

Brief Introduction

on **UPI, BHIM,
*99# & IMPS**



भारतीय राष्ट्रीय भुगतान निगम
NATIONAL PAYMENTS CORPORATION OF INDIA



Products Brief

Part 1

IMPS – Immediate Payment Service

Part 2

UPI - Unified Payment Interface

Part 3

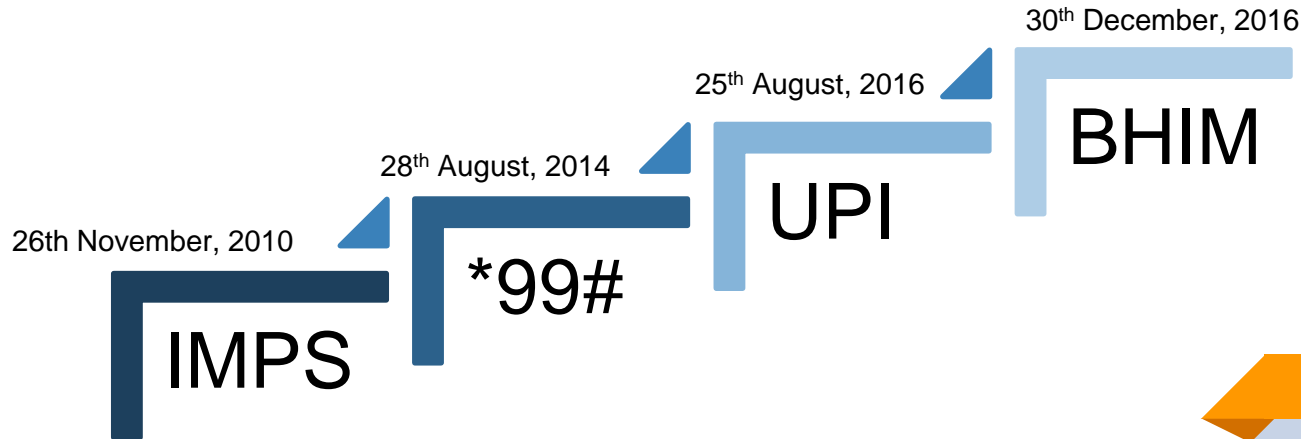
BHIM - Bharat Interface for Money

Part 4

*99# - National Unified USSD Platform



Product Launch!



1

IMPS

Immediate Payment Service

“ An innovative
“**real-time**” payment service that is available
“**round-the-clock**”
(even on holidays) and facilitates interbank
(available with select PPIs also), Account to
Account (or to wallets* also) fund transfer



IMPS at a glance

Service	Fund transfer (Using)		
Products	Mobile No. & MMID	Account no. & IFS Code	Aadhaar No.
Inputs Needed	Receiver's mobile number & MMID	Receiver's bank A/C no. & IFS code	Receiver's Aadhaar number
Initiating channels	Mobile / Internet / ATM / Branch		
Access mechanism	SMS / Mobile APP / WAP / POS / IVR		
IMPS enabling process	Remitter: Needs to be Mobile banking registered , however the registration is not required for initiating transaction using Internet/ATM/Branch		
	Beneficiary : No need to be Mobile banking registered for receiving funds using bank account details or Aadhaar Number		



Benefits

Real-time domestic
fund transfer

24 X 7 X 365
availability

Simple, fast and easy
to use

Fast, Inexpensive,
Safe and secure

Channel Independent

AADHAAR No. based
transaction enabled

Financial and non-
financial service
available

Alternate input
options

Multiple access
mechanism



Products

P2P

- Person to Person fund transfer
- Using Mobile number & MMID

P2A

- Person to Account fund transfer
- Using Account number & IFS Code

ABRS

- Aadhar Base Remittance Services
- Using Aadhaar number

FIR

- Foreign Inward Remittance



Channels

Self- service Channel

Mobile

- Mobile Application
- SMS

Internet

- Internet Banking

ATM

Assisted Channel

Branch

Using Banks Business
Correspondents Outlets

Using PPI Outlets



Understanding IMPS

MMID (Mobile Money Identifier) : NBIN + 3 digit (Eg – 9229XXX)

Switching Fee : NPCI charges to remitter bank for routing the transaction to beneficiary bank or destination bank. **Per transaction 50P**

Maximum Limit per Transaction : **Rs 2,00,000 /-** (In case of PPI – Rs 5000)

Settlement Cycles – There are **4 settlements cycles** on a RTGS working day. (**Refer Circular – 64**)

• **1st Cycle: 23:00 Hrs to 09:59 Hrs**

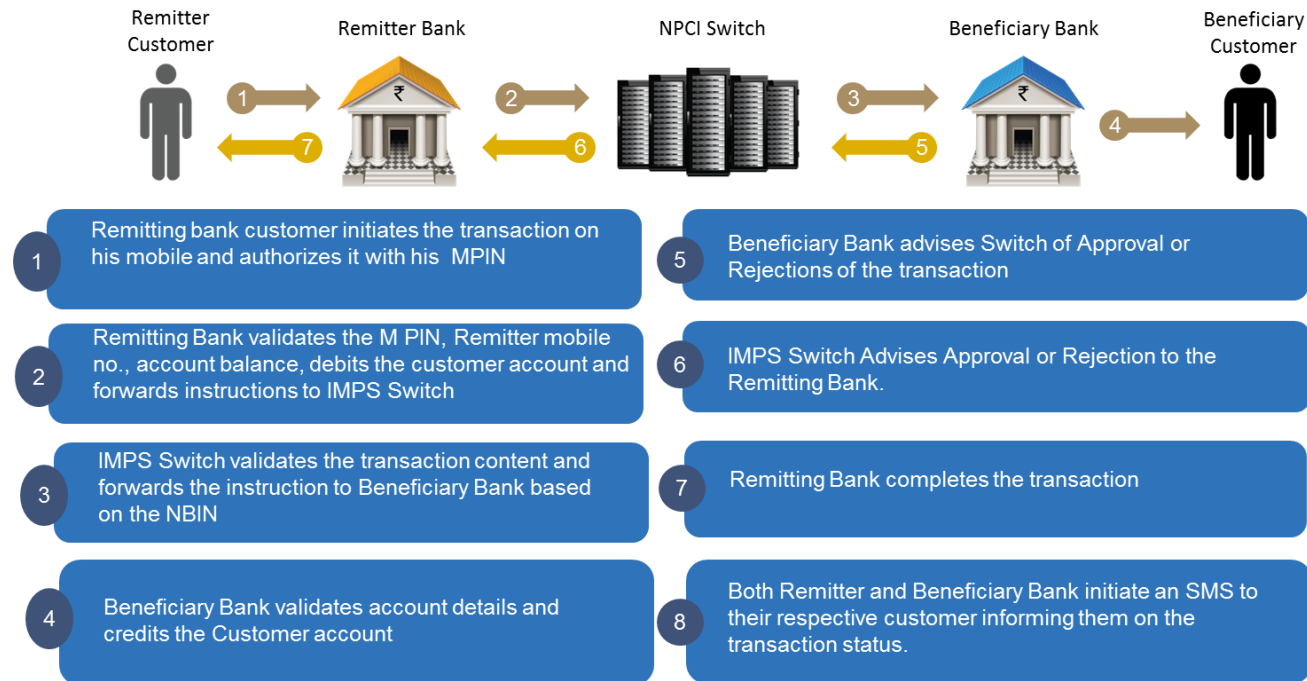
2nd Cycle: 10:00 Hrs to 13:59 Hrs

• **3rd Cycle: 14:01 Hrs to 17:29 Hrs**

4th Cycle: 17:30 Hrs to 22:59 Hrs



Process Flow



The customer inputs Beneficiary MMID, Mobile number, amount along with his own MPIN



Foreign Inward Remittance Process Flow

Customer (outside India) will visit the MTO/Foreign Bank for initiating Remittances to India, for a credit to a Beneficiary's account in India having a CASA/NRE account

MTO/Foreign Bank will fund its own account with Partner Bank/Intermediary Bank in India and instruct Intermediary Bank to transfer to Beneficiary Bank using IMPS P2A services

MTO's Partner Bank/Intermediary Bank in India will initiate IMPS transaction using Beneficiary account number & IFS Code

After authentication MTO's Partner Bank shall debit the MTO's corresponding account held in INR and transaction is forwarded to NPCI for credit to Beneficiary

NPCI routes the transaction to respective Beneficiary Bank, and Beneficiary Bank credits the Beneficiary account

MTO's Partner Bank/Intermediary Bank will receive the transaction status and sends the status back to MTO

MTO confirms to remitter/customer about transaction processed successfully.

