Chainerator

Researching Consensus Flexible Blockchain Framework

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1. Project Outline

01. Project Outline

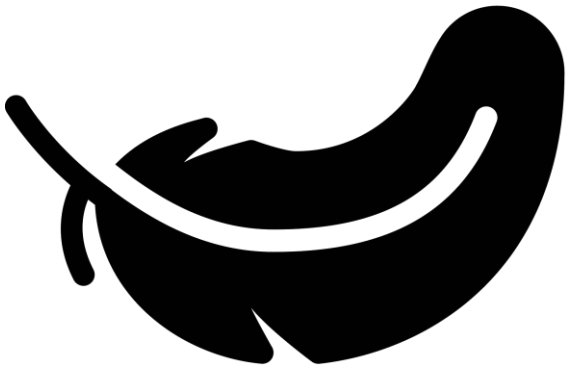
Modularization

Blockchain Core
Function Modularization

Open Source

Deploying Open Source
For Blockchain Core Developer
And Getting Some Contribution

Lightweight Source Code



Develop Lightweight Blockchain
Core

02. Motivation

02. Problems in existing Project

Too Heavy

Blockchain Core's Code is Too heavy to handling

Bitcoin Core : Approximately ***100K*** Lines!
Bytecoin Previous Version : ***600K*** Lines!
So, We have to Develop lightweight blockchain.

Small Community

Blockchain Core is very difficult and complex, And There is no framework for Start-Level Core Developer. So, we want to make Blockchain core framework such as Start-Kit.

Inflexible

Most Blockchain Project is very inflexible. Changing Consensus or Protocol is very hard because of Inflexible of Architecture

03. Researching

03. Researching

Bitcoin

Bitcoin is the first Blockchain based Cryptocurrency, and it is open source.
It is difficult to modify flexibly as constant and variable are dependent by coin. Also, It is difficult to analyze source code because of poor modularization.

Litecoin

Litecoin is relatively easy to modify the blockchain property such as maximum amount of coin, hashing method, block size, and block creating time by removing restriction of modification in Bitcoin

03. Researching

Peercoin

Peercoin is based on Bitcoin and changed Proof-of-Work(POW), which is a consensus algorithm to Proof-of-Stake(POS)
Existing code and new Peercoin codes are mixed in a disorderly. so, It is still lacking in flexibility and modularization to using

Bytecoin

Bytecoin is the first independent Blockchain to have nothing to do with the Bitcoin.
Created with its own Blockchain Core technology called Cryptonote, It is relatively easy to modify the value of the Blockchain Properties, but the source code extensive and poorly modular

