Actors (top boxes): service/admin through UI interface (webpage) | API | Transaction Broadcaster Service | EVM Blockchain network | Broadcasted transaction database

SUCCESS
- POST /broadcast_transaction (UI → API)
- transaction sent for signing (API → Transaction Broadcaster Service)
- store signed transaction (→ Broadcasted transaction database)
- signed transaction returned (Transaction Broadcaster Service → API)
- return 200 ok accepted for further processing, transaction broadcast in progress (API → UI)

INVALID REQUEST
- POST /broadcast_transaction (UI → API)
- request denied return HTTP 400 (API → UI)

UNSUCCESSFUL
- POST/broadcast_transaction (UI → API)
- transaction sent for signing (API → Transaction Broadcaster Service)
- store signed transaction failed (→ Broadcasted transaction database)
- transaction signing failed (Transaction Broadcaster Service → API)
- return HTTP 500 (API → UI)
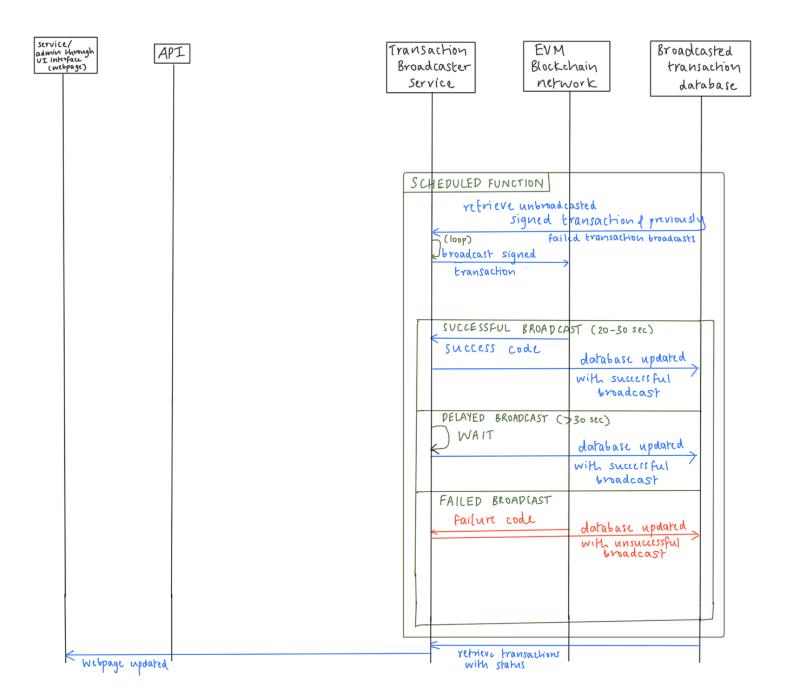- Unsuccessful due to error in signing transaction or unable to store in database

The API endpoint can be invoked by a service or through the webpage UI by the admin. Webpage displays all the transactions stored in the database along with its status.

The API provides an endpoint for signing and broadcasting the transaction. Transaction broadcast service is responsible for signing and storing the transaction in the database for further processing. API endpoint returns 200 OK status code when the transaction broadcast service successfully signed and stored it in the database.

When the API endpoint receives invalid request, then 400 BAD REQUEST is returned to the caller.

If transaction broadcast service is unable to sign or store the signed transaction in the database, API endpoint returns 500 INTERNAL SERVER ERROR.

Service/admin through UI interface (webpage)

API

Transaction Broadcaster Service

EVM Blockchain network

Broadcasted transaction database

SCHEDULED FUNCTION

retrieve unbroadcasted signed transaction & previously failed transaction broadcasts

(loop)

broadcast signed transaction

SUCCESSFUL BROADCAST (20-30 sec)

success code

database updated with successful broadcast

DELAYED BROADCAST (>30 sec)

WAIT

database updated with successful broadcast

FAILED BROADCAST

failure code

database updated with unsuccessful broadcast

retrieve transactions with status

Webpage updated

Scheduled function in the transaction broadcast service retrieves all the un-broadcasted and previously failed broadcast transactions, it loops through all the transactions and broadcasts it to EVM blockchain network.

SUCCESS:
Transaction broadcast to EVM blockchain network is successful within 20-30 seconds.

DELAYED BROADCAST:
Transaction broadcast to EVM blockchain network is delayed but successful after 30 seconds. In this scenario transaction broadcast service waits for response from EVM blockchain network.

FAILED BROADCAST
Transactions are unable to be broadcast to the EVM blockchain network. It will be picked up by the scheduled function for retry.

Database stores signed transactions along with its broadcast status.

The transaction broadcast status is updated in the database in all the above cases. The webpage is also updated accordingly.