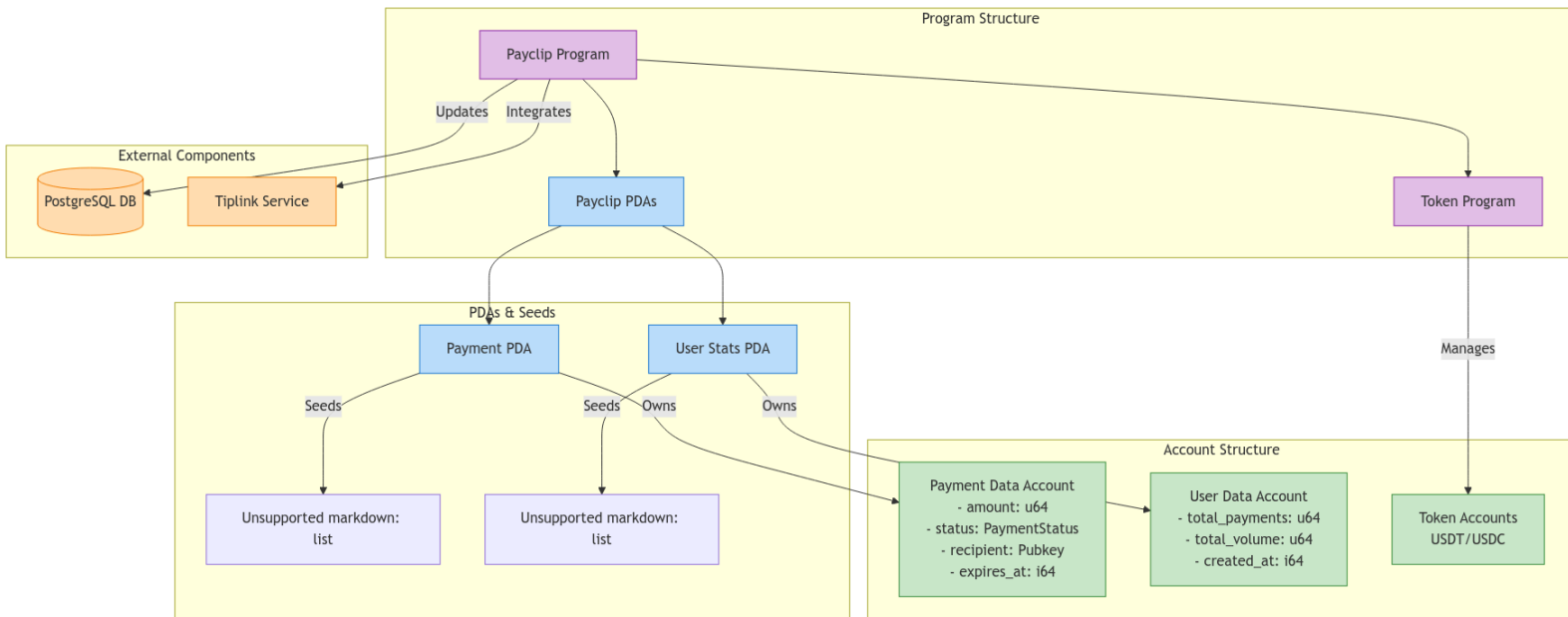


# Architectural Diagram for Payclip



## Architectural Details:

### 1. Program Structure:

- **SolPay Program:** Main program handling payment logic
- **Token Program:** SPL Token program for USDT transactions
- **PDAs:** Manages payment and user data storage

### 2. Account Structure:

- **Payment Data Account:**
  - Stores payment-specific information
  - Owned by Payment PDA
  - Contains amount, status, recipient, expiration
- **User Data Account:**
  - Tracks user statistics and history
  - Owned by User PDA
  - Contains aggregated user data
- **Token Accounts:**
  - USDT/USDC token accounts
  - Managed by SPL Token Program

### 3. PDA Structure:

- **Payment PDA:**

```
seeds = [
    b"payment",
    payment_id.as_ref(),
    program_id.as_ref()
]
```

- **User PDA:**

```
seeds = [
    b"user",
    user_pubkey.as_ref(),
    program_id.as_ref()
]
```

- **Key Instructions:**

```
pub enum PaymentInstruction {
    /// Creates a new payment link
    CreatePayment {
        amount: u64,
        recipient: Pubkey,
        expires_at: i64,
    },
    /// Processes payment from sender
    ProcessPayment {
        payment_id: String,
    },
    /// Claims payment by recipient
    ClaimPayment {
        payment_id: String,
    },
}
```

## 5. External Dependencies:

- **PostgreSQL Database:**
  - Stores payment link metadata
  - Tracks transaction history
  - Manages user profiles
- **Tiplink Integration:**
  - Handles wallet-less transactions
  - Manages temporary key pairs

