NPCI

National Payments Corporation of India (NPCI), an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.

Considering the utility nature of the objects of NPCI, it has been incorporated as a "Not for Profit" Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013), with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems. The Company is focused on bringing innovations in the retail payment systems through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems.

NPCI, during its journey in the last few years, has made a significant impact on the retail payment systems in the country. With Immediate Payment Service (IMPS), India has become the leading country in the world in real time payments in retail sector. Needless to mention, National Financial Switch (NFS) and Cheque Truncation System (CTS) continues to be the flagship products of NPCI. Unified Payments Interface (UPI) has been termed as the revolutionary product in payment system and Bharat Bill Payment System (BBPS) has also been launched in pilot mode. The other products include RuPay Credit Card, National Common Mobility Card (NCMC) and National Electronic Toll Collection (NETC). With these products the aim is to transform India into a 'less-cash' society by touching every Indian with one or other payment services. With each passing year we are moving towards our vision to be the best payments

Some payment systems / products managed by NPCI are detailed here.

1) **Immediate Payment Service (IMPS)**
2) **National Financial Switch (NFS)**
3) **Rupay Cards**
4) **Rupay Contact less Cards**
5) **USSD (*99#)**
6) **Aadhar Enabled Payment system (AEPS)**
7) **Bharat Interface for Money (BHIM)**
8) **Unified Payments Interface (UPI)**
10) **National Electronic Toll Collection (NETC)**
11) **Bharat bill payment system(BBPS)**
12) **Bharat QR**

IMPS

Immediate Payment Service :

IMPS is an innovative real time payment service that is available round the clock. This service is offered by National Payments Corporation of India (NPCI) that empowers customers to transfer money instantly through banks and RBI authorized Prepaid Payment Instrument Issuers (PPI) across India.

Transferring funds real time and 24X7X365 interbank was a major challenge faced in banking industry. Only NEFT & RTGS were available to user for fund transfer during banking hours.

IMPS provides robust & real time fund transfer which offers an instant, 24X7, interbank electronic fund transfer service that could be accessed on multiple channels like Mobile, Internet, ATM, SMS, Branch and USSD(*99#). IMPS is an emphatic service which allow transferring of funds instantly within banks across India which is not only safe but also economical. Currently on IMPS, over 240 members are live which includes banks & PPIs.

This facility is provided by NPCI through its existing NFS switch.

The eligible criteria for the Banks who can participate in IMPS is that the entity should have valid banking or prepaid payment instrument license from Reserve Bank of India to participate in IMPS.

Objectives of IMPS

a) To enable bank customers to use mobile instruments as a channel for accessing their banks accounts and remit funds
b) Making payment simpler just with the mobile number of the beneficiary
c) To sub-serve the goal of Reserve Bank of India (RBI) in electronification of retail payments
d) To facilitate mobile payment systems already introduced in India with the Reserve Bank of India Mobile Payment Guidelines 2008 to be inter-operable across banks and mobile operators in a safe and secured manner
e) To build the foundation for a full range of mobile based Banking services.

The participants for IMPS will be as follows:

a) Remitter (Sender)
b) Beneficiary (Receiver)
c) Banks
d) National Financial Switch - NPCI

Pre-Requisites for Mobile Banking through IMPS

Registration for IMPS :

Registration for Remitter :

- ✓ Register himself with the mobile banking service of the bank.
- ✓ Get Mobile Money Identifier (MMID) and MPIN from the bank
- ✓ Download Software (Application) for mobile banking or use the SMS facility in his mobile if his bank provides IMPS on SMS

Registration for Beneficiary:

- ✓ Link the mobile number to the account in the respective bank.
- ✓ Get Mobile Money Identifier (MMID) from the bank

For Remitter (To send money):

- ✓ Login to the application and select the IMPS menu from the IMPS or use the SMS facility in your mobile if your bank provides IMPS on SMS
- ✓ Get Beneficiary Mobile number and MMID
- ✓ Enter Beneficiary Mobile number, beneficiary MMID, Amount and your MPIN to send
- ✓ Await confirmation SMS for the debit in your account and credit in beneficiary account
- ✓ Note the transaction reference number for any future query

For Beneficiary (To receive money):

- ✓ Share your Mobile number and MMID with the remitter
- ✓ Ask the remitter to send money using your Mobile number and MMID
- ✓ Check the confirmation SMS for credit to your account from the remitter
- ✓ Note the transaction reference number for any future reference

Fund transfer/Remittance :

Sender & Receiver should have registered for Mobile Banking with their respective Banks and should have received a unique ID called **"MMID"** respectively**.** Generation of MMID is a One-time process. MMID - Mobile Money Identifier is a 7 digit code. Each MMID is linked to a unique Mobile Number. Different MMIDs can be linked to same Mobile Number. Both sender & receiver get SMS confirmation

Funds can be transferred in the following modes :

1) Using Mobile number & MMID (P2P)
2) Using Account number & IFS Code (P2A)
3) Using Aadhaar number (ABRS)

IMPS remittance using Mobile number & MMID (P2P)

IMPS offer an instant,24*7 interbank electronic fund transfer service capable of processing person to person, person to account and person to merchant remittances

via mobile, internet and ATMs. It is a multichannel and multidimensional platform that make the payments possible within fraction of seconds with all the standards and integrity maintained for security required for even high worth transactions.

- Remitter (Sender) transfer funds to beneficiary (Receiver) by using Mobile no. & 7digit MMID of beneficiary.

IMPS remittance using Account number & IFS Code (P2A)

Presently, IMPS Person-to-Person (P2P) funds transfer requires the Remitter customer to make funds transfer using Beneficiary Mobile Number and MMID. Both Remitter as well as Beneficiary needs to register their mobile number with their respective bank account and get MMID, in order to send or receive funds using IMPS.