Foreign Inward Remittances into Bank accounts through Intermediary Bank now allowed using IMPS

Credit

All relevant statutory guidelines/practices to be followed by participating Banks

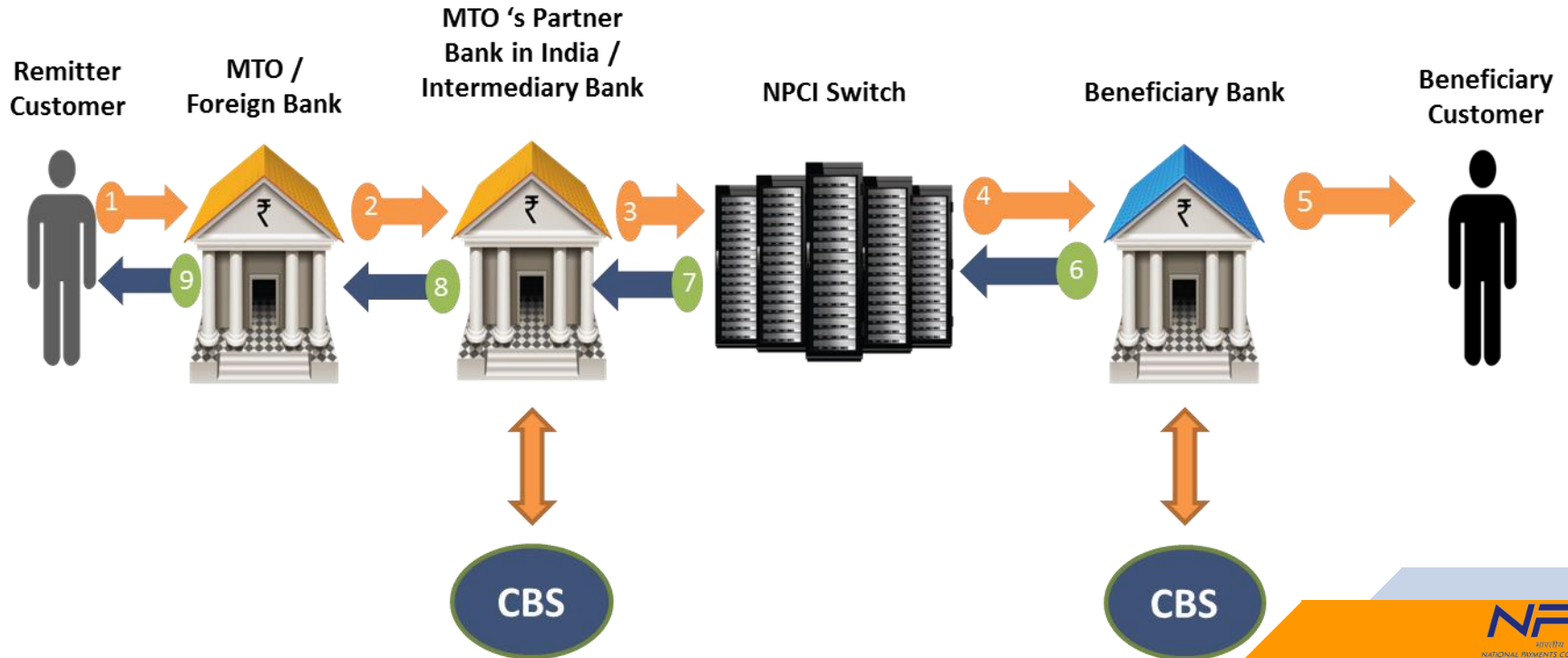
Compliance

- Remitter sends remitter details to Beneficiary bank
- Beneficiary bank receives funds through identification of specific code

Process



Foreign Inward Remittance Transaction Flow



2

UPI

Unified Payment Interface

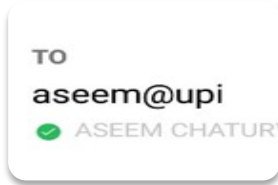
“ Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood. It also caters to the “Peer to Peer” collect request which can be scheduled and paid as per requirement and convenience



UPI Features



Push and Pull
Payments



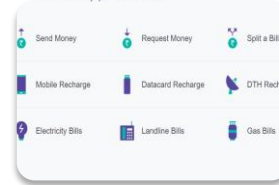
UPI ID
(‘Username@PS
PName’)
(No need to
share Bank
account details)



Transfer using
Single identifier
like Virtual
Address or
Aadhaar No



Banks –
(Payment
Service
Provider) will
provide App to
customers of
any bank



One App for all
transaction
needs



Single Click 2
Factor
Authentication



Benefits

To End User

- Privacy - Share only Virtual Address and no other sensitive information
- Multiple Utility - Cash on delivery/bill split sharing/ merchant payments / remittances
- One Click 2 FA - Authorize transaction by entering only the PIN
- Work across various interfaces - Payment request generated on Web interface; authorized on Mobile interface (App)
- Payment through Aadhaar Number - Pay using the Aadhaar number
- Availability & Security - Available 24*7*365. Customer does the transaction

To Merchant

- Seamless fund collection from customers - single identifiers
- No risk of storing customer's virtual address like in Cards
- Tap customers not having credit/debit cards
- Suitable for e-Com & m-Com/
- Resolves the COD collection problem
- Single click 2FA facility to the customer - seamless Pull
- In-App Payments (IAP)

To Bank

- Simple (Single click 2FA)
- Universal App for transactions
- Leverages existing Infrastructure
- Secure
- Payments basis Single/Unique Identifier
- Tap C2B segment & E-Com / M-Com