04. Design Structure

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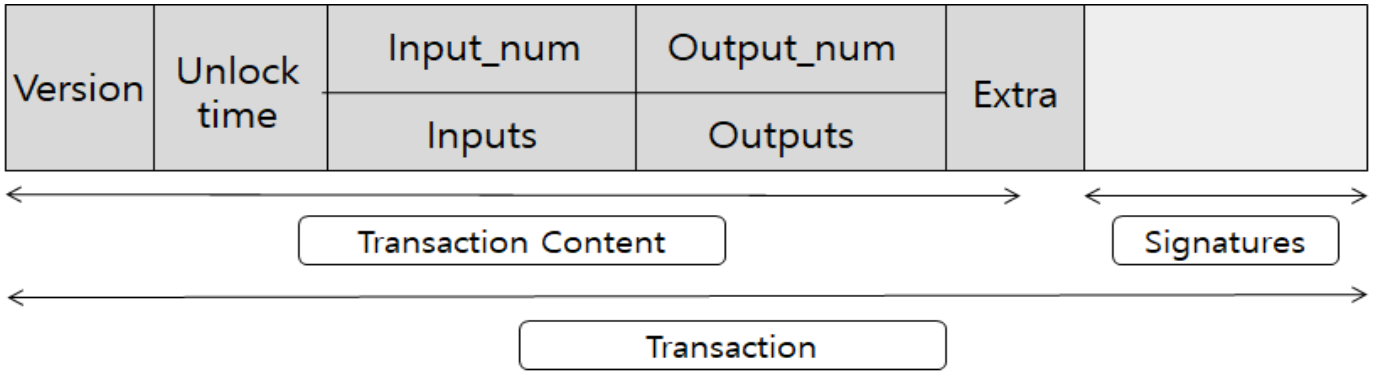
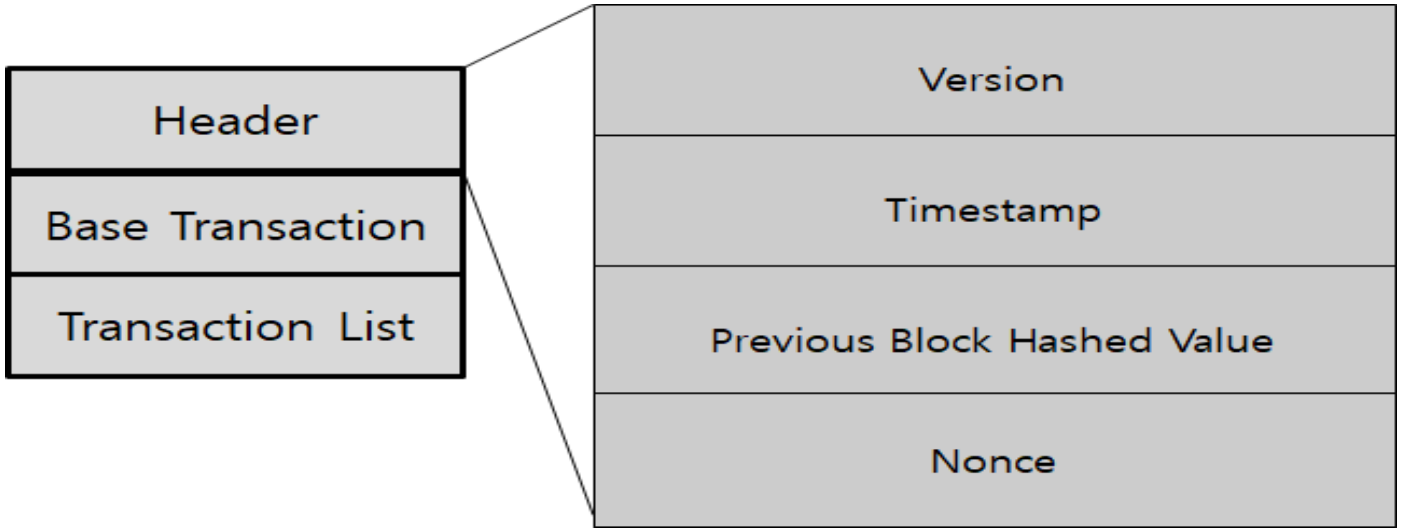
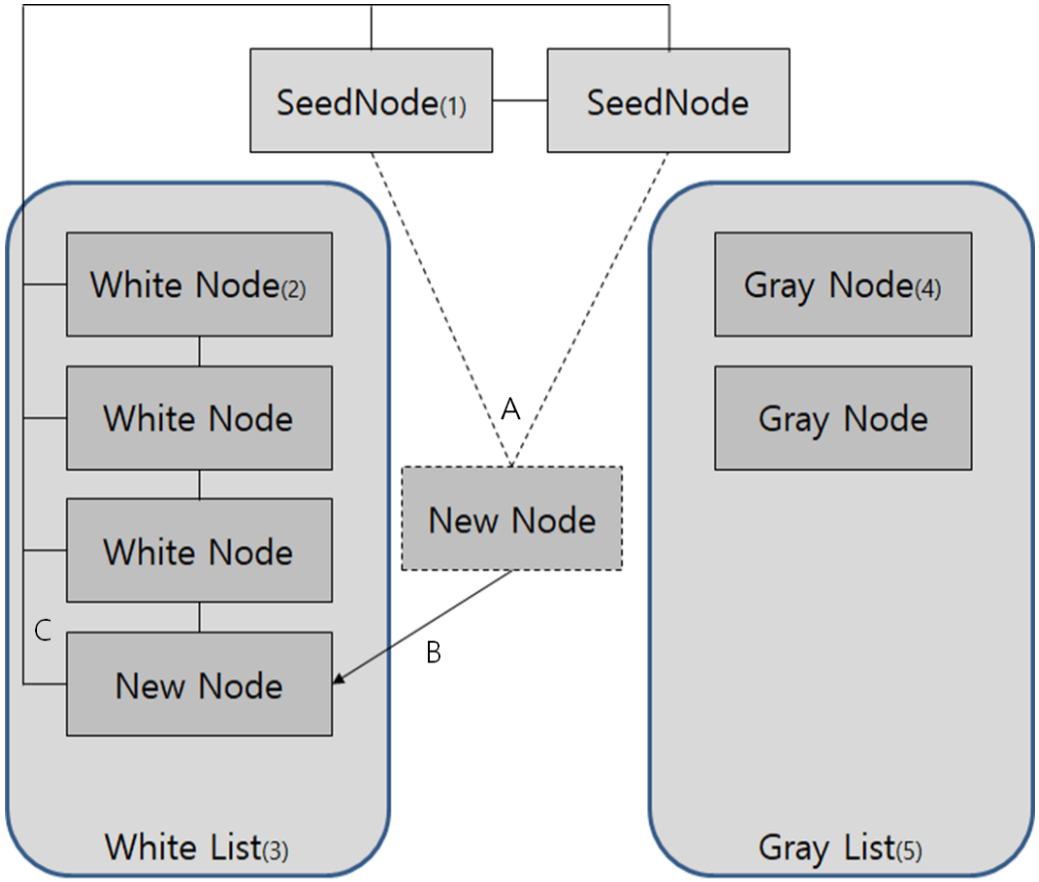


