

Innovations Using Blockchain—Part 2

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■ **AS GUEST EDITORS**, we were pleasantly surprised with how many good submissions we received on the topic of *Innovations Using Blockchain* from *IT Pro's* Call for Papers. Therefore, we needed to turn this topic into a two-part series. Part 1 of this series occurred in the July/August 2019 issue. This issue contains the remaining four accepted papers.

We should be careful to caution that not all readers and professionals yet consider blockchain to be a panacea. A few do, but we suspect that is a small minority. In the September 2019 issue of *IEEE Computer*, a virtual roundtable of experts debated the topic of “Taking Score on Blockchain Successes, So far.” With the exception of the application of blockchain to supply-chains, there was not much agreement between the roundtable experts that blockchain has achieved many notable successes. Most seemed to feel that blockchain has far to go to be understood and become a mainstream technology. We recommend that readers of this issue look for that article in *Computer*.

IN THIS ISSUE

The four articles for the second part of this special issue of *IT Professional* cover topics identified as emerging trends and innovations in blockchain include the following:

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1. In “Towards a Blockchain-Enabled Crowdsourcing Platform,” Dimitrios Kogias, Helen-Catherine Leligou, Michael Xevgenis, Maria Polychronaki, Evangelos Katsadourous, George Loukas, and Ryan Heartfield investigate the benefits that the adoption of blockchain technology can bring in crowdsourcing systems. They provide examples of real-life crowdsourcing use cases and explore the benefits of using blockchain, mainly as a database.
2. In “The Convergence of IoE and Blockchain: Security Challenges,” Chengnian Long, Lijun Wei, Jing Wu, and Yi-Bing Lin detail the security vulnerabilities in the convergence of blockchain and IoT. Despite that the blockchain technology ideally enhances the reliability and security of IoT systems, emerging new security challenges remain to be resolved. They presented a feasible prototype for Internet of Everything (IoE); blockchain can provide strong support with its excellent characteristics such as traceability and openness to build a large-scale distributed Internet of Things.
3. In “Research on Smart Contract Optimization Method on Blockchain,” Zhipeng Fan, Wen Hu, and Ye Gao, the deployment and implementation of smart contracts in Ethernet will consume some gas, which will directly affect the cost of smart contracts. The authors proposed an optimization algorithm which can save 15% Gas on average for business processes with multiple fusion tasks.

4. In “Implementing Smart Contracts in the Syndicated Loan Market: An Issue of Adoption,” Merike Malan and Adriana Steyn examine the trust model, trust in technology drivers, and the revised UTAUT model to construct the Trust and Adoption of Technology Model. This article culminates in guidelines for the implementation of smart contracts. Avenues for future work include investigation of a multimotive Information Systems acceptance model.

SUMMARY

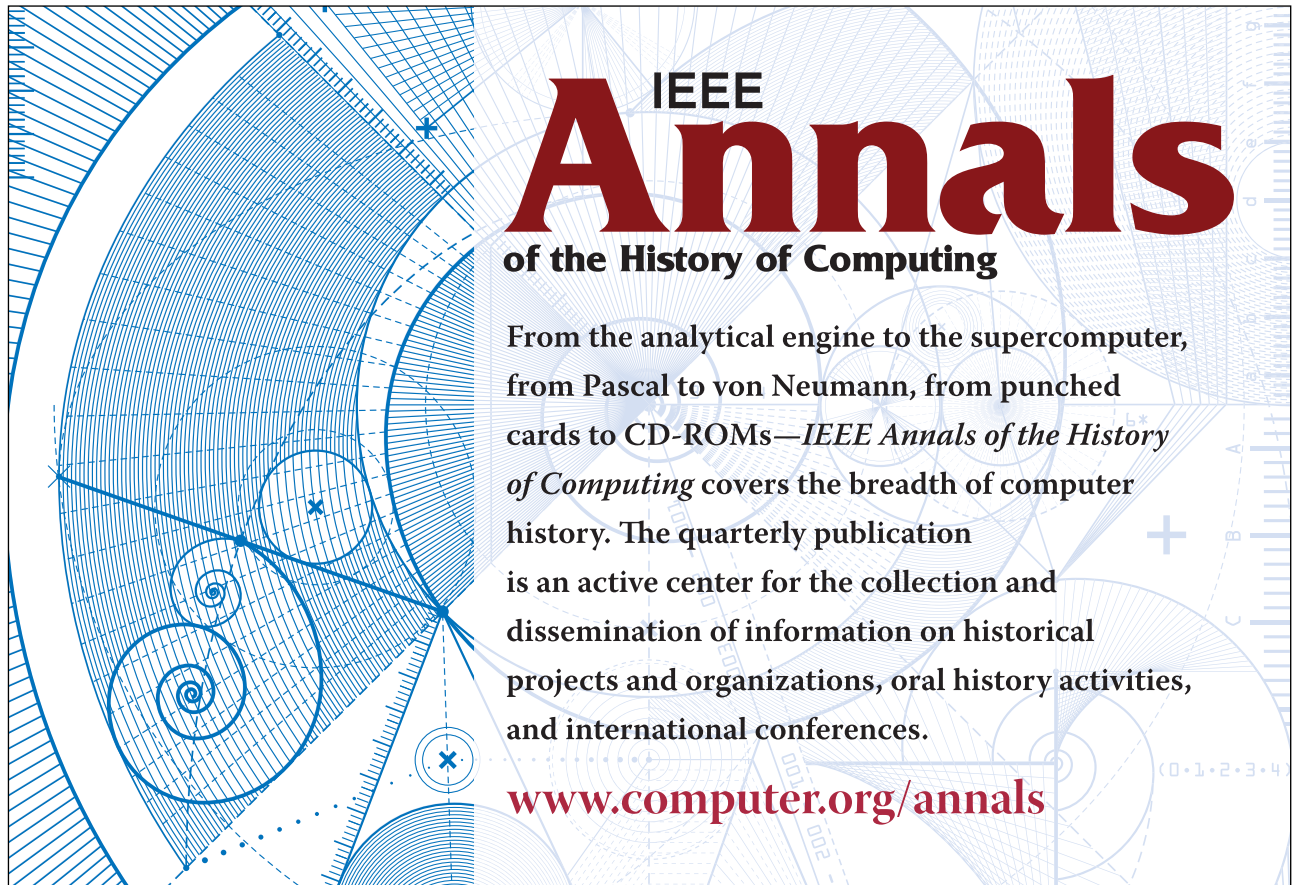
These two back-to-back issues have hopefully given *IT Pro* readers a sense of where blockchain and distributed ledger technology stands today. To become more applicable, it will need to become faster, easier to implement, and as we said in Part 1, it will need to be trustworthy. Without all three of these, its future is unclear.

DISCLAIMER

The guest editors are completely responsible for the content in this paper. The opinions expressed are their own.

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The graphic features a complex background of blue technical drawings, including a large spiral, various geometric shapes, and grid patterns. The text is overlaid on this background.

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