f. Preface

return to Front Matter

The Distributed Immutable Data Objects (DIDO) Reference Architecture (RA) is meant to be used as a resource to guide the design, use, or selection of blkchn, Distributed Ledger Technology (DLT), or other Distributed Computing solutions such as InterPlanetary File System (IPFS) and Data Distribution Service (DDS).

The purpose of DIDO RA 1.0 was to create a better understanding of the Blockchain and DLT, which were exploding in the Information Technology (IT) world after the publication of Satoshi Nakamoto's paper "Bitcoin: A Peer-to-Peer Electronic Cash System"[1] and the subsequent success of the Bitcoin. Since the publication of Nakamoto's paper, this excitement has grown way beyond the original Bitcoin. It has led to the promise/emergence of many other new cryptocurrencies, as well as the application of the well known and established concepts of distributed, peer-to-peer applications to supply chains, the Industrial Internet of Things (IIoT), natural resources, environmental sciences, and even the monetization of data.

In DIDO RA 2.0, the goal is to focus less on cryptocurrencies and more on generalizing peer-to-peer, distributed computing. As a parallel effort to the publication of DIDO RA 2.0, several products have been developed to work in parallel with and complement this paper:

- **DIDO Data Model (DIDO-DM)**: captures the conceptual data constructs described in the DIDO-RA including the Community of Interest (CoI) and testing.
- **DIDO Testing Environment (DIDO-TE)**: creates an environment that allows for virtualized testing of a Distributed Application (DApp) before it can be released into the "wild" using real hardware and networks.
- **DIDO Command Line Interface (CLI)**: defines a high level command language with which to send commands to each node covering the configuration, definition, and manipulation of data on distributed nodes.
- **DIDO Reference Implementation (DIDO-RI)**: provides a working interface to the DIDO-DM, DIDO-TE and DIDO-CLI.

A Special Thanks. This work would not have been possible without the efforts of:
• Peter Denno, Computer Scientist, National Institute of Standards and Technology (NIST), Engineering Laboratory, 100 Bureau Drive, Gaithersburg, MD 20899

- ☐ **[char, nick]Need to update for 2.0 -- keep the paragraph for 2.0 but change to past tense, add a paragraph for 3.0**

1)
S. Nakamoto, "Bitcoin: A Peer-to-Peer Electronic Cash System," 24 May 2009. [Online]. Available: https://bitcoin.org/bitcoin.pdf.

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