BDCP: Bayes Decentralized Computation Protocol

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Version 0.1

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"My aim is to picture an ideal, to show how it can be achieved, and to explain what its realization would mean in practice."

— Preface of "The Constitution of Liberty"
by Friedrich August von Hayek

Abstract

This paper introduces Bayes Decentralized Computation Protocol (BDCP), a protocol that aims at building a decentralized computation network. This network is the availability of cloud computing resources over decentralized computer nodes forming a peer-to-peer network where no one entity has central control in the network.

W3 is based on decentralized proprietary services, they are internet-wide open services, where participants form a decentralized network providing useful services, with no central management or trusted parties. BDCP provides computation infrastructure for W3 services.

BDCP departs from the current distributed cluster model that delegates central node and access control of the data to a centralized trusted authority. Instead, it empowers a peer-to-peer model that provide decentralized computation network, computation-go-to-data model, distributed machine leaning and new mechanic that protect the users' data ownership.

Note: BCDP and its network is a work in progress. Active research is under way, and new versions of this paper will appear at https://bayes.global. For comments and suggestions, contact us at research@bayes.global

1. Preface
The Bayesian Global AI Supercomputing Platform is a global AI artificial intelligence supercomputing platform based on the Bayesian Decentralized Computing Network Protocol (BDCP). It provides computing infrastructure for WEB3.0 services. It stores the large scale of data from e-commerce companies, Internet social platforms, governments, hospitals, schools, banks in a decentralized data center. And it trains intelligent models using those data. Those intelligent models provide business value to all the businesses.

2. Protocol Framework
BDCP: Bayes Decentralized Computation Protocol

The Bayesian Decentralized Computing Network Protocol (BDCP) is a protocol designed to build decentralized computing networks and data computing. This network is a peer-to-peer network formed by the availability of cloud computing resources on decentralized computer nodes, and no entity has central control over the network.
WEB3.0 is based on decentralized proprietary services, which are Internet-wide open services where participants form a decentralized network that provides useful services without a central management or trusting party. BDCP provides computing infrastructure for WEB3.0 services.
BDCP departs from the current distributed cluster model, which delegates access control of central nodes and data to a centralized trusted authority. Instead, DBCP empowers the peer-to-peer model, providing a decentralized computing network, computing shifts to data models, distributed machine learning, and new mechanisms to protect user data ownership.

3. BDCP Ecosystem

3.1 Network Level
BDCP is a decentralized computation protocol which is a system that allocate computation resources both hardware and software. The system runs on a blockchain with a native token ("baye") . The participants in the BDCP network (also called "miners") earn the coin by providing machines and storage. To the clients.

3.2 Data Level
There are multiple dimensions of personal data: basic personal data, consumption data, learning data, social media data, health data, etc. The data generation and appraisal parties include various institutes and companies such as governments, hospitals, schools, banks, e-commerce companies, and Internet social platform, etc. Individuals can firmly control data ownership in their ownhands by BDCP protocol. Meanwhile, individuals can easily authorize others to use his data at ease so that data can be used effectively and protected in privacy.

3.3 Model Level

Based on distributed machine learning, BDCP provides rich models for personal data while ensuring data privacy and security. The BDCP model layer is the core technology aimed at preserving privacy for multiple users in a distributed network composed when computing. Personal information is used in various models provided by distributed machine learning to achieve personal digital value. At the same time, BDCP has strong scalability. In the future, it can quickly access other public-linked data through various cross-chain protocols to serve the blockchain ecosystem.

3.4 Application Level

AI applications are built on network, data and models in BDCP ecosystem. In this system, relying on community networks and data networks, BDCP supports developers to develop a variety of intelligence applications by supporting multi-party distributed computing technologies and personal artificial intelligence engines.

4.5 Value Level

The core of the blockchain is to provide value transfer. Individual values can be qualified ed and transferred across time and space with high efficiency and equity based on BDCP protocol. Through network layer, data layer, model layer, and application layer, individuals can begin to measure value from the date of birth. The value measurement system constantly updates and iterates over individual timestamps through smart contracts and cross-chain operation protocols.

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