Message from the BDL Chair & Vice Chair

2021 was a very important year for BDL, one in which our standard committee prepare itself for the next major step in its journey. At the same time, as we looked at ways to meet future challenges, we didn’t slacken the pace for a minute.

For an organization to succeed, it must align behind common goals. At the IEEE C/BDL, we have a clear purpose – to manages the development of standards within the area of blockchains and distributed ledgers, the development and implementation of blockchains and distributed ledger systems, and for applications of blockchains and distributed ledgers to specific sectors, industries, and processes. Our standards together with conformity assessment provide the method to achieve this mission. On the occasion, we would like to take you through some of the year’s achievements of which we are most proud.

In 2021, we continued to meet, and even surpass, expectations. For example, we published IEEE 2418.7-2021, and we have 21 standards under development. You can find out more about these and other standardizing successes in this report.

At a time when we are experiencing an unprecedented global health crisis, many challenges stand ahead of us. We are proud to be a part of the IEEE C/BDL as we are adapting to the future on this journey, and we know that, together, we are on our way to create the digital world by blockchain.

Ming Li, Chair of BDL
Yu Du, Vice Chair of BDL
1 Honors Academic Advisor

4 Subcommittees

20 Working Groups

11 Members of Technical Board, who are responsible for strategic development planning and consulting

18 Average Voting Members for each Working Groups

18 Members of Advisory Board, who are responsible for technical reviewing on standard content

4 Secretaries

1 Treasure

40+ Entities as BDL Contributors, listed here below by category.

### Advisory Board
- Susan Corbisiero, Australian Trade and Investment Commission
- Hock Lai Chia, Singapore FinTech Association

### Executive Board
- Bin Li, Webank
- Danny Deng, Gongyilian
- Fangwei He, Zhongke Fuyun
- Fred Du, Bytom
- Han Hao, Annie
- Haobo Ma, Hoopox
- Hongfei Da, Distributed Technologies
- Jose Antonio Costa, Nokia
- Tiancheng Liu, Easy Visible Sky Tree
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- Wenpeng Song, Zhongan
- Xiaojun Zhang, Huawei
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- Yuming Yuan, Hainan Huochain Technology Co., Ltd
- Zhoudong Ji, Goldfield capital Ltd
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### Technical Board
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- Yi Sun, Institute of Computing
- Phil Lau, Map Protocol
- Alison Holt, FIITP, FBCS
- Haishui Yan, Aurora IT Group
- Kyeong Hee Oh, TCA Services
- Weilun Lao, China Southern Power Grid Guangzhou Power Supply Bureau

Honors Academic Advisor: Jifeng He, Academician of Chinese Academy of Sciences, East China Normal University
IEEE BDL STANDARDS AT A GLANCE

ACTIVE PROJECTS OF WORK OF BDL

21

THE BREAKDOWN WAS AS FOLLOWS:

2 PROJECTS AT PUBLIC BALLOT STAGE
19 PROJECTS WORKING GROUP DRAFTS

RECORD NUMBER PUBLISHED IN 2021

1

THIS OUTPUT REPRESENTS A TOTAL OF 23 PAGES

IEEE BDL STANDARDS BY TECHNICAL SECTOR

23.5% TECHNICAL
17.6% INTEROPERABILITY
17.6% SERVICE
17.6% ASSET
6% APPLICATION
6% DATA
11.7% OTHERS
The smooth development of IEEE C/BDL 2021 cannot be separated from all member's strong support. We will continue to make efforts on making all working groups voices heard in 2022 and beyond.

1 IEEE 2418.2-2020 IEEE Standard Data Format for Blockchain Systems
2 IEEE 2418.7-2021 IEEE Standard for the Use of Blockchain in Supply Chain Finance
3 P3201 Standard for Blockchain Access Control
4 P3202 Standard for Capability Evaluation Requirements of Blockchain Practitioners
5 P3203 Standard for Blockchain Interoperability Naming Protocol
6 P3204 Standard for Blockchain Interoperability - Cross Chain Transaction Consistency Protocol
7 P3205 Standard for Blockchain Interoperability - Data Authentication and Communication Protocol
8 P3206 Standard for Blockchain-based Digital Asset Classification
9 P3207 Standard for Blockchain-based Digital Asset Identification
10 P3208 Standard for Blockchain-based Digital Asset Exchange Model
11 P3209 Standard for Blockchain Identity Key Management
12 P3210 Standard for Blockchain-based Digital Identity System Framework
13 P3211 Standard for Blockchain-based Electronic Evidence Interface Specification
14 P3212 Standard for Blockchain System Governance Specification
15 P3214 Standard for Testing Specification of Blockchain Systems
16 P3215 Standard for Consensus Framework for Blockchain System
17 P3216 Standard for Blockchain Service Capability Evaluation
18 P3217 Standard for Application Interface Specification for Blockchain Systems
19 P3218 Standard for Using Blockchain for Carbon Trading Applications
20 P3219 Standard for Blockchain-based Zero-Trust Framework for Internet of Things (IoT)
21 P3220 Guide for the Application of Non-Fungible Token (NFT) Based Digital Asset
22 P3222 Standard for the Reference Architecture of Blockchain as a Service
23 P3223 Standard for the Reference Architecture of Blockchain Fusion Serve
The 2418.7-2021 IEEE Standard for the Use of Blockchain in Supply Chain Finance defines a baseline architectural framework and defines functional roles for blockchain-driven supply chain finance (SCF) implementations based on the account payable, e.g., core enterprise, supplier, bank, blockchain platform provider and so on. In addition, this standard outlines use cases and business flows for SCF based on blockchain, and specifies the functional implementation and security requirements.

This standard provides a foundation for the blockchain implementation solutions within supply chain finance through which all traditional supply chain finance stakeholders especially small and medium enterprises can benefit from the transparent, efficient, accurate, decentralized, and secure architecture.
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<thead>
<tr>
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BDL PLENARY IN SU ZHOU

— Special Thanks to Wanxiang Blockchain for sponsorship with the conference.
2021 IEEE Technology Seminar on Blockchain and Distributed Ledger Technology for Carbon Trading

10th September 2021
AT 7PM BEIJING TIME

2021 IEEE Technology Seminar on Blockchain and Distributed Ledger Technology for Carbon Trading

Dr. Victoria Wang
China Strategic Lead, IEEE Standards Association

Ming Li
Chair, IEEE Computer Society Blockchain and Distributed Ledger Standards Committee
Director, China Electronics Standardization Institute

Jim Matthews
President, IEEE Standards Association

Dong Wang
Chair, IEEE P3218 Working Group
President, State Grid Blockchain Technology (Beijing) Co., Ltd.

Esther Harvey
Counsellor, Department of Industry, Science, Energy and Resources, Australian Embassy Beijing

Dr. Betty Xu
Director, SESEC, Seconded European Standardization Expert in China

Kyeong Hee Oh
CEO, TCA services
Co-rapporteur, ITU-T SG 17 Q14
Project Leader, ISO/TC 307 IS 23257

Pedro Baiz, PhD
CTO and Co-Founder, Earn Zero
Royal Society EiR, Imperial College London
Convener, FinTech TAG, ISO/TC 322

Q&A Section 20:55-21:00

Meeting Link:
https://ieeesa.webex.com/ieeesa/j.php?MTID=m9aaeff1d1676b162b480abbbab98c8faa
Friday, Sep 10, 2021 7:00 am | 3 hours | (UTC-04:00) Eastern Time (US & Canada)
Meeting number: 179 720 8222
Password: 2113BDL
IEEE Blockchain Conformity Assessment Committee (BCAC)

IEEE BLOCKCHAIN CONFORMITY ASSESSMENT PROGRAM

Introduction

With the increased use of blockchain technology by companies for various applications and solutions, there are no unified specifications and requirements for technical platform, system architecture, data format, application scenarios and service capability. The IEEE Computer Society Blockchain and Distributed Ledger Standards Committee (BDLSC) and the IEEE Conformity Assessment Program (ICAP) are jointly developing a conformity assessment program to ensure blockchain systems and products, can demonstrate conformance to related IEEE standards. This program will be managed and operated by ICAP.

IEEE Blockchain and Distributed Ledger Standards

The IEEE Computer Society Blockchain and Distributed Ledger Standards Committee (BDLSC) manages the development of IEEE 3200™ series and other standards for blockchain and distributed ledger. These standards encompass relevant data formats for application to specific sectors, industries, and processes.