Simple Enabling Steps for Customers

Download UPI App from
PlayStore

Install the App on Phone

Set App login

Create a virtual address

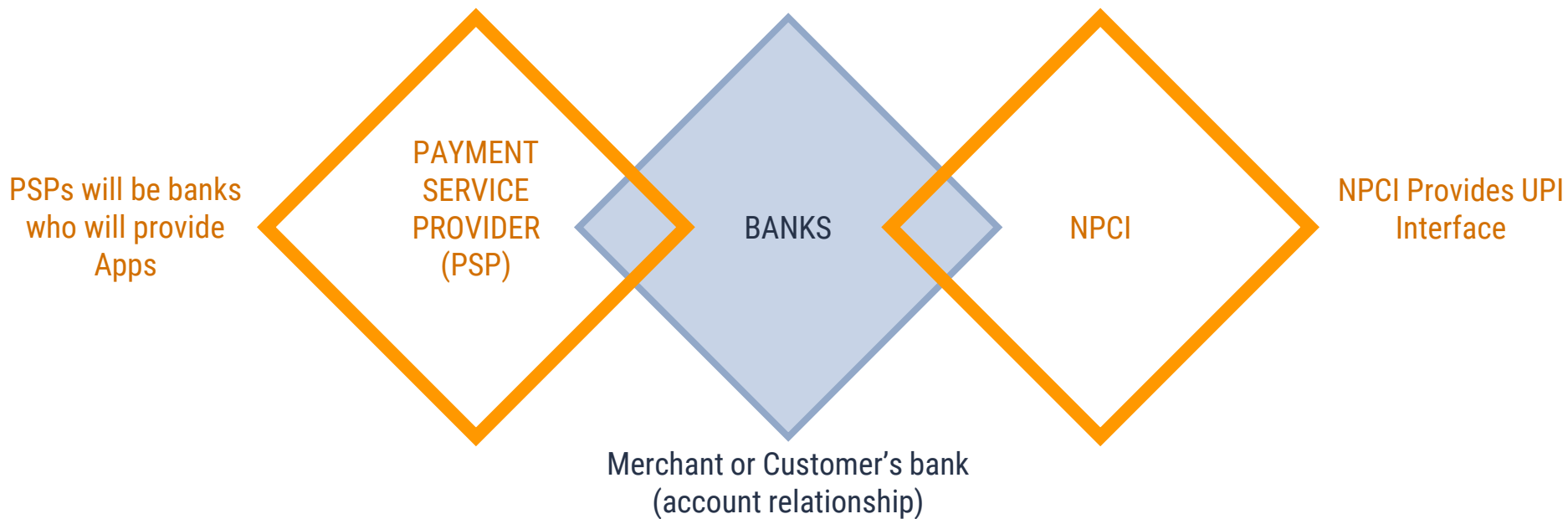
Add your bank address

Set UPI PIN

Start transacting using
UPI



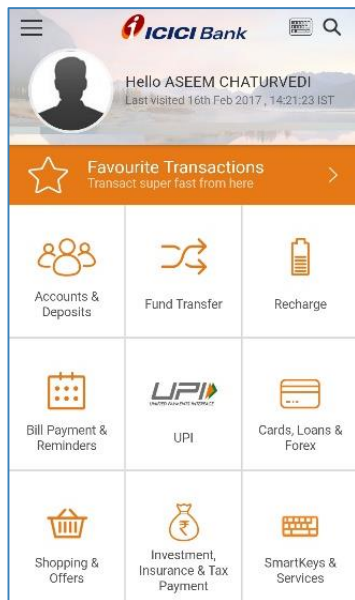
Participants



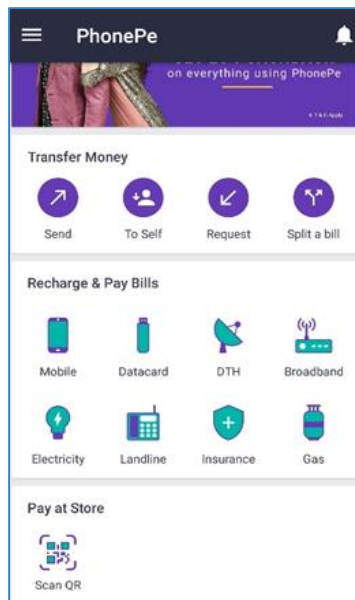


App Types

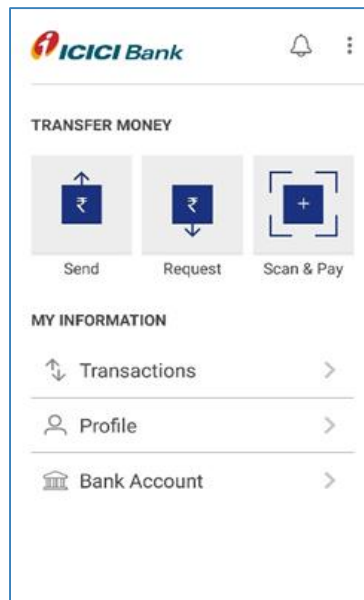
Existing bank Apps



UPI Exclusive Apps



Common App - BHIM





Transaction Types

Financial

Non -
Financial

Sending
Money (P2P)

Collecting
Money (P2P)

Merchant
Payments

← Send Money

TO
aseem@upi
ASEEM CHATURVEDI

AMOUNT
₹ 10

REMARKS
test

☐ Save for future

PAY

← Request Money

FROM
ASEEM CHATURVEDI
9885570032

AMOUNT
₹ 10

Valid Upto 21 February 2017

REMARKS

☐ Save for future

REQUEST

← Mobile Bill

Previous recharges

₹ 1000

aseem Chaturvedi
8879772834

☐ Prepaid ☒ Postpaid

Vodafone

Debit from:

Wallet Balance: ₹ 0

UPI DEBIT CARD CREDIT CARD

*****5527

ADD ANOTHER BANK ACCOUNT

PAY BILL

Mobile Banking
Registration

Check Balance

Generate
UPI Pin

Change
UPI Pin

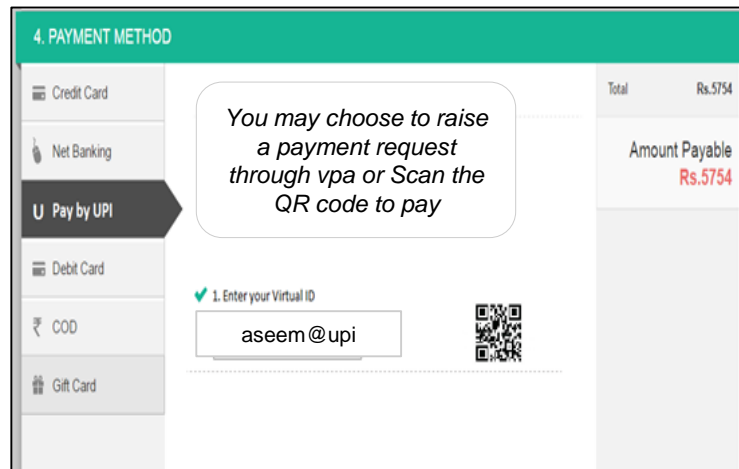
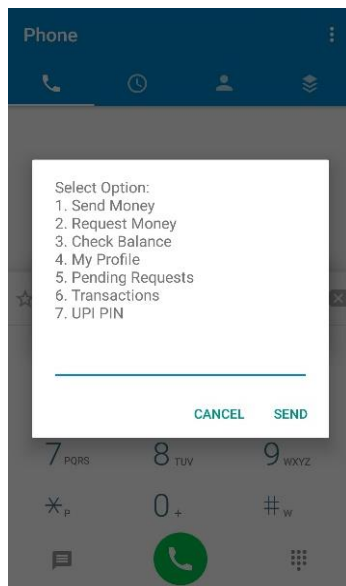
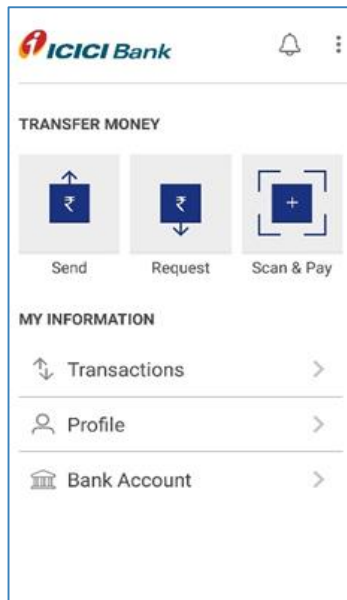


Interfaces - Access Mechanism

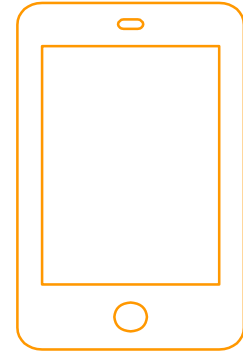
Mobile APP

Dialing Option

Internet (collect)



