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Bermuda's cutting edge in crypto a reprisal of wartime legacy

Bourn Collier, The Fintech Column

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Fintech columnist, Bourn Collier, is senior corporate counsel at BeesMont Law Limited (Photograph supplied)

Have you ever noticed when viewing or sharing a media file on platforms such as YouTube or Instagram that the html address includes a random string of letters and numbers?

For example, a recent YouTube short video of Gombey dancers at Harbour Nights in Hamilton includes the string "Nsr8Z0uqR60". (You can even search for it in Google.)

It is the same with advertisement links next to this article on *The Royal Gazette* website, as well as online shopping, online banking, travel booking websites and the website of the Bermuda Registrar of Companies.

Why "Nsr8Z0uqR60"?

The random string of digits is a hash; the result of a secure algorithm. Algorithms (sets of mathematical equations) are used to encrypt data and they form part of the backbone of online data storage and securing passwords online.

Not only passwords, though, but also digital representations (or stores) of value.

Lessons from wartime

During the Second World War, Bermuda played a key role as the home of the Imperial Censorship Station, operating out of the Hamilton Princess Hotel, which was set up by Sir William Stephenson — code name Intrepid and the supposed inspiration for James Bond.

At its height, hundreds of British censors worked at the station, many of whom were women — and their ranks included two cryptographers (code specialists).

The job of the censors was not only to intercept and censor all postal, telegraph and radio traffic between the United States (and western hemisphere) and Europe during wartime, but also to use advanced techniques to break into letters and packages to plant forgeries, to decode messages and, it turned out, to gather information about enemy spies.

Methods included using chemical reagents to discover invisible ink and seizing contraband currency and diamonds included in packages.

Bermuda also hosted and hid a German submarine (U-boat 505) that was captured in the Atlantic in 1944, which was valued for its Enigma code machine and codebooks.

The Allies used the recovered Enigma machine and codebooks to decode German encrypted messages and track German submarines in the Atlantic — ultimately helping the Allies to win the war.

Ironically, hosting encryption services is one way to characterise a nascent sector developed in Bermuda — digital asset businesses.

But how can the record of encrypted information have an intrinsic value? And what are so-called "digital assets"?

Spotting the rapid growth of cryptocurrency in the late 2010s and expecting the growth of the digital asset ecosystem — and accompanying service providers — the Bermuda Government sensed the need to engage with this new technology and to adapt its high standard of regulation from other parts of the financial services sector.

After a successful engagement with stakeholders at the World Economic Forum in Davos, Switzerland, in 2017, Bermuda passed the Digital Asset Business Act in 2018, followed by the Digital Asset Issuance Act in 2020 for digital asset fundraising — some of the earliest and most comprehensive legislation of its type in the world.

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Since the introduction of legislation, Bermuda has attracted a significant number of the biggest and most reputable digital asset businesses to be licensed under DABA, now part of a diverse ecosystem serving domestic and international customers — with a lot of business for the island's service providers in support.

One of the key definitions in DABA is of a "digital asset", which includes certain types of "digital representations of value" — think stablecoins which represent a claim on holdings of fiat currency or cryptocurrencies for which there are exchanges that can facilitate trades for valuable assets.

But how can encryptions and hash values be a digital representation of value?

In short, in addition to the proliferation of high-powered computing, there are two key developments.

First, from the 1970s, "asymmetric encryption" — algorithms that produce separate encryption and decryption keys — which are more secure and can be decentralised. (In contrast, the Second World War Enigma system was "symmetric", meaning decryption was centralised and followed the same process as encryption, which was less secure.)

Second, the use of network protocols which can agree a single record — "consensus mechanisms." (Think, file sharing.)

With these two innovations, digital asset systems can independently produce an agreed record of encryptions (of assets and transactions) — which can be used to track and record value — and give encrypted records value as "digital assets".

As in the past century, Bermuda stands at the crossroads of technological innovation and is well positioned to benefit with an informed, prudent approach.

• *Bourn Collier is a lawyer specialising in digital asset business at BeesMont Law*

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