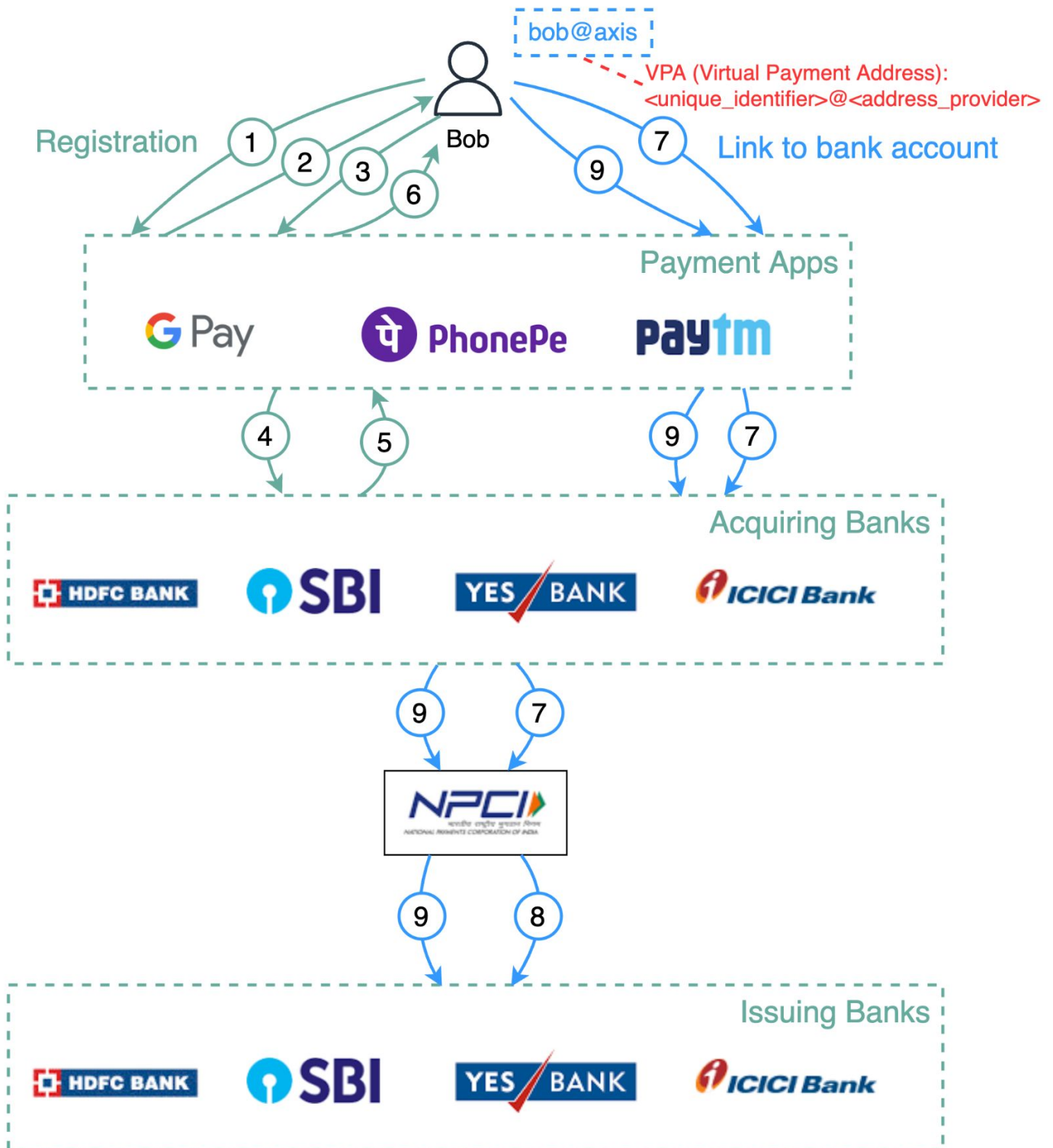


How does UPI Work?

