Digital Asset Vending through traditional ATM Hardware

Overview

This project offers a solution for owners and operators of traditional ATM machines to partner with Athena Bitcoin, Inc. in order to offer their customers an opportunity to purchase digital assets, including - but not limited to - the cryptocurrency bitcoin.

The use case is for a **customer** to visit an ATM that has been integrated with the Athena solution described in this document. Depending on the integration, the customer will be permitted to purchase crypto currency using fiat currency or a bank issued debit card from **Athena Bitcoin**. The payment, either physical cash or bank deposit, will be deposited into the custody of the ATM operator. At regular predetermined intervals Athena and the ATM operator will review the activity and the payment - less the agreed upon amount the operator is entitled to - will be remitted to Athena.

The ATM may or may not have a scanner capable of reading a Bitcoin address from a QR Code. The workflow is slightly different where the machine cannot read a QR Code. In those cases the user must use the Athena Bitcoin Onboarding site and/or Mobile App to enter the address where he or she wishes the crypto currency to be delivered.

KYC/AML

As a vendor of digital assets, Athena has obligations to 'Know Your Customer' (KYC) and to detect and prevent money laundering (Anti-Money Laundering, or AML) in all jurisdictions in which we operate.

During the process of vending digital assets, Athena will attempt to collect and verify certain pieces of information from the customer. Athena, in its sole discretion, may elect not to consummate a sale if we believe the transaction would violate our KYC policy. We do not want to accept any payment until we know that we are able to conduct the transaction as reimbursing a party who we determine we cannot sell bitcoin to may in itself violate our compliance policy.

Information we may collect using the Athena Bitcoin Mobile App

Depending on the amounts, jurisdiction and business arrangement with the operator we may collect the following from the customer during, or before, a transaction.

- Name
- Email
- Login Using:
  - Twitter
  - Facebook
  - Google
  - Phone Number
- Tax ID
- Scan of Government Issued ID
  - Present Latam Operating Countries (Colombia, Mexico, Argentina) have a stringent requirement for this feature

Information from a Debit Card

If the user uses their bank debit card, we assume they are a customer of a bank. We will use any and all information provided by the bank to document the identity of the buyer. If necessary we may require the customer to authenticate themselves using The Athena Bitcoin Mobile App in addition. Using the App the customer can scan their ID, verify their phone number, etc.

List of data on a card

- Primary Account Number
- Expiration Date
- Account Holder's Name

Authentication at the Machine

Two options are available for authentication at the machine in order to ensure Athena is conducting business with a properly verified customer.

SMS Verification

Customers may authenticate themselves by entering their mobile telephone number. Athena will deliver a code to that phone number via SMS, or similar messaging technology. The customer must enter the code into the terminal. In doing so they will demonstrate they have physical or constructive possession over the phone.

