

Case Study

Duality Enables Cross Border Collaboration to Accelerate the Fight Against Financial Crimes

Mastercard successfully uses Duality's Privacy Protected Data Collaboration Platform to maintain compliance while exchanging sensitive information across jurisdictions.

Mastercard is a global technology leader in the payments industry. Renowned for its commitment to security, Mastercard employs advanced technologies to prevent fraud. Singapore's IMDA created a PET Sandbox to facilitate experimentation by providing a safe space for companies to work with trusted digital solution providers utilizing privacy enhancing technologies (PETs) to develop use cases and pilot projects. Following is a summary of the case study published by the IMDA in November 2023.

The Mission & Challenge: Cross Border Data Collaboration to Fight Financial Fraud

The inability for organizations to effectively collaborate across borders benefits financial criminals by allowing them to out-manuever financial crime fighters.

Working in the IMDA's PET Sandbox, Mastercard and Duality sought to solve this problem, and prove it is possible to enable financial crime collaboration across geographies while complying with all applicable regulations, including:

- financial crimes
- data privacy
- data security
- data localization / cross-border transfers

This case study examines the methodology used to achieve this across four geographies: Singapore, India, the United Kingdom, and the United States.

"Mastercard is helping to develop privacy enhancing technologies with practical applications and benefits for countries, companies, and individuals.

Our collaboration with Duality in the Singapore Government's PETs sandbox was critical to successfully demonstrating how we can safely and securely share financial crime intelligence across borders, with privacy intact."

Jonathan J. Anastasia
Executive Vice President,
Crypto & Security Innovation
Mastercard



Case Study

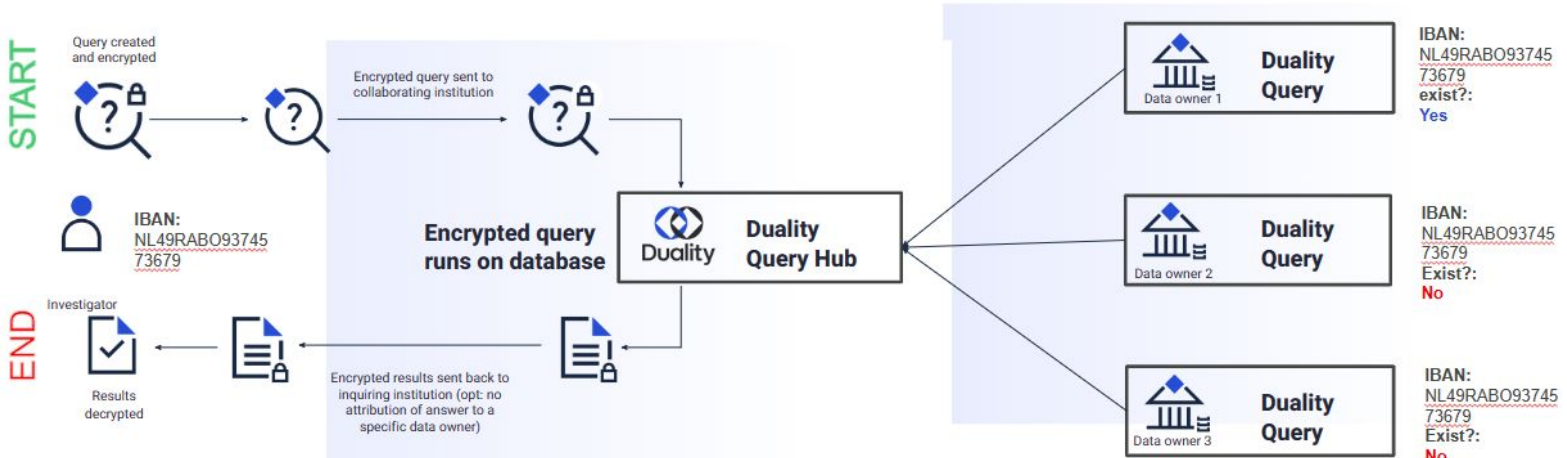
Duality's "Zero Footprint" Solution

By leveraging Duality, Mastercard demonstrated how its entities could exchange data among themselves across each jurisdiction, as well as with third parties (e.g., partner banks). Specifically, different entities asked one another questions around risk indicators associated with International Bank Account Numbers (IBANs).

Duality's Zero Footprint solution uses post-quantum cryptography to enable private and secure cross-border collaboration. By deploying encrypted queries against various datasets, the subjects of the queries are never revealed, and datasets never move.

In this case, Duality ensured the privacy and confidentiality of the IBANs as they were used to ascertain risk information, without having to move sensitive datasets.

Query	Encrypted Predicate
Does IBAN exist in any country?	IBAN
Does IBAN exist in any country with a score greater than a given risk threshold?	IBAN
Is the aggregated transaction value for this IBAN greater than a given value threshold?	IBAN
Is the Account Open Date for this IBAN within a particular number of days?	IBAN



HEADQUARTERS

5 Marine View Plaza
Hoboken NJ 07030

CONTACT US

✉ info@dualitytech.com

in Duality Technologies

🐦 [@Dualitytech](https://twitter.com/Dualitytech)

LEARN MORE







dualitytech.com

Case Study

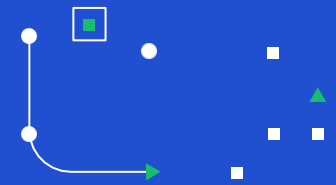
Results: A Proven, Practical Application of Privacy Enhancing Technologies

The IMDA and Mastercard’s legal analysis found that *Duality’s Platform* is a tool that can be used to demonstrate high levels of security as a privacy consideration in Singapore, the United Kingdom, India and the United States - including cross-border transfers, data localization, data privacy, data security, anti-money laundering (AML), and KYC.

-  **Regulatory Compliance Across Jurisdictions**
Collaborate across multiple jurisdictions in compliance with all necessary regulations; internally or among 3rd parties.
-  **Better Quality Insights**
Expanded ability to make business decisions by accessing insights across the world - for financial crimes and beyond.
-  **Faster Decisions**
Deploy queries at scale and receive responses in seconds, rather than weeks or months.
-  **Drive Revenues and Efficiencies**
Enhance existing services and create new offers for employees and customers alike by leveraging privacy enhancing technologies for better insights.

“The use of FHE [fully homomorphic encryption] in the 4 legal jurisdictions considered in this POC has a positive impact in the areas of cross-border data transfers, data localization, and data protection laws.”


Infocomm Media Development Authority




About Duality

Duality Technologies Inc. is a pioneer and leader in developing advanced cryptographic solutions including fully homomorphic encryption, federated analytics, federated learning, and secure computing. Duality’s Privacy Protected Data Platform applies these technologies to empower organizations to collaborate with their business and research ecosystems.

CONTACT US

 info@dualitytech.com

in Duality Technologies

 [@Dualitytech](https://twitter.com/Dualitytech)