1. Registration & Link to Bank Account



Registration

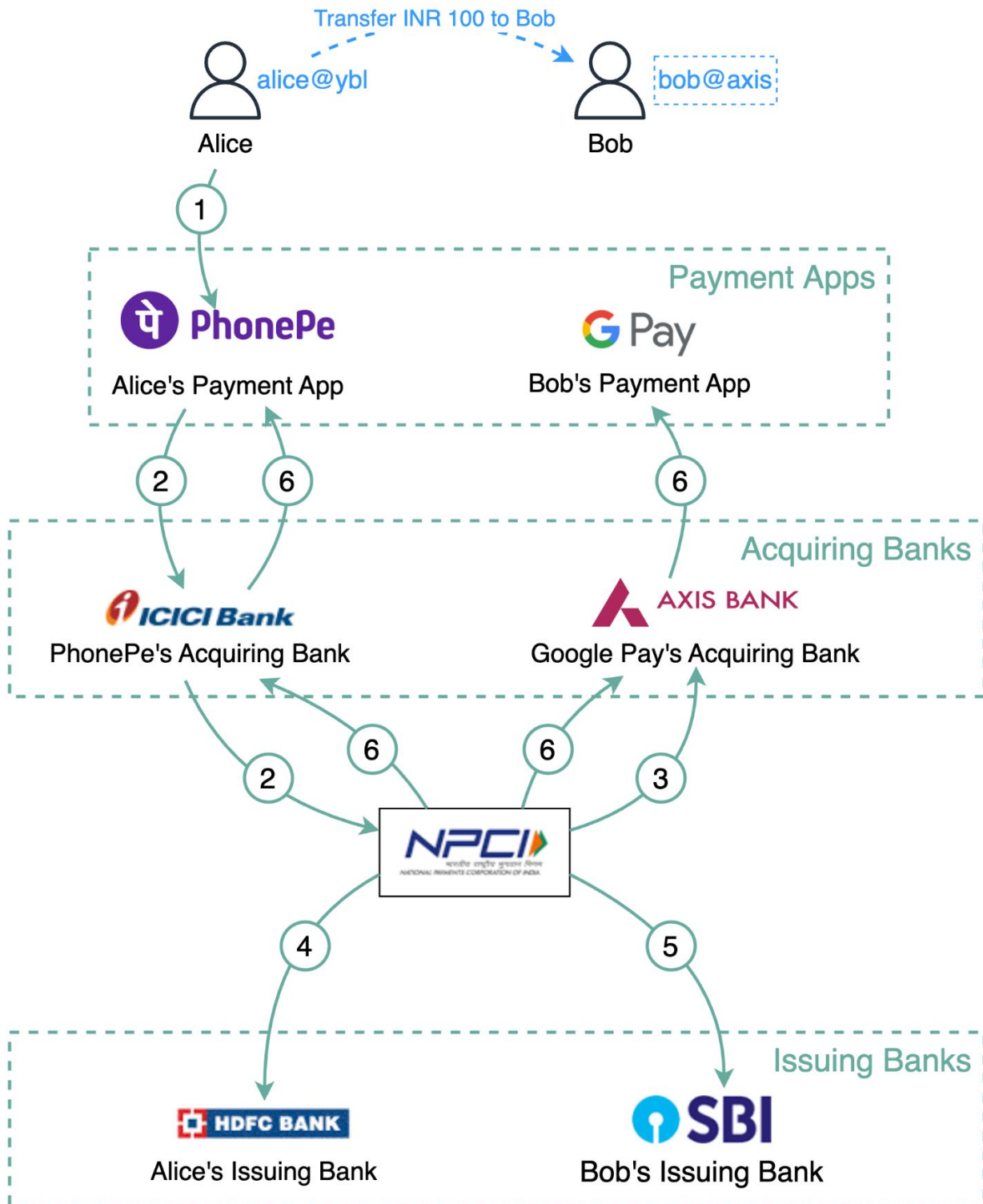
1. Bob wants to open an account and provides his phone number +91 12345678
2. Bob performs OTP (One-Time Password) phone verification
3. Bob sets up **VPA** (Virtual Payment Address) *bob@axis*
4. Bob's payment app creates VPA with the acquiring bank
5. The acquiring bank returns with VPA
6. The payment app returns VPA to Bob

Link to Bank Account

7. Bob wants to link his SBI bank account with VPA *bob@axis*. The request is forwarded to **NPCI** (National Payments Corporation of India).
8. NPCI acts as a **switch** between acquiring banks and issuing banks. It resolves the account detail from VPA with different issuing banks.
9. Bob authenticates with account details and sets the PIN, which is used for 2FA. This goes all the way to the issuing bank.

How does UPI Work?

2. Direct Payment



Direct payment

1. Alice enters Bob's UPI ID *bob@axis* and the amount INR 100.
2. PhonePe verifies the detail and forwards the request to NPCI via ICICI bank.
3. NPCI requests Axis Bank to resolve the detail for *bob@axis*.
4. NPCI deducts Alice's HDFC bank account by INR 100.
5. NPCI sends an instruction to SBI bank and add INR 100 to Bob's account in SBI bank.
6. Upon success, NPCI notifies the payment apps via acquiring banks.



Alex Xu

Thanks for reading! If you found this post helpful, follow me for more insights on system design.