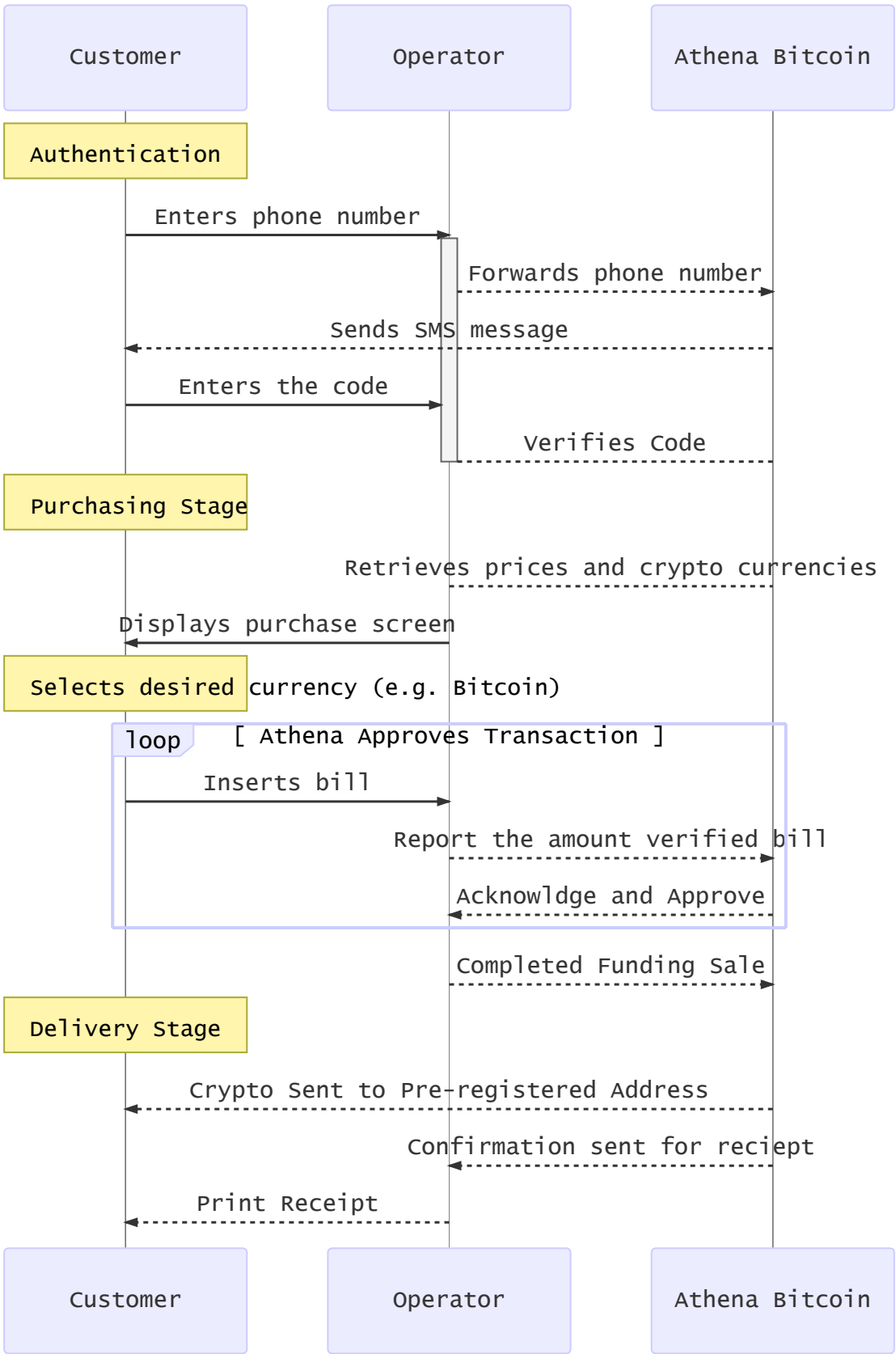
BitID Verification

BitID Verification allows a unique QR code to be displayed on a terminal. When a customer scans the code, a post is made to an Athena endpoint. Athena will then notify the ATM operator of a successful scan.

This integration requires additional coordination on behalf of the operator and Athena.

Process Flow

Purchase crypto for cash using SMS authentication


Customer
Operator
Athena Bitcoin
Authentication
Enters phone number
Forwards phone number
Sends SMS message
Enters the code
Verifies Code
Purchasing Stage
Retrieves prices and crypto currencies
Displays purchase screen
Selects desired currency (e.g. Bitcoin)
loop
[Athena Approves Transaction]
Inserts bill
Report the amount verified bill
Acknowldge and Approve
Completed Funding Sale
Delivery Stage
Crypto Sent to Pre-registered Address
Confirmation sent for reciept
Print Receipt
Customer
Operator
Athena Bitcoin

GET

Athena API

GET

```
/price/{sovereign}/{crypto}?MachineID={MachineID}

Response:
{
    "timestamp" : 1508799603.768,
    "expiration" : 1508799723.768,
    "USD" : {
        "BTC" : {
            buy_price : 4455.33,
            sell_price : 4255.33
        },
        ...
    },
    "MXN" : {
        "BTC" : {
            buy_price : 85000.00,
            sell_price : 81200.00
        }
    },
    ...
}
```

Retrieves the latest prices for the machine. `crypto` and `sovereign` are optional parameters. `MachineID` is also optional to get a response, but the price returned will not be accurate unless it is specified.

POST

Start a Transaction

```
/transaction/start

Request:
{
    machine_id : "Unique ID of the Machine",
    primary_account_number : "up to 19 digits",
    expiration_date : "YYMM",
    customer_name : "Account Holder Name",
    crypto_currency : "BTC/ETH/LTC/etc.",
    sovereign_currency : "USD/MXN/etc.",
    transaction_type : "buy/sell"
}

Response:
{
    status : "success/error",
```

```
    message : "error message",
    session_token : "GUID that governs this session",
    customer_record : {
        customer_id : "GUID that identifies this customer",
        authorized : true/false,
        buy_limit : "maximum amount of sovereign currency to accept",
        sell_limit : "maximum amount of sovereign currency to dispense",
        phone_verified : true/false,
        phone_number : "Phone Number on file"
    }
    transaction_record : {
        transaction_id : "GUID that governs this transaction",
        transaction_type : "buy/sell",
        crypto_currency : "BTC/ETH/LTC",
        sovereign_currency : "USD/MXN/etc.",
        price : "sovereign units per crypto"

    }
}
```

