



## BALANCE INNOVATION HIGHLIGHT



### COMPANY OVERVIEW

Balance is a Canadian digital asset custodian which powers financial services companies such as over-the-counter trading desks, exchanges, lenders, and ATM networks. The assets are kept secure on specialized hardware, kept fully offline in geographically distributed bank grade vaults that are access controlled, monitored, and guarded 24/7.

**LOCATION:** TORONTO, ON

### TECHNOLOGY



### Data Centre and Cloud



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### DIGITAL ASSET THEFT

Over \$10 billion worth of digital assets were stolen from exchanges and trading platforms over the past few years. As Bitcoin and similar digital assets become increasingly popular, it's important to have an institutional grade solution available for storing them, similar to storing your money at a local bank.

### SECURING YOUR CRYPTOCURRENCY FROM HARM

To help platform operators prevent these kinds of losses, Balance developed Balance Custody, a vaulted, offline storage system for securing digital assets against both internal and external threats, including hacking, theft, computer and telephone fraud, misuse of access, and more. The private key material controlling the assets is generated and managed on specialized, dedicated hardware throughout the lifecycle of the keys.

### DETERMINING BALANCE CUSTODY'S OPTIMAL RPMs

Balance carried out a CENG project to determine their platform's maximum throughput measured in requests per minute (RPM) for performing certain operations such as refreshing wallet balances or parsing raw blockchain data for discovering transactions. Balance validated their ability to build transaction caches and computing wallet balances for potentially hundreds of custody clients with hundreds of thousands of wallets each, while also identifying a few areas for improvement. Finally, Balance successfully tested their client-facing web application under heavy backend system load, observing no noticeable degradation in performance.

**"CENG helped us  
identity ways to  
improve the wallet  
balance checking  
and transaction  
discovery routines,  
dramatically  
reducing execution  
time from  
seconds to tens of  
milliseconds."**

**George Bordianu**

CEO, Balance