How UPI is different from existing Payment Methods





API based
Payments brings
flexibility across
ecosystem

Make Payments
Simple, secure
and Seamless

Ability to provide
Single Click 2
Factor
Authentication
experience

No need to
share Bank
account details

Instant and
available 24*7 –
No Holiday

Any App, Any
Bank account
Operation

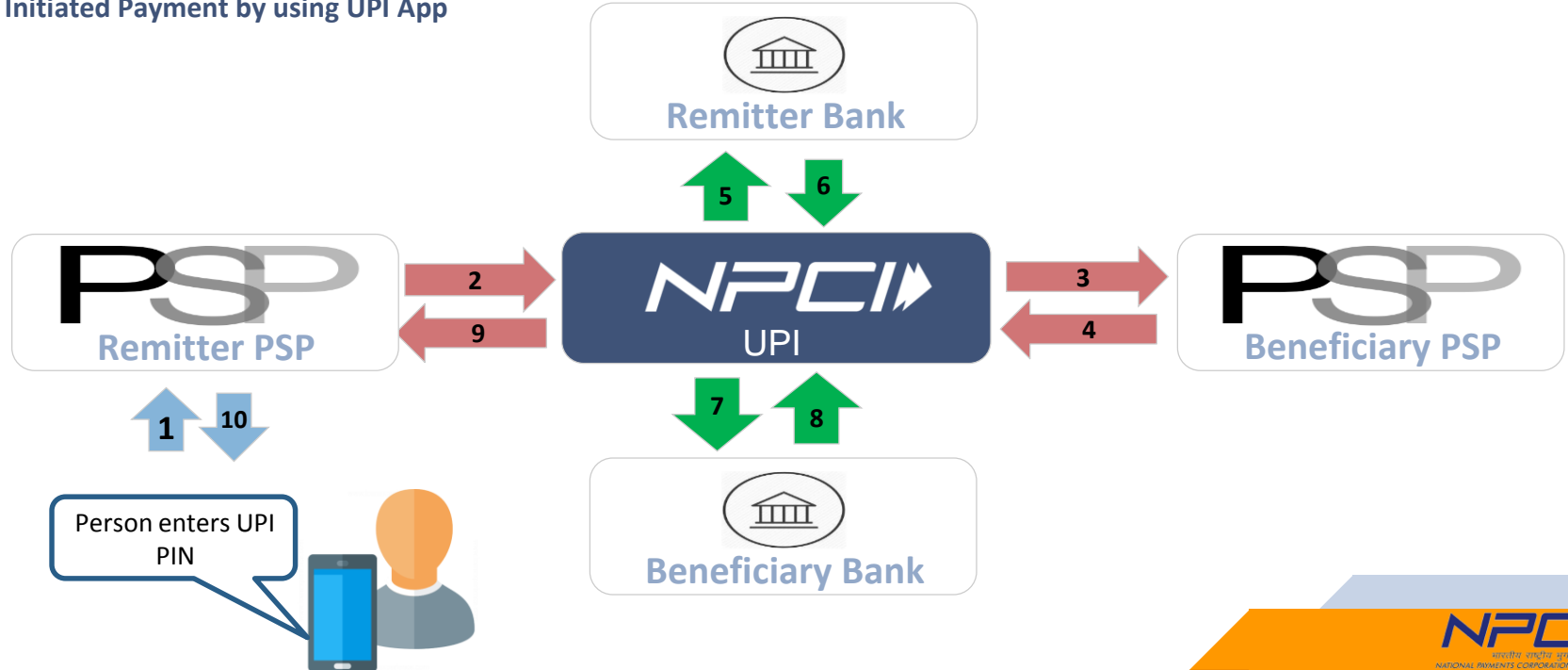
UPI Transaction Flows

P2P



Pay Transaction - 4 Party

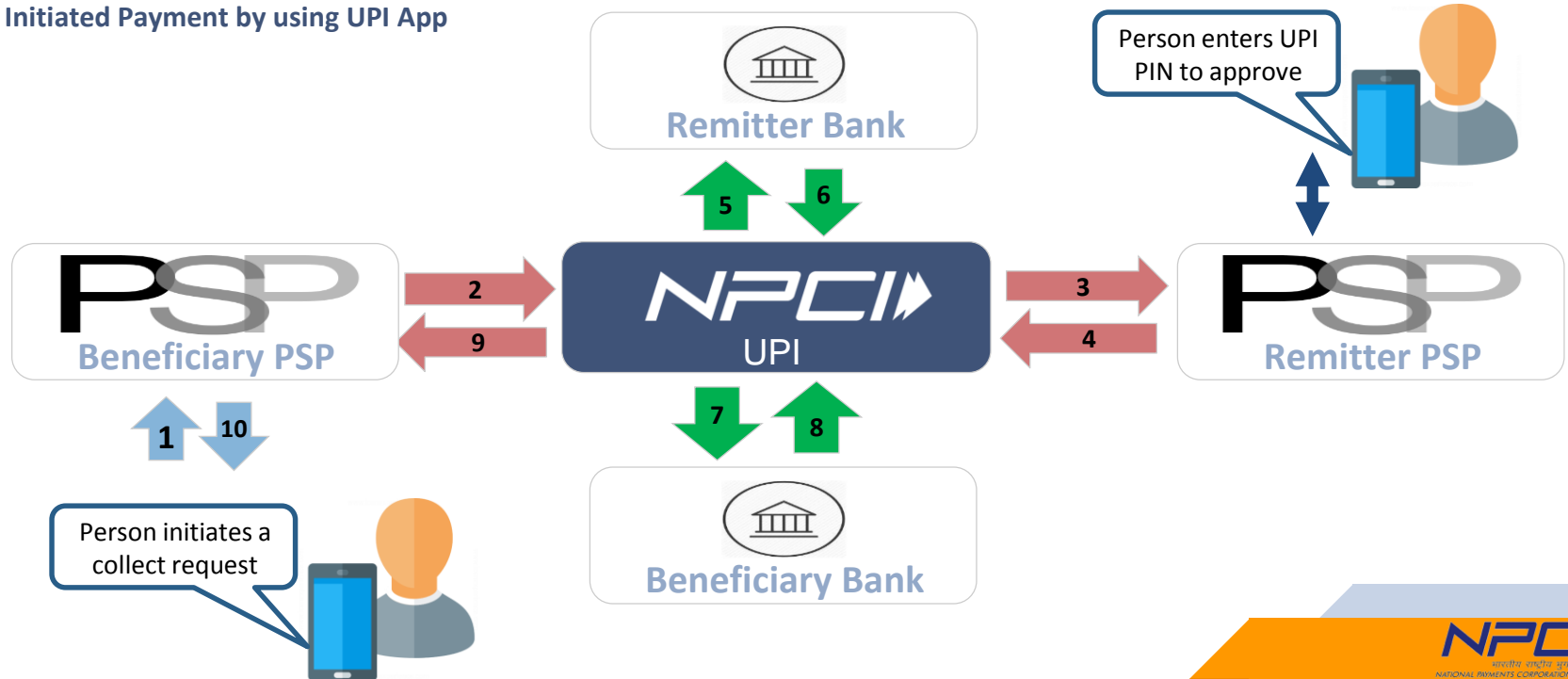
- ✓ Person Initiated Payment by using UPI App





Collect Transaction - 4 Party

✓ Person Initiated Payment by using UPI App





Eligible Members

- Direct Member Banks
- Merchant through Banks



Overall Onboarding Process

Onboarding initiation

Sandbox testing(To be done by first time TSP)

Documentation and Risk Reports

Certification testing (UAT)

- Comfort Round
- UAT
- App testing

Sign-offs and Approvals

- Certification sign off
- Product App testing sign off
- Risk , NDC , FRM , RGCS ,IT Approvals

Go-Live (Production)

- Closed user group
- After 1000 unique users + 5000 transactions & acceptable decline rate then bank can upload app on store



