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## Blockchains Unlocked to Boost IoT Interoperability

August 26, 2016 by George Leopold



In a step towards greater interoperability for the Internet of Things, a Bay Area company has launched a platform that allows chipmakers to register Bluetooth and other network-enabled chips on a public blockchain.

The registry is intended to store the digital identity of physical items, initially consumer goods and collectible items embedded with Bluetooth and near-field communication (NFC) chips,

Chronicle Inc. said this week. The San Francisco-based company said it has so far deployed about 10,000 tamper-proof chips on the [Ethereum](#) blockchain application platform.

Ethereum, spearheaded by a Swiss nonprofit foundation, is described as a decentralized platform "that can move value around and represent the ownership of property." Blockchains allow users to create a network node that "replicates the necessary data for all nodes to reach an agreement and be compensated by users and app developers," the group said.

Interoperability is seen as a stumbling block to future growth of the consumer IoT market. One reason is that IoT chips are frequently registered to private databases, creating what chipmakers consider distinct networks that can't communicate with one another. Registration and verification of chips on a public blockchain, a kind of operating system for secure transactions, promotes interoperability while providing a building block for IoT application developers, proponents say.

"Chip companies, physical IP creators and brands can now register and verify their [Bluetooth] and NFC chips on a public blockchain," Chronicle CEO Ryan Orr noted in a statement. "These tamper-proof chips can be ordered today and are already being deployed in consumer goods."

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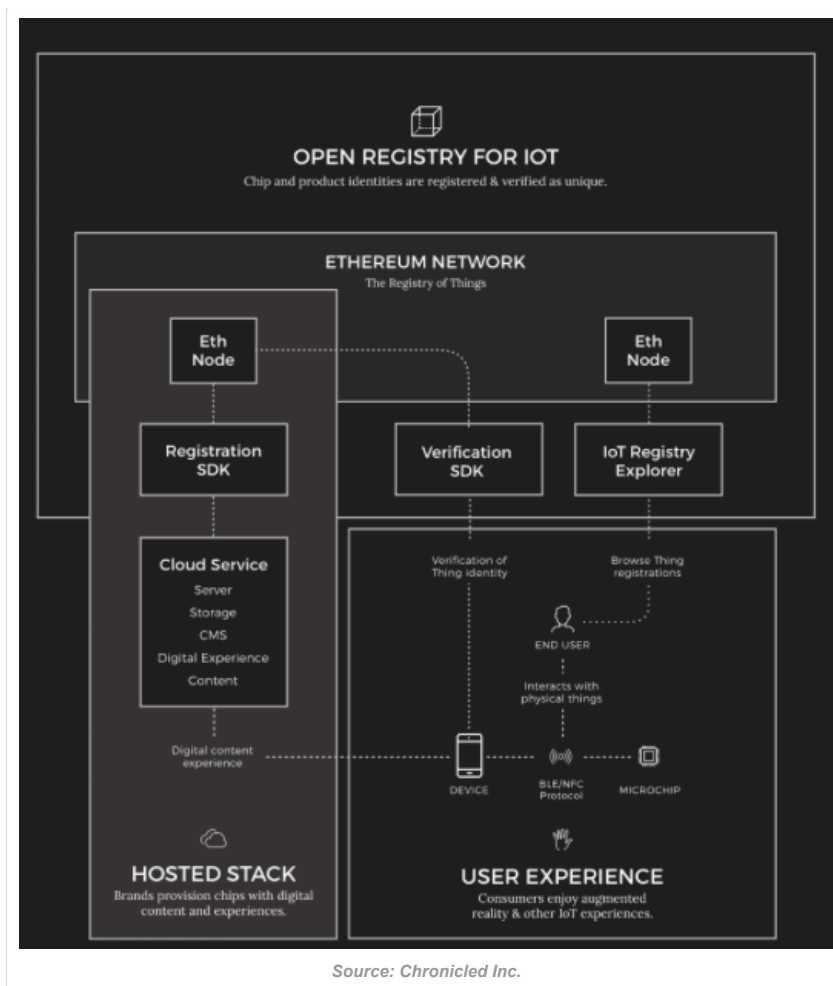
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The open source approach allows IoT developers to register chips to the blockchain and then link those chips with physical products. With that as a starting point, developers can build apps with, for example, smartphone scan and authentication functionality, Chronicle said.

[Blockchain technology](#) is being widely adopted in the financial sector for secure transactions based on [distributed ledger technology](#). With forecasts of billions of IoT chips being shipped over the next several years, the open registry for IoT could grow into one of the largest use cases outside of the financial sector, proponents asserted.

In one example of how Bluetooth and NFC functionality is being combined with IoT deployments and emerging blockchain technology, Chronicle cited the ability of an artist to sign a painting with a digital chip. The buyer could use a smartphone to verify the painting's authenticity and "securely buy, insure, collateralize or transfer ownership of the artwork."

Such a capability would have proved useful in a recent [legal dispute](#) over the authenticity of a painting.

Chronicle said it is currently collaborating with a number of technology partners including Ambisafe, Blue Bite, Cellotape, Identiv, Origin Labs, Silicon Labs, SmartTrac and Viper Design.

The IoT blockchain project also has been released to the open source community under an Apache license. Starter kits, software development kits and an Open Registry Explorer are available [here](#).

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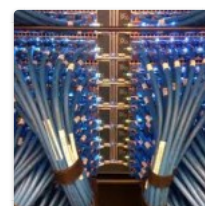
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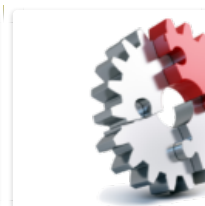
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George Leopold has written about science and technology for more than 25 years, focusing on electronics and aerospace technology. He previously served as Executive Editor for Electronic Engineering Times.

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