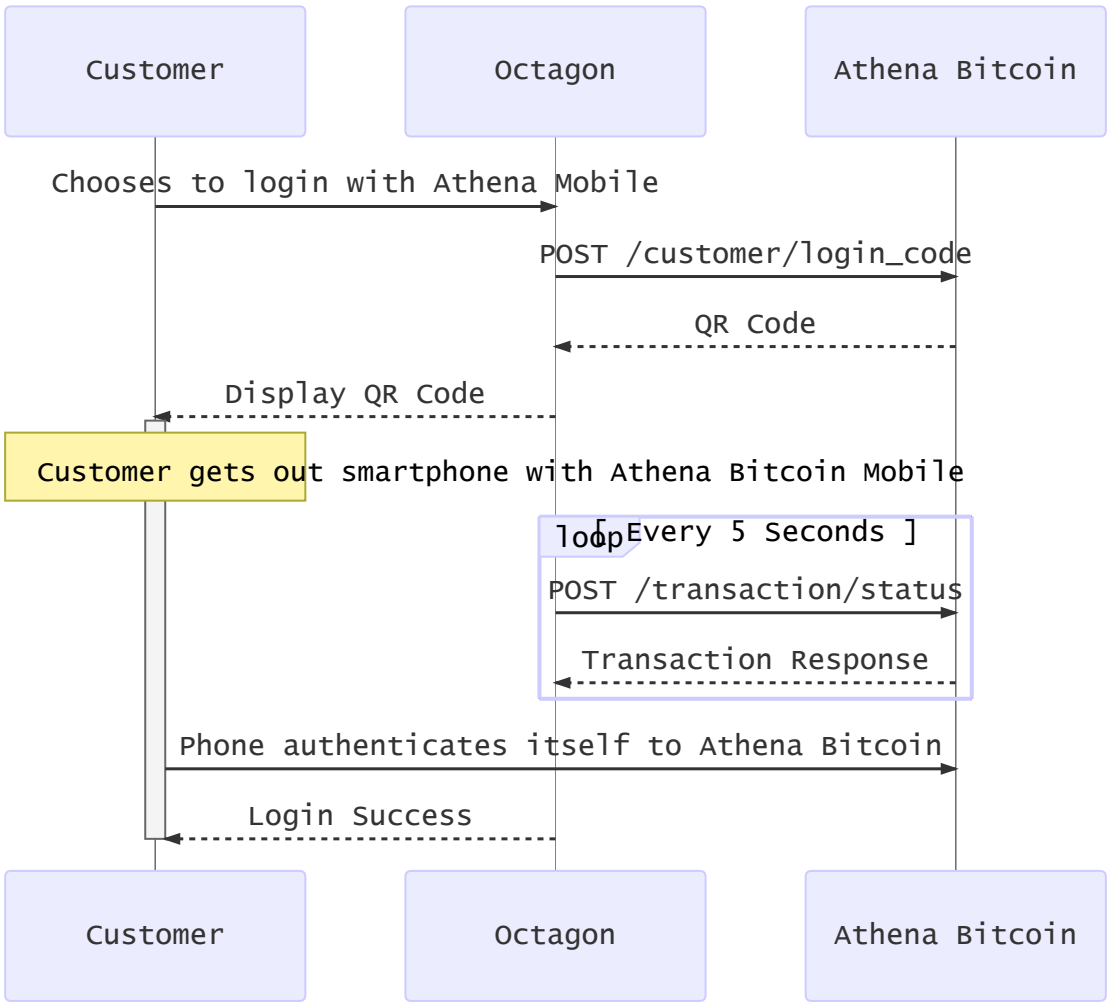
To start a transaction for a customer, accept the swipe of their card and let them choose the crypto currency they wish to purchase or sell and transmit that to Athena Bitcoin using this call. If the customer is authorized to transact, `authorized` will be set to `true`. If the customer is authorized, they will have limits returned in the native currency of the machine.

If the customer would like higher limits, they may verify their identiy using their smartphone.

Authenticate the Customer

Customers may use the Athena Bitcoin Mobile App to further identify themselves. This app contains all of the necessary information about the user including their date of birth, nationality, scans of their government issued identification, etc. Authentication is done by the customer scanning a QR Code from the screen with their smartphone.

> **Note** The customer must do the scanning to prove they are in possession of the phone and the app and not just receiving a copy of a code generated by the app on another user's phone.



Customer Login Code

```
/transaction/status

Request:
{
    machine_id : "Unique ID of the Machine",
    session_token : "GUID that governs this session with Octagon",
    transaction_id : "GUID that governs this transaction",
    format: [PNG,SVG] "optional default is SVG"
}

Response:
content-type: application/png
    QR Code that uniquely identifies this transaction so that the
    customer may scan it, sign it with their private key, and post the signed
    message to Athena Bitcoin using the Athena Bitcoin Mobile App
```

Once the user has selected to authenticate themselves, Athena Bitcoin will issue a unique QR Code containing information about this transaction. That information can then be scanned into the Mobile App so that it can cryptographically sign the message and POST it back to Athena Bitcoin. Once this is done the status of the transaction will change from `authorized = false` to `authorized = true`. This will probably also come with limit changes and possibly also price changes if the customer has some form of VIP status.

Transaction Status

```
/transaction/status

Request:
{
    machine_id : "Unique ID of the Machine",
    session_token : "GUID that governs this session with Octagon",
    transaction_id : "GUID that governs this transaction"
}

Response:
{
    status : "success/error",
    message : "error message",
    session_token : "GUID",
    customer_record : {
        customer_id : "GUID that identifies this customer",
        authorized : true/false "Should change when auth finishes",
        buy_limit : "maximum amount of sovereign currency to accept",
        sell_limit : "maximum amount of sovereign currency to dispense",
        phone_verified : true/false,
        phone_number : "Phone Number on file"
    },
    transaction_record : {
        transaction_id : "GUID that governs this transaction",
        transaction_type : "buy/sell",
        crypto_currency : "BTC/ETH/LTC",
        sovereign_currency : "USD/MXN/etc.",
        price : "sovereign units per crypto",
        crypto_address : "1XX...."
    }
}
```

Purchase Crypto

Purchasing the crypto currency is a two step process. First an address has to be entered and validated by Athena Bitcoin. And then operator must process the sovereign currency portion of the transaction. After the sovereign currency has been transacted, the digital currency portion should be finalized. If the digital currency fails, then the sovereign currency should be reversed, otherwise the transaction is complete.

Enter Address

```
/transaction/crypto_address
```

```
Request:
{
    machine_id : "Unique ID of the Machine",
    session_token : "GUID that governs this session with Octagon",
    transaction_id : "GUID that governs this transaction",
    crypto_address : "1XXXX...."
}

Response:
{
    status : "success/error",
    message : "error message",
    session_token : "GUID",
    customer_record : {
        customer_id : "GUID that identifies this customer",
        authorized : true/false,
        buy_limit : "maximum amount of sovereign currency to accept",
        sell_limit : "maximum amount of sovereign currency to dispense",
        phone_verified : true/false,
        phone_number : "Phone Number on file"
    },
    transaction_record : {
        transaction_id : "GUID that governs this transaction",
        transaction_type : "buy/sell",
        crypto_currency : "BTC/ETH/LTC",
        sovereign_currency : "USD/MXN/etc.",
        price : "sovereign units per crypto",
        crypto_address : "1XX...."
    }
}
```

Note Because some addresses can be used for multiple currencies, we can only validate that it is a possible address, but not that a wallet is set up properly to receive the chosen crypto currency. For example, Segregated Witness addresses have the same format for both Bitcoin (BTC) and Litecoin (LTC), and could also resemble a Bitcoin Cash (BCH) multisig address.

Completing a Purchase

```
/transaction/purchase


Request:
{
    machine_id : "Unique ID of the Machine",
    session_token : "GUID that governs this transaction",
    transaction_id : "GUID that governs this transaction",
    sovereign_amount : "amount of sovereign that has been collected",
    sovereign_currency : "USD/MXN/etc."
}

Response:
{
```

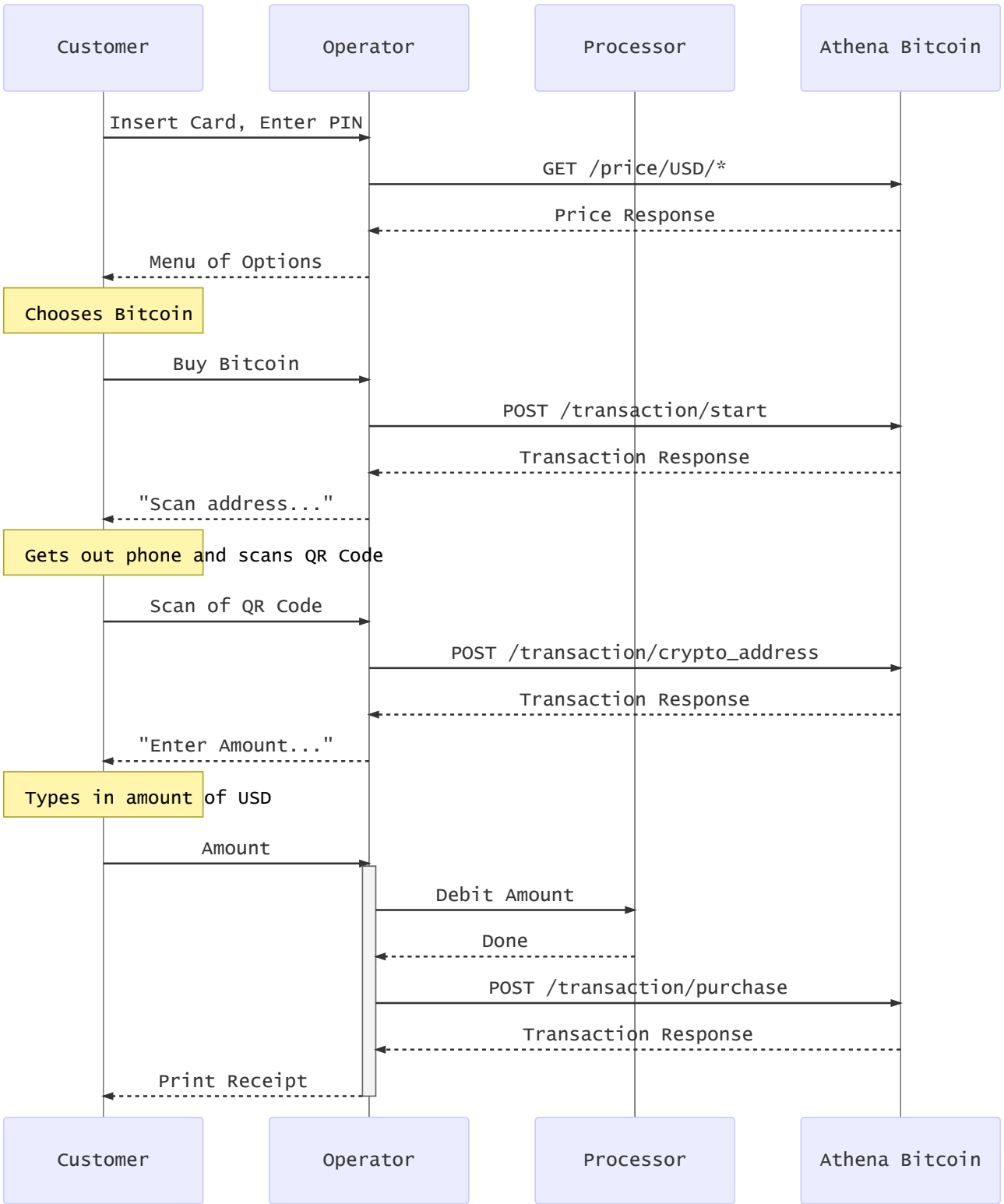
```
    status : "success/error",
    message : "error message",
    session_token : "GUID",
    customer_record : {
        customer_id : "GUID that identifies this customer",
        authorized : true/false,
        buy_limit : "maximum amount of sovereign currency to accept",
        sell_limit : "maximum amount of sovereign currency to dispense",
        phone_verified : true/false,
        phone_number : "Phone Number on file"
    },
    transaction_record : {
        transaction_id : "GUID that governs this transaction",
        transaction_type : "buy/sell",
        crypto_currency : "BTC/ETH/LTC",
        sovereign_currency : "USD/MXN/etc.",
        price : "sovereign units per crypto",
        crypto_address : "1XX...."
        sovereign_amount : "amount of sovereign that has been collected",
        crypto_amount : "amount of crypto that has been purchased",
        transaction_url : "a url where the customer can view their transaction"
    }
}
```

API Notes

- Only purchases have been included in this version
- Only one transaction is allowed per session

Appendix

For a machine with a QR Code Scanner (ATM reads phone):


Customer
Operator
Processor
Athena Bitcoin
Insert Card, Enter PIN
GET /price/USD/*
Price Response
Menu of Options
Chooses Bitcoin
Buy Bitcoin
POST /transaction/start
Transaction Response
"Scan address..."
Gets out phone and scans QR Code
Scan of QR Code
POST /transaction/crypto_address
Transaction Response
"Enter Amount..."
Types in amount of USD
Amount
Debit Amount
Done
POST /transaction/purchase
Transaction Response
Print Receipt
Customer
Operator
Processor
Athena Bitcoin