Onboarding Steps

Readiness for testing

Define Scope and
Testing Category

Share IP Config form
to whitelist the IP
(TAT is 4days)

Submit requirement
Template in CFLOW
to commence the
testing
(TAT is 3days)

Execute Test cases
within the Slot
Provided
**(Execute both the
rounds Comfort and
UAT)**

Once Testing is done
ensure the App and
other Risk reports
are ready for Go Live



PSP Apps - Best Practice

Application
Password
Security

Account Addition
before VPA
creation

Limitation of VPA
creation

Blocking
unwanted collect
initiators

SPAM marking

Marking “Verified
Merchants” for
whitelisted

Account+IFSC
option and
Aadhaar option
for payment

QR code read
and generation

Transaction
History
Download

In app
notifications to
the customers

Displaying the
name of
beneficiary
customer in Bold

Deemed
transaction
Status



Brief details on UPI 2.0

E Mandate

Independent mandate service with UPI framework which customer, merchants & corporate can avail without any intervention (Both as Payer & Payee Initiated)

Repetitive payments made simple

Signed Intent & QR will be allowed only to trusted PSP Apps. Provides additional security

Signed Intent
and Encrypted
UPI QR code

Bill in the Inbox

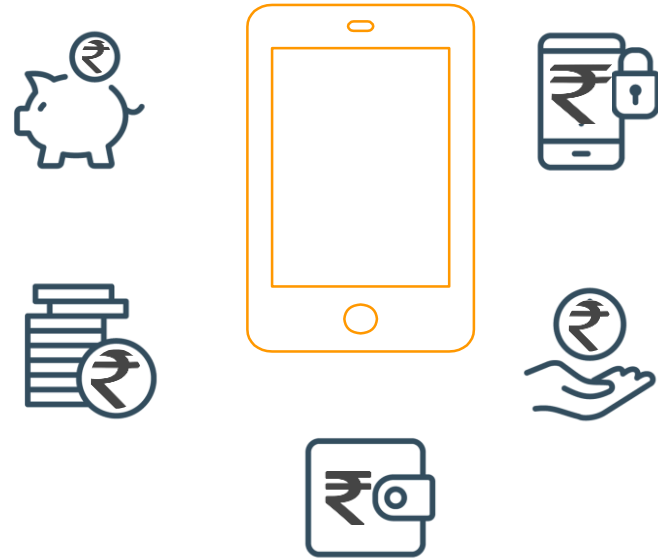
View original Bill in PDF format. It would exactly look like customer's original bill. This feature can be utilised for bill payments, invoices, financial services etc.

Going digital for bills will help save paper cost

Using Biometric authorisation in UPI 2.0, transaction can be approved by Fingerprint/ IRIS basis device capability.

Transaction authorization using Aadhaar

UPI Use Cases





Dynamic QR on the terminal charge slip



Dynamic QR on the terminal display screen



Dynamic QR on MPOS being carried by delivery boy (COD)



Dynamic QR on published on bills



Dynamic QR on the merchant website



Dynamic QR on merchant App



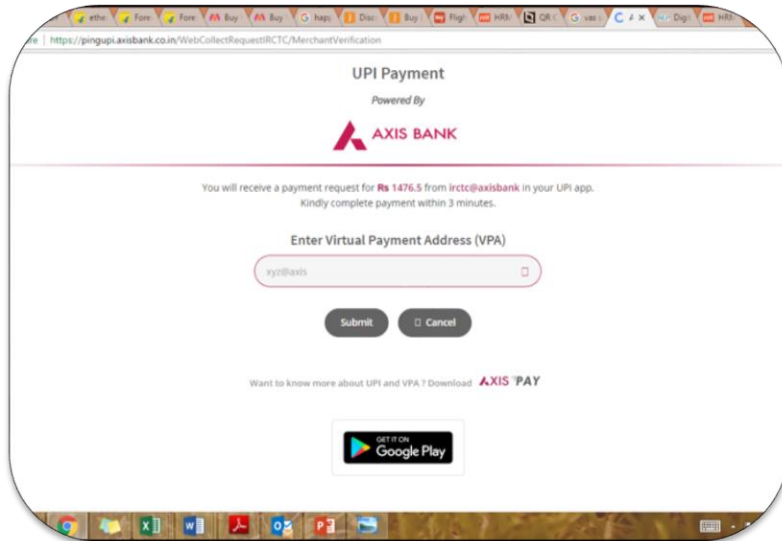
Dynamic QR on PCPOS Machine



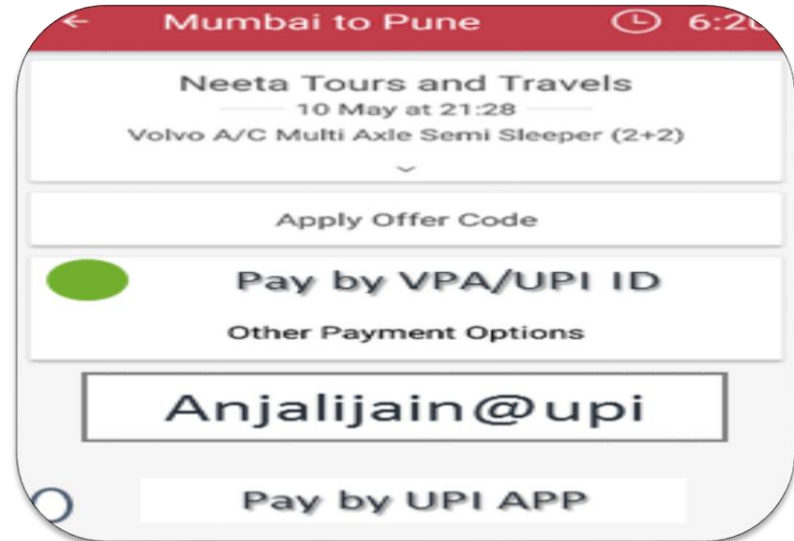
Static QR on Retail outlet



Static QR on merchant App



**Collect Request initiated on
merchant website**



**Collect Request initiated on
merchant mobile application**

3

BHIM

Bharat Interface for Money

“ Bharat Interface for Money (BHIM) is an app that lets you make simple, easy and quick payment transactions using Unified Payments Interface (UPI). User can make instant bank-to-bank payments and Pay and collect money using just Mobile number or Virtual Payment Address (VPA or UPI ID)



BHIM Features

Send Money

(Using Mobile No, Aadhaar No, A/C & IFSC, UPI ID & Saved Beneficiary)

Receive Money

(Using Mobile No & UPI ID)

Option to SPAM, Block & Unblock a Customer

Scan & Create QR Code to Send & Receive Money

View & Download Transaction history

Transactions limit of 10,000/- per txn & 20,000/- per day

Available in 12 vernacular languages

Creates a default UPI ID (mobilen@upi)

User can switch between multiple accounts & banks

Making payments by selecting a contact from contact list

Option to raise a query / complaint for a transaction

User has option to Reverse/Return the money by clicking on "Return Transaction"

Option to save beneficiary for future transactions

Can switch between SIMs in case of dual SIM handsets (if both SIM are registered)

User can check pending request



New features in BHIM v1.4

Scan & Pay on Application
Passcode Screen. Quick
payments

Push Message and
Notification (Geo Location)

Customizable payment
scheduler(including VPA,
Amount, etc.)