< Transaction Structure >



< Block Structure >

04. Design Structure



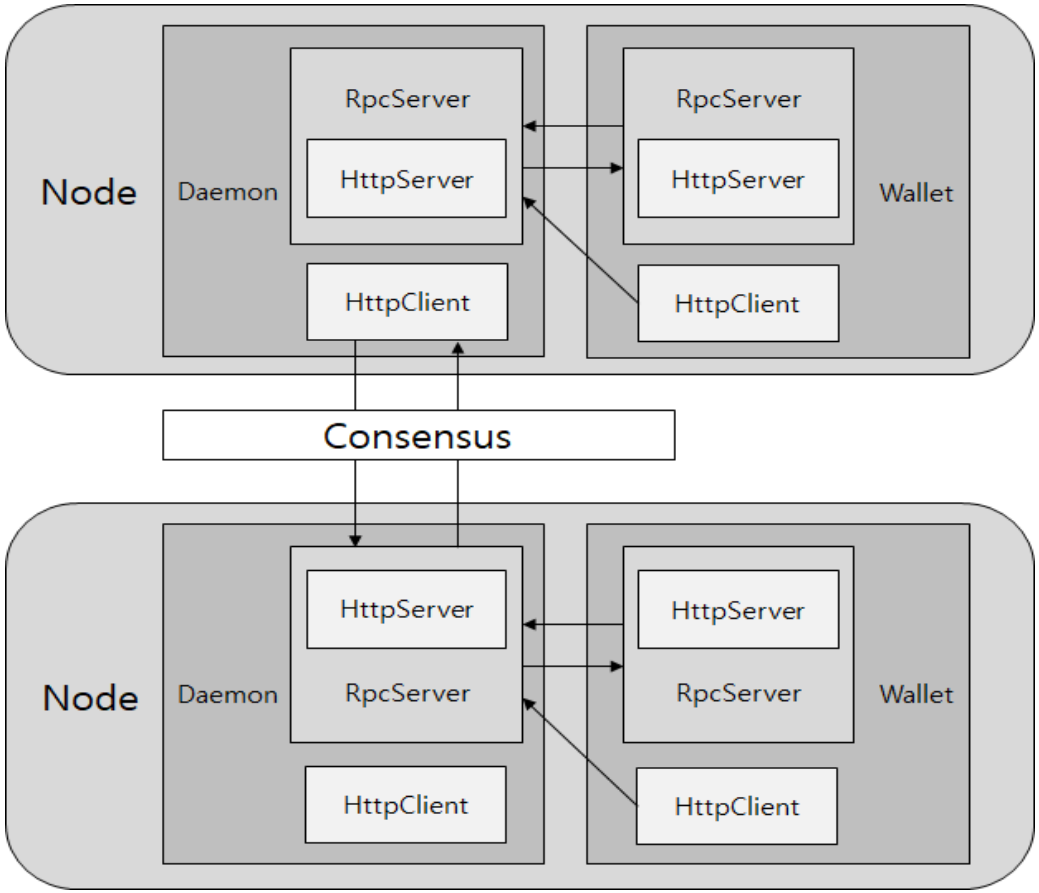
< P2P Network Structure >

SeedNode
This is the first node in the network and the other nodes are connected to that node first when they are first connected

