

# Hyperledger Cactus

## Academic Paper Discussion #3



**HYPERLEDGER**  
CACTUS

Western Hemisphere Meeting 12th November 2020



**HYPERLEDGER**  
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

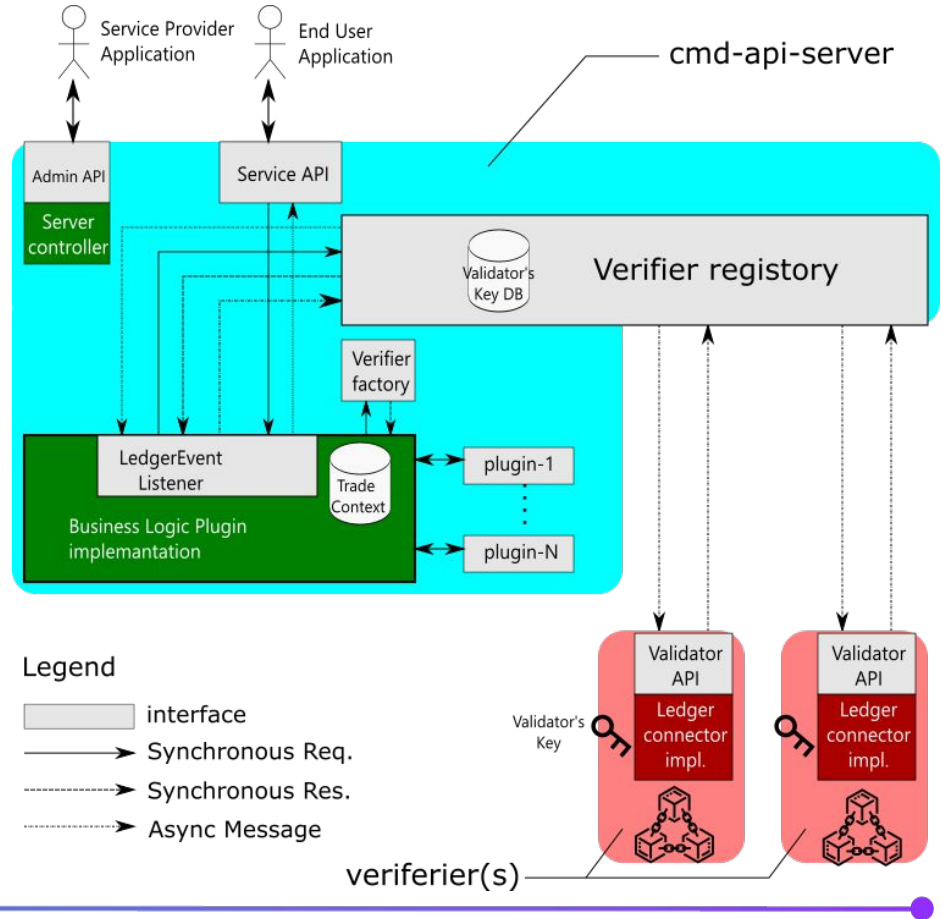
# Agenda

1. Dependencies
2. Architecture
3. Terminology Proposal
4. Model Proposal

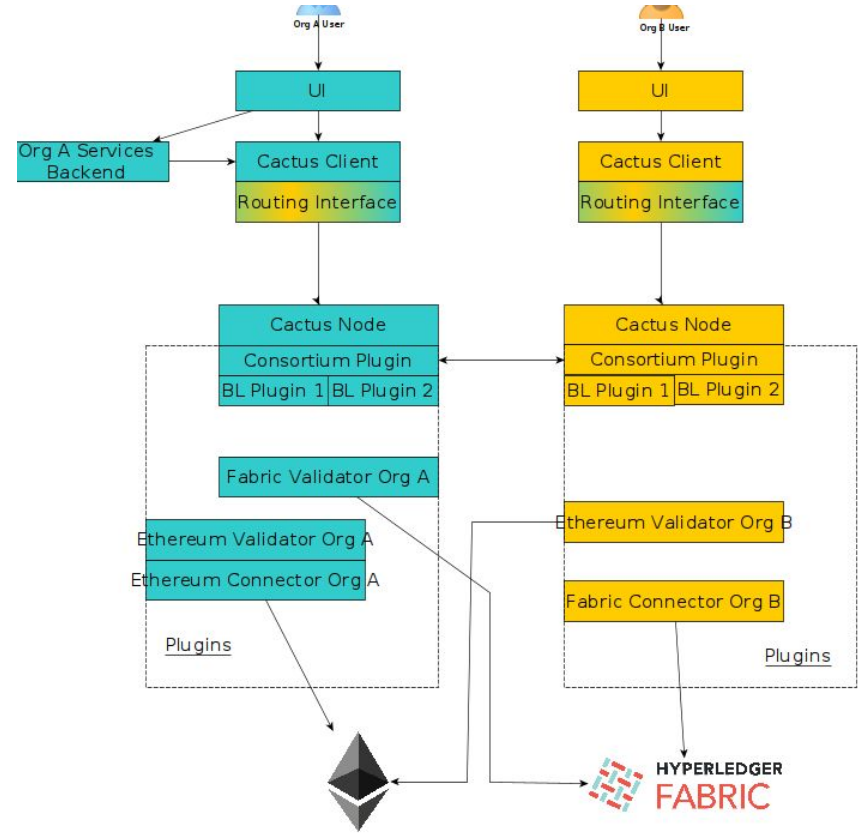
# Dependencies

1. Architecture definition
2. Terminology - e.g., attestator, validator, connector

# Architecture Proposal



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# Terminology Proposal

**Connector** - Cactus node component that provokes changes in a DLT (active component). This includes invoking and deploying smart contracts.

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**Validator** - Cactus node component that checks the validity of blocks and its transactions (corresponding to the notion of **blockchain oracle**). **Validators** are assumed to be trusted, given that a quorum exists.



# Terminology Proposal

**Application Client** - the application that is used by the end user to interact with a Cactus node.

**API Server** - Exposes the functionality of the Cactus node, in the form of business logic plugins. Allows to connect to DLTs via connectors, verifiers, and validators.

**Cactus Node** - A Cactus node composed of a set of plugins, exposed by the API server



# Model Proposal - Participants

**Cactus Node**

**Cactus Client**

**DLT**

# Model Proposal - Properties

**Atomicity:** all commits or nothing commits

**Consistency:** a commit/fail leaves underlying DLTs in a consistent state

**Durability:** Once a cross-blockchain transaction is committed, it remains so (despite crashes)

**Containment of side-effects:** undesirable effects during a cross-blockchain transaction should abort





# Get Involved!

Visit the mailing list topic:

<https://lists.hyperledger.org/g/cactus/topics?p=recentpostdate%2Fsticky...20,20,77324360>

Or the Hyperledger Cactus Academic Paper channel on RocketChat:

<https://chat.hyperledger.org/>