Additional Language
(Urdu)

Improved refund option for
wrong credit (customer sends
money to unintended person)

Support (voice over) for
blind citizens to use BHIM

Filter for transaction
history details

*Block the rooted/jail broken
BHIM installation

Blocking/Unblocking Misleading
VPA

Reading Bharat QR

Simplifying customer
complaints and Resolution

Deleting recently changed bank
account



Benefits





BHIM On-boarding steps for Customers

Download BHIM App

Install the App on Phone

Select preferred language

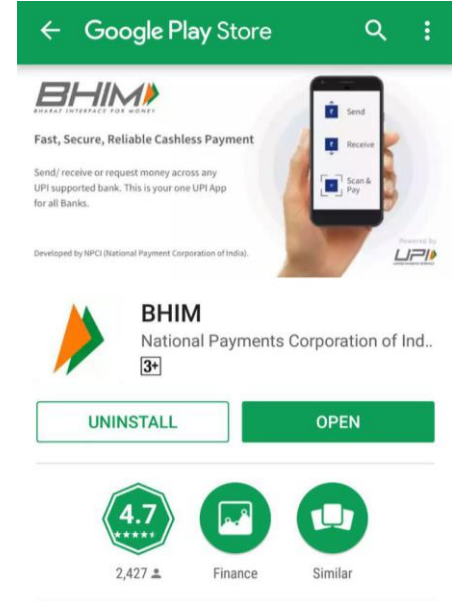
Select SIM (if dual SIM)

Add your bank & Account

Set UPI PIN

Set 4 digit App Passcode

Start transacting using
UPI



BHIM is a fast, secure, reliable way to pay
through your mobile phone.

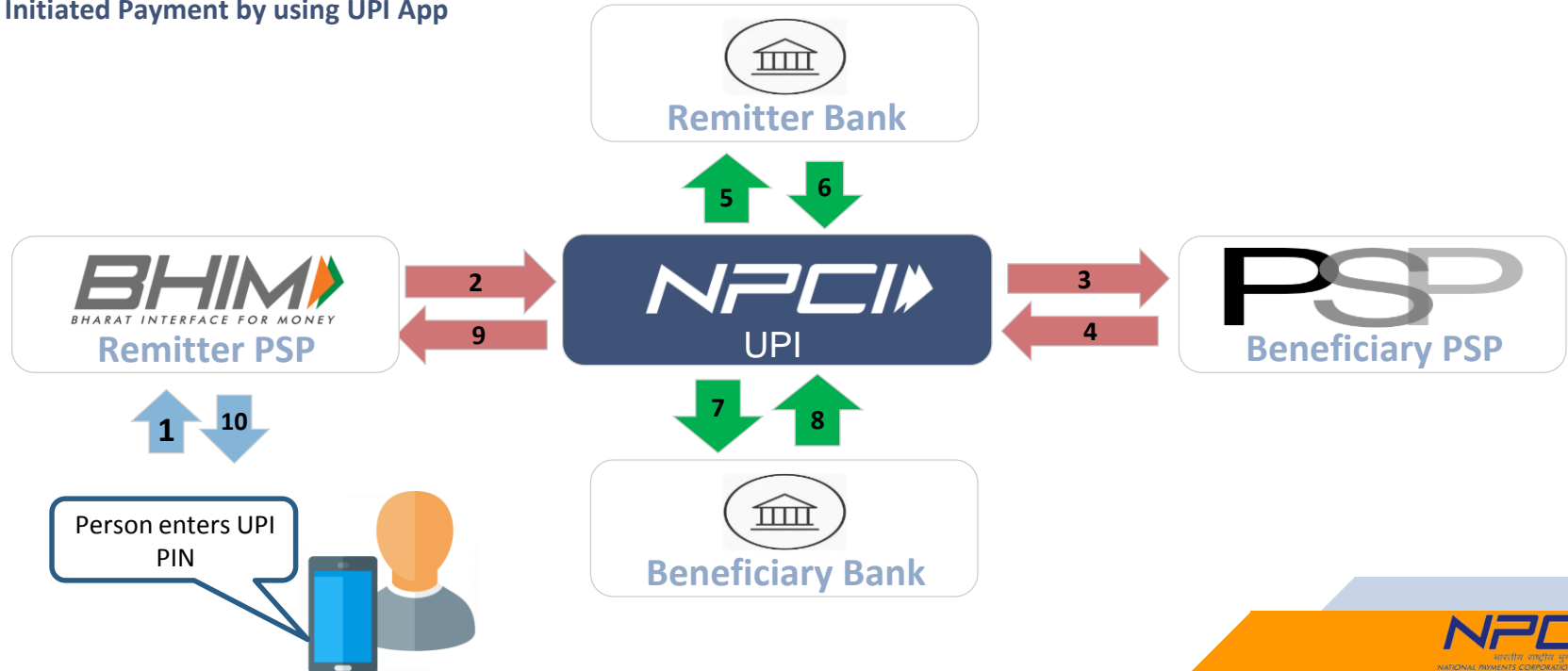
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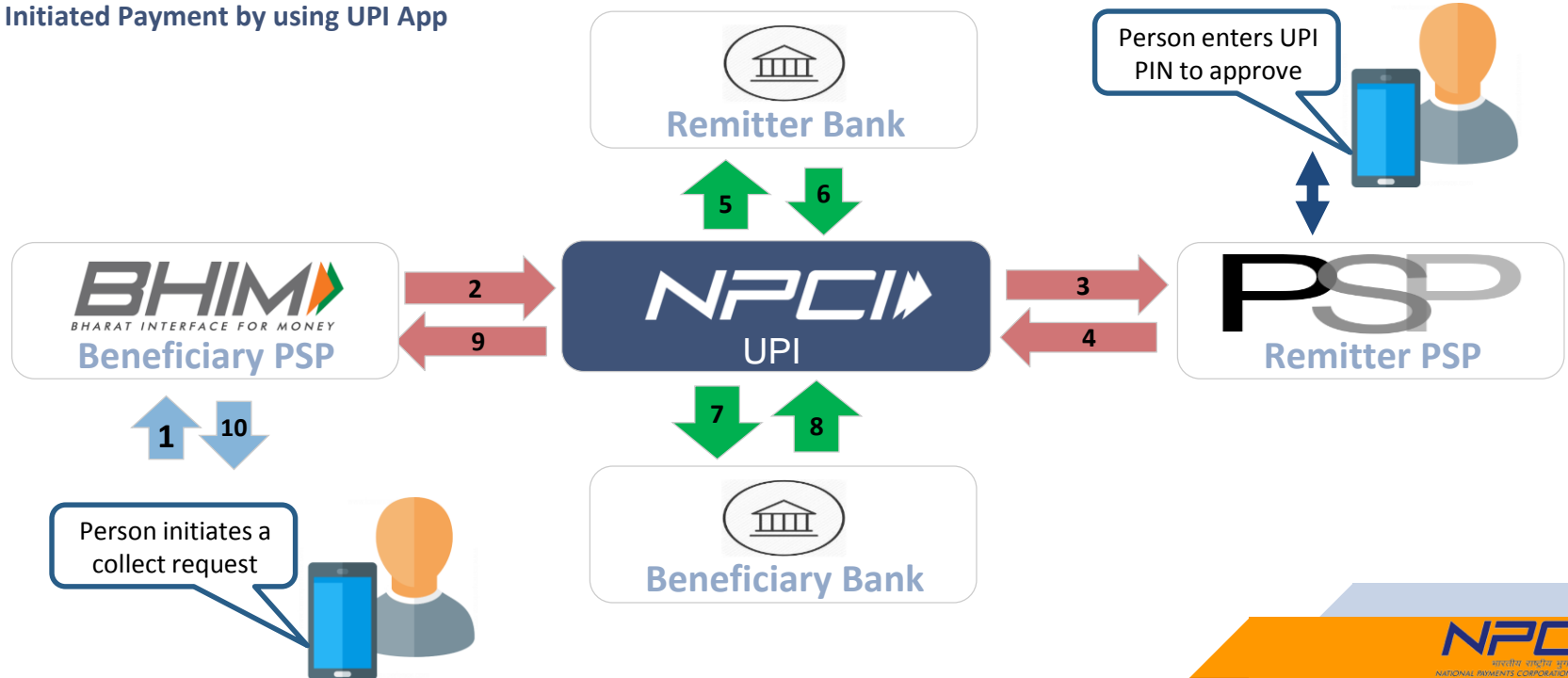
- ✓ Person Initiated Payment by using UPI App