White Node
Nodes currently operating connected to the network with P2P

Gray Node
Nodes that participated in the P2P network but is currently disconnected and each has a White List at the time of the termination.

04. Design Structure



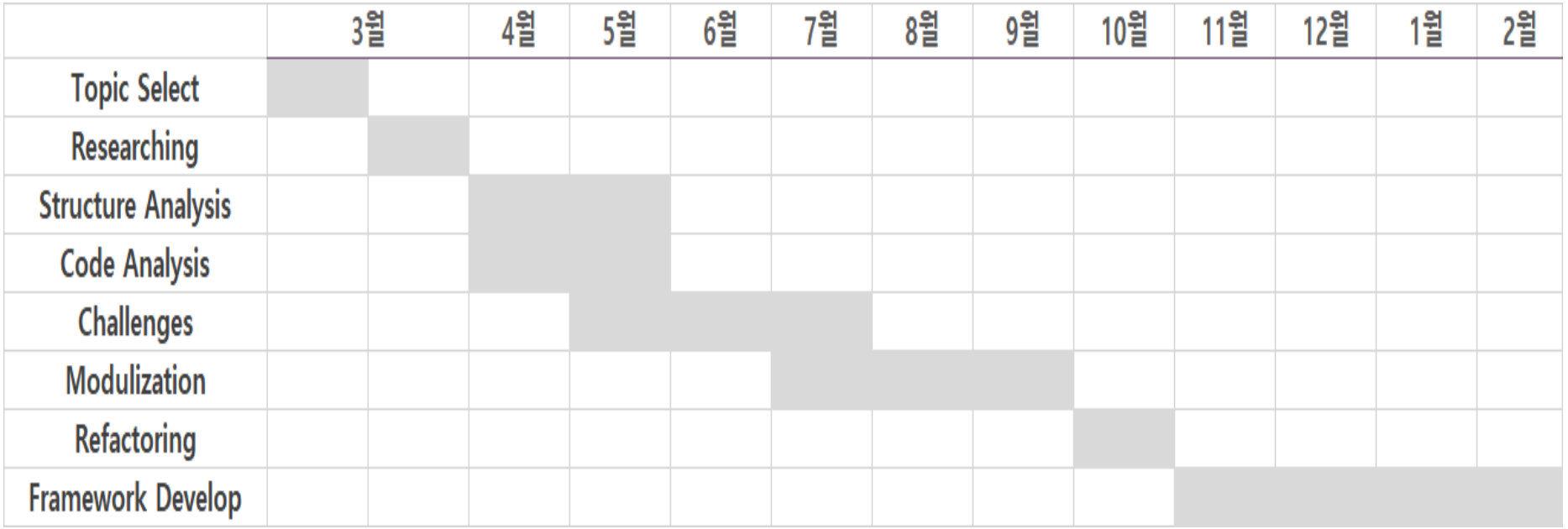
< Blockchain Network Structure >

- Each node has a Daemon and Wallet, which uses an RPC Server and an HTTP Server to communication with external nodes and processes.

- When communicating between nodes and processes, the demander forwords a JSON written signal and method execution request and recevie the State value or JSON result accordingly.

05. Conclusion

05. Roadmap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2월
Topic Select
Researching
Structure Analysis
Code Analysis
Challenges
Modulization
Refactoring
Framework Develop

05. Expectation Effect

The Blockchain Core Developers can make more flexible blockchain for their own network by using our Open Source.

05. Challenges

Most of Blockchain Project Developed by C++, but C++ has very complex architecture and code dependency problem.

So, If we want to make flexible and lightweight framework, we have to change programming language to more lightweight programming language such as go, javascript.

Thank You

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