Blockchain-type tech could play a defense system role

October 13 2016, by Nancy Owano

(Tech Xplore)—Blockchain technology is no longer in the sole confines of digital currency. *NewsBTC*, a Bitcoin news service, said that the US Defense Department is to explore blockchain technology to help secure nuclear systems.

Huh? what's a digital currency technology doing in the halls of the Department of [Defense](#)?

It may play a role in making defense systems hacker-proof. The report said DARPA, the research unit of the US Department of Defense, is funding the research. They are looking into the adoption of [blockchain technology](#) "for securing highly sensitive data," *NewsBTC* said.

Participating in this effort is a computer security firm which is to

perform a code audit on defense systems using Guardtime's blockchain-based technology. That firm is Galois.

Quartz said the contract is to the tune of $1.8 million. The assignment is "a sort of computer-code audit, using mathematics—a particular type of blockchain tech supplied by a company called Guardtime."

Quartz further explained that the case for using a blockchain "boils down to a concept in computer security known as 'information integrity.' That's basically being able to track when a system or piece of data has been viewed or modified."

Joon Ian Wong, technology reporter, shared this analogy, from DARPA's program manager behind the blockchain effort, Timothy Booher: "Instead of trying to make the walls of a castle as tall as possible to prevent an intruder from getting in, it's more important to know if anyone has been inside the castle, and what they're doing there."

With blockchains, intruders would be unable to cover their tracks. "In DARPA's case, blockchain tech could offer crucial intelligence on whether a hacker has modified something in a [database](#), or whether they're surveilling a particular military system."

What's next? "If the verification goes well, it would inch DARPA closer to using some form of blockchain technology for the military," according to the *Quartz* report.

Kyle Mizokami, who writes about defense and security issues, made the point in *Popular Mechanics* that in an instance of unauthorized access, any change would be automatically passed to authorized users. "Did any of them make the change? If yes, great, the new data is accepted by everyone. If not, the data is rejected."

At its most basic, he said, a blockchain is a decentralized ledger that keeps track of data in a database or network. It attaches a unique, persistent code ("block") to the asset guarded. Each time it is viewed or altered, the authorized users with access to the asset receive new blocks that update it. "Each block is chained to another block, thus 'blockchain.' This tech helps Bitcoin and other virtual currencies maintain integrity across worldwide networks."

The news is yet another example of blockchain technology becoming a focal point of interest beyond Bitcoin. *Nasdaq.com* last month said, "Bitcoin has provided technology to address the problem of transparency in the financial world. This is accomplished by utilizing a blockchain, a global consensus record of all transactions. Although mostly applied to Bitcoin right now, blockchain has applications in the financial world."

Also, last month, said *TechWeekEurope*, "IBM revealed the growing momentum behind blockchain technology." According to the article, commercial blockchain solutions are being rapidly adopted throughout the banking and financial markets, found two of its studies.

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