Collect Transaction - 4 Party

✓ Person Initiated Payment by using UPI App





BHIM Eligible Members

■ Banks live on UPI



BHIM Onboarding Process for Banks

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Go-Live (Production)

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4

***99#**

National Unified USSD Platform

“ **99# - a USSD based mobile banking service has been launched to take the banking services to every common man across the country. Banking customers can avail this service by dialing *99#, a “Common number across all Telecom Service Providers (TSPs)” on their mobile phone and transact through an interactive menu displayed on the mobile screen.*



*99# Services

Financial Transactions

- Send Money (VPA)
- Send Money (Mobile No.)
- Send Money (IFSC & Account No.)
- Send Money (Aadhaar)
- Request Money

Non-Financial Transactions

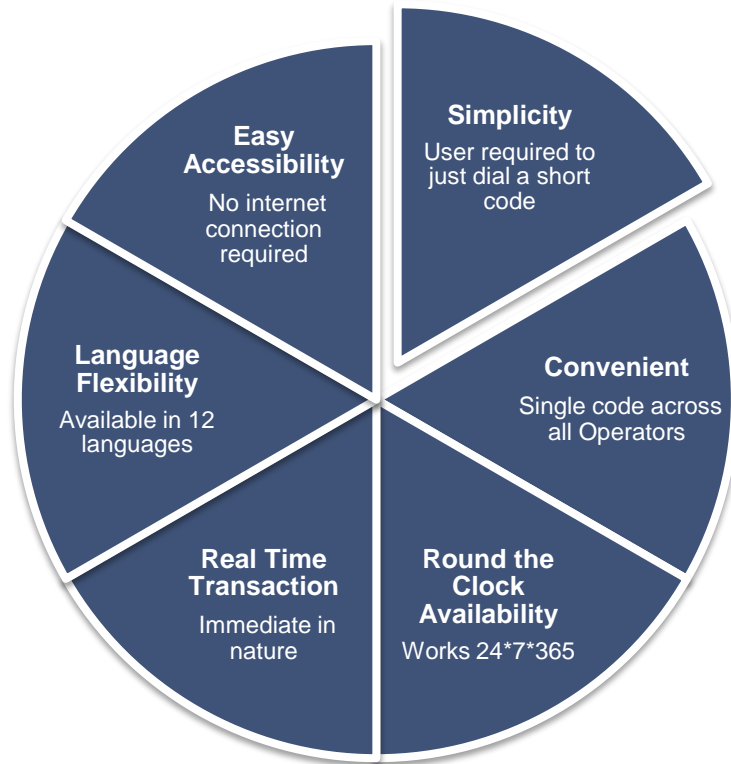
- Check Balance
- Transactions
- UPI PIN (Generate & Change)

Value Added Service

- Aadhaar Linking Status(*99*99#)
- PMJDY A/C Overdraft Status (*99*99#)

