HIVE Conceptual Demo

Processes/operations that can be performed:
- **Publish Invoice** on blockchain
- **Transfer Ownership** by sending Hive Token to Smart contract
    - Transfer ownership
    - Send HVN token to issuer wallet
    - Change acceptable discount
    - Change discount formula
- **Close invoice**
    - Automatically closed when SUM of all received HVN to the invoice is equal to value of EUR (see considerations)
    - Mark as paid without sending data (when invoice is paid via fiat currency)
        - Only current owner can do that
        - Additional information is date of closing
    - Once closed it no longer accepts HVN (? automatically sends beck to sender - gas?)

Web UI operations:
- **Publish Invoice**
    - Returns: address of invoice, private key for data
- **Query invoice** (with private key also additional private data is displayed)
- **Transfer** (overtake ownership)
- **Close invoice**
- **List invoices** (invoice browser)
- **Accept invoice** (debtor with private key)

Invoice data:
- **Issuance date**
- **Due date**
- **Invoice ID** (defined by Issuer)
- **Issuer**
    - Country (public)
    - Encoded (only accessible with private key): Name, Address, City, VAT ID, TAX ID
- **Debtor**
    - Country (public)
    - Encoded (only accessible with private key): Name, Address, City, VAT ID, TAX ID
- **Currency**
- **Amount**
- **Acceptable discount**
    - Discount formula (start with simple linear %) - decrease of discount with approaching time to due date
    - Not needed if handshake is implemented

Optional operations
- **Debtor acceptance** of invoice
    - Must use private key obtained from Issuer)
    - Can hold additional information if Debtor agrees with Assignment of Claims (if not invoice is locked and can not be bought)
- **Closing invoice** without sending HVN by owner can be done more complex
    - Debtor sends "close request"
    - Current owner accepts request (invoice is marked closed with date of when request was sent)
    - Current owner rejects request - return to debtor

Considerations:
- Gas source
    - Should in final version always come from Hive Gas wallet (V2) that is credited each time ownership is changed (or other times SC is used)

- When Ownership is taken some HVN moves to issuer (previous owner)
- What happens if HVN sent to invoice is not enough or is too much?
- How do we calculate fiat to HVN conversion on the fly - EUR > BTC > HVN > BTC > EUR (using aggregator like CryptoCompare.com) - **Concept can only work with HVN!**
- How factor (financier) will get private key from Issuer or Debtor to see locked data
  - Possible handshake process:
    - Factor sends offer to Issuer (in this case acceptable % of discount is not needed as it's part of the offer)
      - Offer contains: amount, Factor Identification (will probably require factor database later on / or some kind of online ID. Initially String with name)
    - Issuer answers with debtor and issuer data
    - Factor sends HVN to Smart Contract if he agrees
    - Factor rejects if he disagrees