The IEEE BDLSC will standardize the implementation of blockchain system across various industry verticals such as finance, manufacturing, agriculture, IoT, energy, and healthcare, with a focus to support blockchain data, technology, application, assets, service, and other related domains interoperability between blockchain systems.

Conformity Assessment Committee

The IEEE Blockchain certification program is being developed by the IEEE Blockchain Conformity Assessment Committee (BCAC), comprised of industry stakeholders, that will bring value to users, manufacturers, solution providers, regulators, and other potential beneficiaries. The goal of the BCAC is to produce and execute a unified test and evaluation specification aligned with current and future IEEE blockchain standards.

IEEE is issuing a call for participation for entities to join this committee. The main objectives of this committee will likely include:

Objectives

- Demonstrate to buyers that blockchain products or systems conform to the IEEE BDL standards
- Advise on the IEEE blockchain certification scheme requirements
- Define competency and audit requirements to become an IEEE recognized test laboratory
- Develop procurement language and advise on the IEEE Certified Mark
1 PLENARY MEETING

83 MEETINGS OF WORKING GROUPS

16 MEETINGS OF EXECUTIVE BOARD
OUR INFLUENCE
Ming LI, BDL CHAIR
Mr. Li is Chair of IEEE Computer Society Blockchain and Distributed Ledger Standards Committee, Member of IEEE SA CAG, SMDC, RevCom, AsiaPac Regional Advisory Group, AI/SC, Chair of IEEE P2418.2 Standard Data Format for Blockchain Systems, Chair of IEEE P2841 Framework and Process for Deep Learning Evaluation, Editor of ISO/IEC TR 38505-2:2018 Governance of data, Member of ISO/TC 307, ISO/IEC JTC1 SC40, DAMA, ISACA, SAC, Associate Editors of IET BLOCKCHAIN.

Yu DU, BDL VICE CHAIR
Mr. Du is the Vice General Manager of Wanxiang Blockchain Inc. and General Director of Wanxiang Blockchain Labs. Since joining China Wanxiang Holdings in 2015, Mr. Du has been in charge of the operations of Wanxiang Blockchain Inc. and the management of Wanxiang Blockchain Labs, including New Chainbase, investment and strategic cooperation, and product development. Mr. Du has been serving as the Under-Secretary-General of CBD Forum since 2016. He is also member of the author group of the MIIT white papers. And he has a proven track record of blockchain technology, product development, and investment.

Yukun HAO, BDL CHIEF SECRETARY
Mr. Hao is the Senior Director of Wanxiang Blockchain Inc., blockchain expert serving the Ministry of Industry and Information Technology of China, and visiting researcher of Imperial College London. Mr. Hao took in charge of an R&D project of a blockchain based intelligent container operation management system; the project won the Grand Award at The First China Blockchain Development Contest. Mr. Hao has also possessed several authorized patents on blockchain and distributed system.

Lin SUN, BDL EXECUTIVE SECRETARY

Nuqie LI, BDL PROPAGANDA SECRETARY
Nuqie Li, BDL Propaganda Secretary
Mr. Li is the Product Manager of Sichuan Changhong Electric Co., Ltd. Since joining Sichuan Changhong, Mr. Du has been in charge of blockchain product planning and design, and integration of blockchain and Internet of things. Mr. Li has participated in the preparation of 14 standards in the blockchain field, he is also member of the author group of the MIIT blockchain case set.

Dejun HUANG, BDL COMMUNICATIONS SECRETARY
Dejun Huang has served as IEEE BDL Communications Secretary since 2021. He works as a senior engineer in Sichuan Changhong Electric Co., LTD. Mr. Huang is also the secretary of P3206 and has participated in more than ten standards in the blockchain field.

Chao LI, BDL STANDARD SECRETARY
Mr. Li is the head of blockchain innovation Department of Shanghai Software Center. As a standard expert, Mr. Li participated in the development of a number of blockchain standards. Mr. Li is also as a core member of the blockchain Technology Research Institute of Shanghai Academy of Sciences & Technology, responsible for the research and development of blockchain projects.