



Business challenge

As digital asset technology enters the mainstream, start-up DACS recognized a gap in the market. It began developing a platform that gives users both secure and easy access to digital assets.

Transformation

DACS engaged IBM to jointly build a trusted execution environment for digital asset transactions, based on IBM® Secure Service Container and IBM LinuxONE technologies.



Brad Chun,
Chairman and Chief
Investment Officer,
Shuttle Holdings

Business benefits:

Protects

customers' digital assets from theft with beyond-bank-grade security

Facilitates

higher trading volumes by enabling near-instant access to digital assets

Accelerates

development of the DACS platform, enabling access to markets worth more than USD100m

Digital Asset Custody Services (DACCS)

Powering the booming smart-contracts market with fast, secure access to digital assets

Digital Asset Custody Services (DACCS) is a digital asset management solution provider. It combines the highest levels of certified security for safeguarding multiple asset classes with best-of-breed lifecycle management services.

"We're teaming up with IBM to take the DACS platform to market fast, opening up an entirely new value proposition for both of our organizations worldwide."

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Spearheading a new era for finance

Smart contract and digital asset technology promise to revolutionize value transfer across many industries. From banking to government, healthcare to utilities, the hype is turning into real business value, and digital asset transactions are rising fast. Institutional investors, crypto funds, exchanges, token projects, banks, corporations, high net-worth individuals and wealth managers have started using digital assets for lending, depository, escrow and payments services, and crypto-specific applications such as token redemption are emerging.

To unlock the full transformative potential of these new technologies, corporations and individuals need to be able to store and transfer assets securely. Start-up Digital Asset Custody Services (DACs) recognized a gap in the market for a trusted environment for digital asset transactions.

Brad Chun, Chairman and Chief Investment Officer at Shuttle Holdings, picks up the story: “In just a few years, the crypto asset market has grown from nothing to hundreds of millions of dollars of value, and this is just the beginning. The market expanded so quickly that development of the underlying infrastructure has failed to keep up, and we’ve seen the consequences, with billions of dollars of digital assets stolen in 2018 alone.”



Existing solutions tend to force people to choose between either security or convenience. For example, cold storage options generate and store assets in an offline environment. While this approach protects assets from cyber attackers, it slows down transactions. On the other hand, relying on exchanges or third-party wallets to manage digital assets means trusting that providers will safeguard them adequately, and that there won't be any interruptions to their services.

“When I launched a hedge fund to trade digital assets, I quickly discovered that there weren't any digital asset custody solutions that delivered on both security and accessibility,” recalls Chun. “As these technologies become embedded in our lives and work, it's critical that we remove barriers to transactions. We began looking for the right partner to help us capitalize on this opportunity.”

Breaking new ground

DACS engaged IBM to help it build a full-suite digital asset servicing platform for enterprise businesses, designed to scale alongside clients' needs. To develop innovative security capabilities, DACS and IBM set up a joint research team.



“IBM specializes in non-stop availability for high-transaction environments, so we knew that they could help us deliver true 24/7 accessibility,” says Chun. “Once we discovered that IBM is pushing the boundaries of pervasive encryption, we realized that we could also take advantage of that expertise to bring something totally new to market.”

Together, DACS and IBM created the DACS platform, hosted on [IBM LinuxONE servers](#) running [Ubuntu Linux](#). IBM provided global resources to ensure that the proof of concept for the new solutions was a success. Chun adds: “IBM truly made their entire team available to us—we had daily calls with their inventors. We were worried that working with such a large organization couldn’t work with a lean start-up like us, but IBM impressed us with their agility and responsiveness.”

Featuring IBM Crypto Express 6S Hardware Security Module cards, the IBM LinuxONE servers enable pervasive encryption of all application data in-flight and at-rest. They run [IBM Secure Service Container](#) software, a solution that provides a secure computing environment for highly sensitive data. Customers can choose to deploy the solution on-premises, in a private cloud environment or as a service.

“Choosing IBM LinuxONE with IBM Crypto Express gives us the highest-rated hardware security module available today,” comments Chun. “IBM Secure Service Container is a critical part of the DACS platform, as it allows us to run our entire application stack within a secure, encrypted enclave. The only competing option that gets close to that level of security accommodates much less memory—with IBM Secure Service Container, we didn’t have to limit our vision.”

Seizing opportunities

Working with IBM, DACS created a first-of-its-kind trusted environment for digital asset transactions, which offers users fast, easy access without compromising on security. By removing barriers to accessibility, DACS will empower customers to trade digital assets with confidence. Chun says: “Using our platform, whether deployed on-premises or in the cloud, customers gain near-instant access to their digital assets. This is much faster than the lead time of 24 hours or more you get with cold storage options.”

Building on IBM LinuxONE and IBM cryptocards, DACS differentiates its platform by providing end-to-end security for digital assets. Private keys are encrypted in flight and at rest, safeguarding them against theft or compromise.

“For DACS, the on-premise pervasive encryption capabilities offered by IBM LinuxONE was a key differentiator in choosing IBM as the most secure platform for our offering,” comments Chun. “In digital asset markets, failure to protect assets poses an existential risk: get it wrong, and it could bankrupt you. Using the enterprise capabilities of the IBM LinuxONE platform, we created a system whereby both internal and external single points of failure are mitigated. The DACS solution on IBM LinuxONE is designed to trust no one; not even yourself.”

DACS is poised to take the market by storm with its new platform. With help from IBM, the start-up accelerated development timelines and tapped into a growing opportunity ahead of competitors.

Chun concludes: “As adoption of crypto custody, exchange and blockchain-as-a-service increases, our potential market will only expand. We’re teaming up with IBM to take the DACS platform to market fast, opening up an entirely new value proposition for both of our organizations worldwide.”

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Solution components

- IBM® Secure Service Container for IBM Cloud Private
- IBM LinuxONE
- Ubuntu Linux

Take the next step

To learn more about IBM LinuxONE solutions, please contact your IBM representative or IBM Business Partner, or visit the following website: ibm.com/linuxone

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