

ICS 35.240
CCS L70



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 42752-2023

**Blockchain and distributed ledger technology - Reference
architecture**

区块链和分布式记账技术 参考架构

Issued on: May 23, 2023

Implemented on: December 1, 2023

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

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1 Scope

GB/T 42752-2023 gives the reference architecture for blockchain and distributed ledger technology. The value of a reference architecture here is unusually practical: the field is full of systems that call themselves blockchains and share almost no structure, and the discussions that matter to a regulator or a procuring organisation - who can write, who validates, who can be held responsible, who can audit it - are about roles rather than about consensus algorithms. The standard sets the reference architecture in two views. The user view identifies the end users, service providers, technology providers, auditors and governance parties and what each is entitled to do; the functional view sets out the layers and functions that a system must provide to support them. It took effect on 1 December 2023.

This document gives the blockchain reference architecture, and specifies the user view and functional view involved in the blockchain reference architecture: This document applies to organizations using blockchain and distributed ledger technology to build blockchain systems; guides the use of blockchain and distributed ledger technology Blockchain services are provided by service-providing organizations using ledger technology; organizations that use blockchain and distributed ledger technology select and use blockchain services:

2 Normative references

This document has no normative references:

3 Terms and Definitions

The following terms and definitions apply to this document: 3:1 activity activity A collection of specific tasks: [Source: GB/T 32399-2015, 3:2:1] 3:2 digital signature Some data attached to the data unit, or a cryptographic transformation of the data unit, this additional

data or cryptographic transformation is used by the data unit The receiver is used to confirm the source and integrity of the data unit, so as to protect the data and prevent it from being forged by people (such as the receiver): [Source: GB/T 25069-2022, 3:576] 3:

3 Functional component functionalcomponent A functional basic building block that can be realized to participate in an activity: [Source: GB/T 32399-2015, 3:2:3, modified] 3:

4 Peer-to-peer network peer-to-peer network A computer network consisting only of nodes with equivalent capabilities for control and operation: [Source: GB/T

5271:18-2008,18:04:05] 3:5 transaction The smallest unit of a work process is one or more sequences of actions required to produce a result that meets the requirements of the rules:

[Source: ISO 22739:2020, 3:77] 3:6 block block A data structure containing blockchain metadata and transaction data:

Note: A block is the basic structural unit that makes up a blockchain: