

Abstract

Motivation

The PumaPay Vision

PumaPay Token Economy

The Technology

Use Cases

The PumaPay Token

Token Generation Event

Token Allocation













Development Roadmap

Team

Risk Factors

Resources

# Instant Pay Per Use

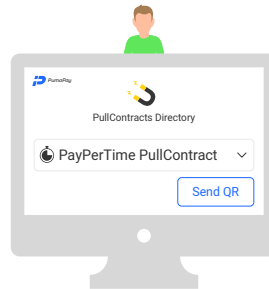
-  Account
-  Address
-  Authorizer
-  Balance
-  Deposit
-  Limiter
-  Private Key
-  Pull Contract
-  Token
-  Wallet
-  John
-  Client

**1**  
John chooses a PayPerTime PullContract from PumaPay PullContracts Directory and populates it with the following parameters:

- BaseTimeUnit: **minute**
- PricePerUnit: **1.5**
- PriceCurrency: **PMA**
- ChargeCycleTimeUnit: **seconds**
- ChargeCycleInterval: **15**
- InitialDepositUnit: **minute**
- InitialDepositAmount: **5**

This PullContract works with a state channel that allows the customer to cryptographically sign certificates confirming the real-time utilization of the service. Once the session has ended, the service provider uses these signed certificates to authorize payment.

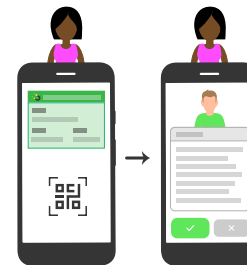
To ensure payment, a deposit is withdrawn into the PullContract from which reconciliation is performed at the end of the session. Remaining amount is returned to the user.



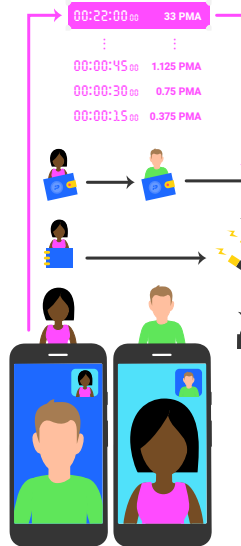
**2**  
The customer scans the QR code and sees the following summary on her wallet app:

*"Consultancy session with John the Dietitian.  
Cost: 1.5 PMA/Minute. Time is calculated at 15 seconds intervals. Your account will be charged every 5 minutes in advance. Any unused funds will be returned at the end of the session"*

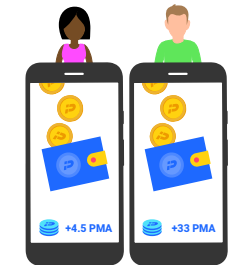
**3**  
The customer accepts the transaction and the PullContract pulls 7.5 PMA from her account as a deposit. A P2P state channel is now open between John and the customer.



**4**  
Now John is speaking with his customer. Their wallets communicate with each other as well, through the state-channel (see below\*)



**5**  
Upon ending the session, John's wallet posts the last certificate to the PullContract, using the EndSession method. The PullContract sends John's account 33 PMA and the remainder deposit of 4.5 PMA is returned to the customer's wallet.



## \*State-Channel (Offchain)

Every 15 seconds the customer's wallet signs a certificate for additional 0.375 PMA and delivers it to John's application (Offchain). The receipts are incrementing, so the first receipt is for 15 seconds, the next is for 30 seconds and so forth.

Every time the amount on the receipt equals the deposited amount (every 5 minutes), the PullContract automatically Pulls 7.5 PMA from the customer's account as a deposit for the next 5 minutes.

The session lasts for a total of 22 minutes. So a total of  $5 \times 7.5 = 37.5$  were deposited by the customer to the PullContract.

The customer's wallet signed a receipt of 0.375 PMA every 15 seconds, so there were  $22 \times 4 = 88$  charges of 0.375 each. The last receipt shows a total amount of  $88 \times 0.375 = 33$  PMA.

## Use Case: Expert Advice

John is a dietitian and gives live consultancy services over the Internet. He enables his service with PumaPay.

Prior to session commencement, a predetermined deposit amount of PumaPay Tokens will be captured via a PullContract that John sends to his customer using a QR code.

After the customer accepts the PullContract, John can start the session.

Throughout the session and upon use, the PullContract keeps note of minutes used; using a state channel protocol, the platform shall confirm every 15 seconds that the session is still active and the customer has enough PumaPay Tokens.

When the session ends, the smart contract transfers the portion consumed from the captured amount to the merchant and any surplus is automatically released to the customer.