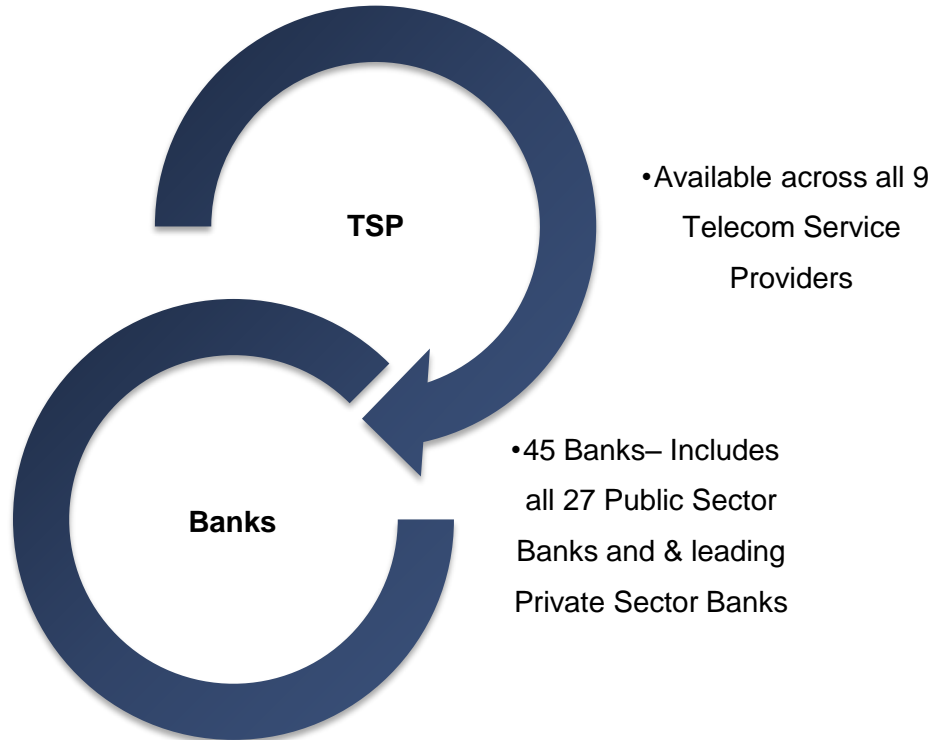


Benefits





Ecosystem





*99# On-boarding steps

Dial *99#

Select preferred language

Add your bank & Account

Set UPI PIN

Start transacting using *99#

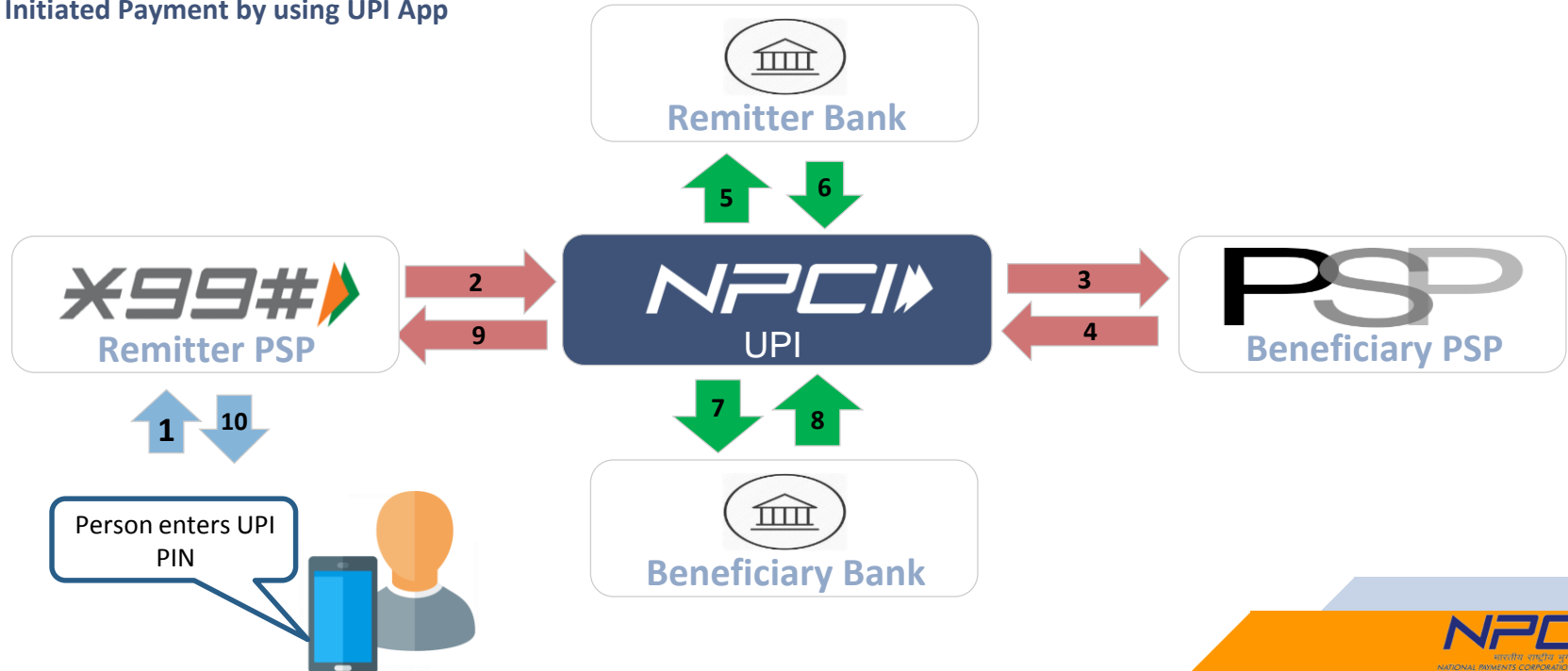
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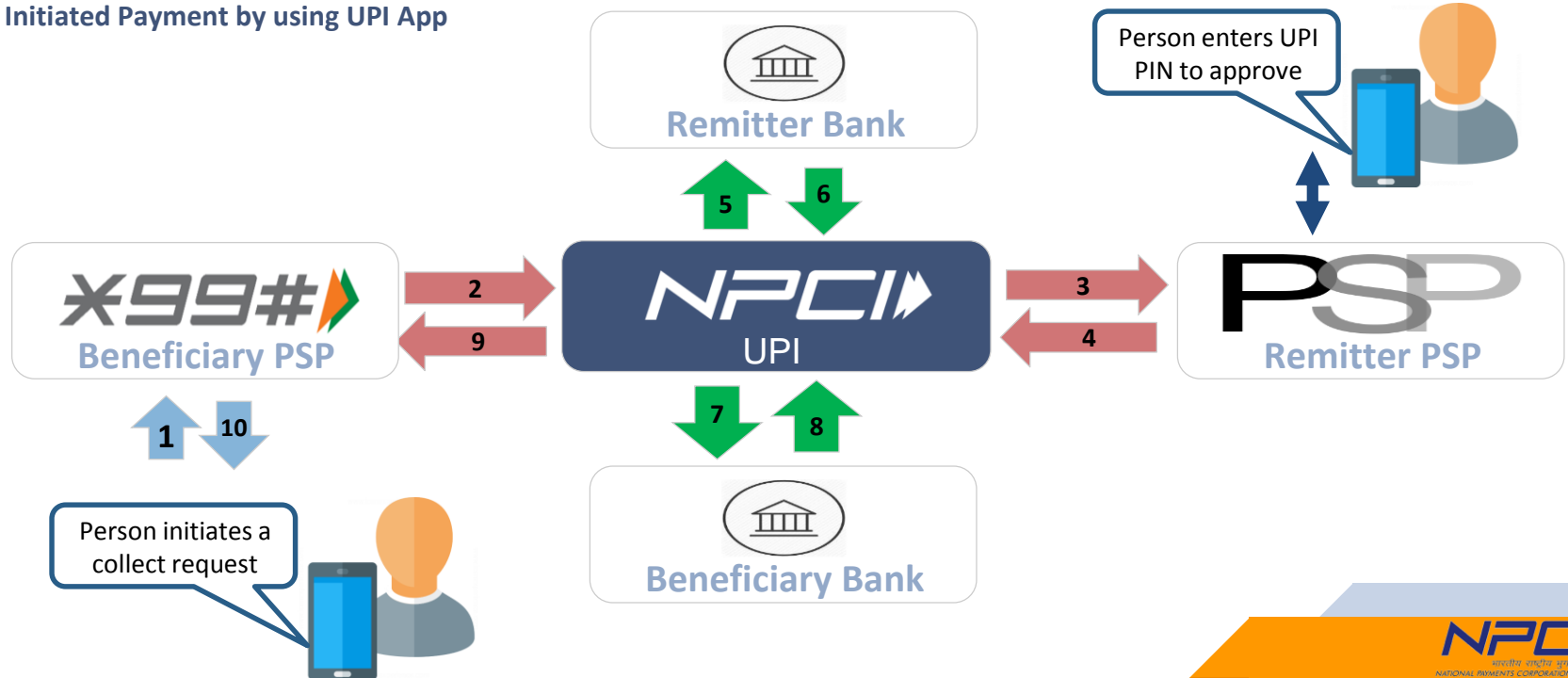
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***99# Eligible Members**

■ Banks live on UPI



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Important Points to Remember

User to register mobile number with the bank

User to keep the beneficiary details handy

User to keep the UPI Pin handy

User to have sufficient mobile balance (applicable for prepaid connections)





Services Dial Strings

SC	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	layer 7
99	1	1	8879754974	100	1234	1 or 2	
	Send Money	Using Mobile No.	Enter beneficiary's Mobile No.	Enter Amount	UPI Pin	1 to save 2 to exit	
99	1	2	rohanjain@upi	100	1234	1 or 2	
	Send Money	Using Payment Address	Enter beneficiary's VPA	Enter Amount	UPI Pin	1 to save 2 to exit	
99	1	3	1 to 20	100	1234		
	Send Money	Using Saved Beneficiary	Select beneficiary from the list	Enter Amount	UPI Pin		
99	1	4	ucba0001047	100470110005866	100	1234	1 or 2
	Send Money	Using IFSC, Account No.	Enter beneficiary's IFSC	Beneficiary's A/C No.	Enter Amount	UPI Pin	1 to save 2 to exit
99	2	8879754974 / rohanjain@upi		100			
	Request Money	Enter beneficiary's Mobile No or VPA		Enter Amount			
99	3	1234					
	Check Balance	UPI Pin					



UPI, BHIM, IMPS & *99# in nutshell

Sr. No	Features	BANK's UPI APP	BHIM	*99#	IMPS
1	Launch Year	25th August, 2016	30th December, 2016	28th August, 2014	22nd November, 2010
2	Availability	24*7*365	24*7*365	24*7*365	24*7*365
3	Languages Available	English	13	13	Varies across members
4	User Interface	PSP (Guidelines from NPCI)	Standard	Standard	Varies across members
5	Channel	Mobile (Data)	Mobile (Data)	Mobile (USSD)	Branch, INET, Mobile, ATM, IVR, SMS
6	Charges	Channel Charges (Data & SMS)	Channel Charges (Data & SMS)	Channel Charges 0.50/txn)	Channel + Bank charges
7	Transaction Limit per txn	1,00,000	10,000	5,000	Bank's - 2,00,000 , PPI's – 5,000
8	Transaction Limit per day	1,00,000	20,000	20,000	Bank's discretion
9	Ecosystem (till date)	Bank - 55	Banks - 55	Bank - 45, Telco's – 9	Bank - 237, PPI – 25
10	MPIN / UPI PIN	Created on Bank's UPI APP, can be used on *99# & BHIM	Created on BHIM, can be used on *99# & Bank's UPI APP	Created on *99#, cannot be used on BHIM & Bank's UPI APP	Works on existing channel authentication
11	Send Money Using	Account + IFSC, VPA, Aadhaar	Account + IFSC, Mobile No, VPA, Aadhaar	Account + IFSC, VPA, Mobile No, Aadhaar	Account + IFSC, Mobile+MMID, Aadhaar No.
12	Services	Pay & Collect	Pay & Collect	Pay & Collect	Pay



THANKS!

Any questions?