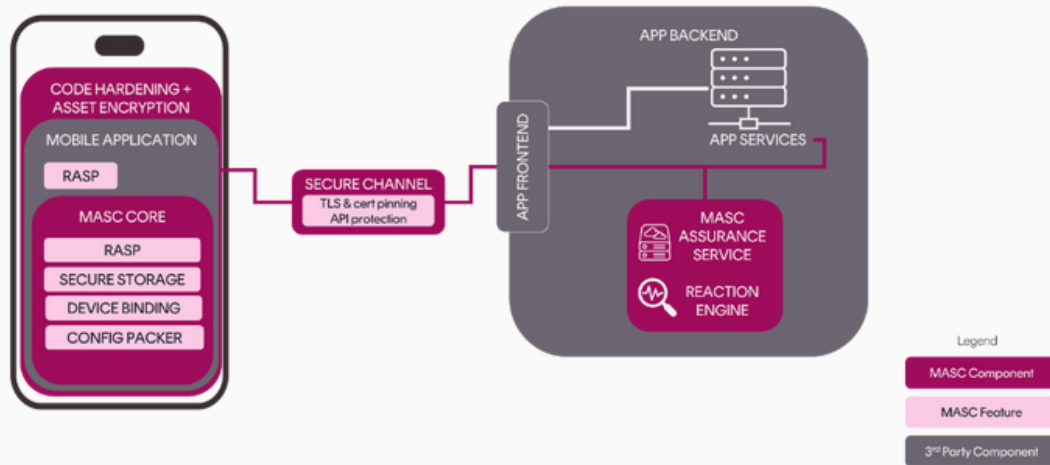


API and client attestation: backend library to verify genuine clients and discard requests from untrusted environments.



Visibility and policy: MASC Solution provides insights for threat visibility and a reaction engine rapid policy updates and enforcement.

CRYPTOMATHIC MASC



Architecture

Cryptomathic MASC (SDK) for Android and iOS embed dynamic and static defenses across multiple layers. A backend component, MASC Assurance, verifies client integrity, receives device health and attack telemetry, and enforces policy responses such as allow, report, block or crash via the Reaction Engine.

Technical Summary

Platforms: Android and iOS

Integration Support: Java, Kotlin, Objective-C, React-Native, Swift, Flutter and Xamarin

Deployment Capability: MASC Core (SDK) and MASC Assurance



Standards Mapping

Detailed mappings available for OWASP MASVS and ENISA Mobile App Security upon request as well as PCI MPoC. Control coverage varies by platform and configuration.

Customer Results

Multinational Bank

Accelerated release cycles by shifting security controls to policy and reducing engineering effort on custom hardening.

Tier 1 European Bank

Multi-year production rollout protecting millions of sessions with app integrity enforcement and secure key access control.

WHO WE ARE



Cryptomathic is a global provider of secure server solutions to businesses across a wide range of industry sectors, including banking, government, technology manufacturing, cloud and mobile. With over 30 years' experience, we provide systems for Authentication & Signing, EMV, Key Management and PKI & ID, through best-of-breed security solutions and services. We pride ourselves on strong technical expertise and unique market knowledge, with two-thirds of employees working in R&D, including an international team of security experts and a number of world-renowned cryptographers. At the leading edge of security provision within its key markets, Cryptomathic closely supports its global customer base with many multinationals as longstanding clients.

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