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eCurrency chooses Entrust to accelerate its Central Bank Digital Currency (CBDC) solution



Headquartered in Dublin, Ireland, eCurrency is responsible for pioneering a portfolio of solutions that enable central banks to evolve their current paper and coin-based currencies into digital fiat currency.

The eCurrency technology allows central banks to issue their existing currency in a digital format. While today, central banks issue currency in paper and coin form, in the near future, they will also issue that same currency in a digital format. Unlike crypto currencies, which may fluctuate based on supply and demand, or may be manipulated to approximate the value of a specific currency, digital fiat currency issued by a central bank using the eCurrency technology is the currency of the country. For example, a US Dollar is a US Dollar whether it is a dollar bill, a dollar coin, or, in the future, a digital Dollar issued by the US Treasury.

BUSINESS CHALLENGE

The combined values of fiat currencies active around the world are staggering. Although continually impacted by the dramatic rise in online transactions, it was estimated that even in 2017, the United States alone had more than 1.5 trillion dollars of banknotes and coins in circulation.

« **As the eCurrency technology helps central banks transform from paper-based to digital currencies, Entrust is playing an essential role in ensuring our technology provides the necessary security at scale.** »

- Mitch Cohen, chief security officer, eCurrency

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Transitioning to a secured CBDC has the potential to surpass these volumes, and simultaneously make any form of security breach or compromise an utterly unthinkable, devastating occurrence that would have massive global consequences.

Mitch Cohen, chief security officer for eCurrency, commented, “The security of the eCurrency technology must be second to none. While every part of the system has been designed and built specifically for the security demands of Central Bank Digital Currency, the many cryptographic keys and processes are the most critical. Because of their hardened, tamper-resistant environment, these can only be handled with hardware security modules (HSMs). In addition to our specific performance and functionality requirements, we also require these HSMs be certified at the highest possible levels by a recognized standards body or agency – such as NIST and ISO.”

TECHNICAL CHALLENGE

A fundamental design strategy for the eCurrency security team has been the consistent use of cryptography across the entire infrastructure. The technology ensures that all CBDC is protected by the highest levels of cryptography available.

To implement cryptography across its multi-tiered architecture, eCurrency makes extensive use of HSMs. The critical need for robust security and the inevitability of dramatically escalating numbers of transactions dictates each HSM must be both secure and able to handle the anticipated traffic.

Ricardo Pichardo, eCurrency security architect, described, “Although transaction volume was an important factor, in addition to the throughput characteristics, we also looked closely at reliability, and compliance with key industry and government standards.”

SOLUTION

Having conducted stringent due diligence, the eCurrency team selected Entrust nShield® HSMs to fulfill the higher intensity online key management and cryptographic duties. “I have worked with Entrust solutions for over two decades,” explained Pichardo. “The Entrust nShield HSMs are completely reliable: They just work! The HSMs fulfilled all of our performance and dependability requirements.”

The Entrust nShield HSM offers a hardened, tamper-resistant environment in multiple FIPS 140-2 certified form factors. The embedded PCI-Express cards – nShield Solo HSMs – deliver secure key generation, coupled with some of the highest cryptographic transaction rates in the industry.

BENEFITS

eCurrency is setting the standards for Central Bank Digital Currency and partnering with central banks around the world, working on projects that will enable countries to evolve their national currencies efficiently and securely.

Cohen concluded, “Security is the essence of our solution. It means everything to our company, everything to our customers and everything to each economy as it moves to the digital future of currency.”



KEEPING PACE WITH TODAY'S DIGITAL WORLD

Business need

- Architect security strategy utilized best-in-class components
- Implement solutions compliant with highest industry and government standards

Technology need

- Key selection criteria for HSM included: Flawless security, scalability, reliability and performance

Solution

- Entrust nShield HSMs series

Result

- 'Out of the box' compliance with top-level NIST and ISO security standards
- Massive transaction throughput capabilities
- Field-tested reliability

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ABOUT ENTRUST

Entrust keeps the world moving safely by enabling trusted identities, payments and data protection. Today more than ever, people demand seamless, secure experiences, whether they're crossing borders, making a purchase, accessing e-government services or logging into corporate networks. Entrust offers an unmatched breadth of digital security and credential issuance solutions at the very heart of all these interactions. With more than 2,500 colleagues, a network of global partners, and customers in over 150 countries, it's no wonder the world's most entrusted organizations trust us.



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