There may be cases where Remitter is enabled on Mobile Banking, but Beneficiary mobile number is not registered with any bank account. In such cases, Remitter shall not be able to send money to the Beneficiary using Mobile Number & MMID.

Hence on the merit of the feedback received from the banking community as well as to cater the above mentioned need, the IMPS funds transfer has been made possible using Beneficiary account number and IFS code as well, in addition to Beneficiary mobile number and MMID.

IMPS remittance using Aadhaar number (ABRS)

In ABRS, a remitter can initiate IMPS transaction using the beneficiary's AADHAAR number, which acts as a financial address & which will be linked to the beneficiaries account number. ABRS facilitates in simplifying the IMPS payment initiation process as in this service the customer will have to input only AADHAAR number of the beneficiary for initiating an IMPS transaction. Another important utility of this service will be in disbursal of subsidy payment i.e. Electronic Benefit Transfer (EBT)/ Direct Benefit transfer (DBT) by the Government. ABRS will act as a catalyst in expanding financial Inclusion reach.

Query Service on Aadhaar Mapper (QSAM)

To facilitate the effective implementation of ABRS, a service, known as "Query Service on Aadhaar Mapper" the customer will be able to know:

- ✓ Whether his/her AADHAAR number is seeded/linked to any bank account number or not?
- ✓ If yes, then with which bank and when was it last updated?

** KEY POINTS to Remember

For transactions initiated using Mobile, transactions will be authenticated using mobile number & MPIN.

Mobile number + MPIN

IMPS transactions can also be initiated from ATMs and Internet banking channels. Authentication will be done for remitting customers while using the ATM channel as follows:

Card + ATM PIN

Authentication will be done for remitting customers while using the Internet banking channel as follows:

User ID + Internet Banking Password/Transaction Password

Appropriate existing two-factor authentication method would be used for all the channels. The limit as prescribed by the bank for these channels would apply while transferring money using either of these channels.

While initiating an IMPS transaction using either ATM or Internet channel, mobile banking registration for a remitting customer is not mandatory. Similarly, for customers receiving money using account number/IFSC, or using AADHAAR number, mobile banking registration is not mandatory.

Some Clarifications on IMPS

The important benefits of IMPS are:

1. Instant

2. Available 24 x7 (functional even on holidays)

3. Safe and secure, easily accessible and cost effective

4. Channel Independent can be initiated from Mobile/ Internet / ATM channels

5. Debit & Credit Confirmation by SMS

6. Funds Transfer and Remittances

For using IMPS on mobile phones, a customer will have to register for mobile banking with his/her individual bank. However, for initiating IMPS using Bank branch, Internet banking and ATM channels, no prior Mobile banking registration is required.

Customer can link more than one account to the same mobile number. However each A/C no. will have different MMID.

The beneficiary customer need not register for IMPS, if receiving money using bank account details or Aadhaar Number. However, for receiving money using Mobile no. & MMID, Mobile registration is mandatory.

Stop payment: IMPS is an immediate fund transfer service, after initiating the payment request payment cannot be stopped or cancelled.

If a customer changes his Mobile number he needs to update the new mobile number with their bank.

If a customer changes only the Telecom service provider and not the number there is No need for re-registration.

IMPS transactions can be sent and received 24X7, (round the clock), including on holidays.

NFS

National Financial Switch (NFS) ATM network having 37 members and connecting about 50,000 ATMs was taken over by NPCI from Institute for Development and Research in Banking Technology (IDRBT) on December 14, 2009. Over the span of few years, NFS ATM network has grown many folds and is now the leading multilateral ATM network in the country. As on 31st August' 17, there were 941 members that includes 101 Direct, 776 Sub members, 56 RRBs and 8 WLAOs using NFS network connected to more than 2.37 Lac ATM. NFS has established a strong and sustainable operational model with in-house capabilities and today can be compared at par with other major and well-established switch networks. The operational functions and services are at par with most of the global ATM networks.

Salient Features

- NFS has introduced sub-membership model which enables smaller, regional banks including RRBs and local co-operative banks to participate in the ATM network.
- NFS has maintained high standards of application and network uptime of above 99.50% which has helped our member banks ensure enhanced customer experience.
- The Dispute Management System (DMS), has benefitted members with high operational efficiency and ease of online transaction life cycle management (chargeback, representment, etc.) in the network apart from being compliant with local regulatory requirements.
- NPCI has also tied up with International card schemes like Discover Financial Service (DFS), Japan Credit Bureau (JCB) and China UnionPay International (CUPI) which allows their cardholders to use ATMs connected to NFS network.
- The Fraud Risk Management (FRM) solution is offered as a value added service to monitor transactions (in real time) and to generate alert or decline the transaction in the NFS network

Value Added Services:

Apart from basic transactions like Cash Withdrawal, Balance Enquiry, PIN Change and Mini Statement, NFS also offers other Value Added Services (VAS) on ATMs/CDMs like:

1. Interoperable Cash Deposit (ICD)
2. Mobile Banking Registration (MBR)
3. Card-to-Card Fund Transfer (C2C)
4. Cheque Book Request (CBR)
5. Statement Request (SR)
6. Aadhar Number Seeding (ANS)

Interoperable Cash Deposit (ICD):

- ✓ The service enables cardholders of participating member banks to use NFS networked Cash Recyclers/Cash Deposit Machines of participating member banks for depositing cash in their own account or third party account.
- ✓ The service is beneficial for banks as well as its customers as it will help banks to optimize cash handling cost and at the same time provide convenience to customers by allowing them to use any participating Bank's Cash Recycler/Cash Deposit Machine to deposit cash into their own account or any third party account.
- ✓ Many Banks have already deployed about 23,000 + Cash Recyclers/Cash Deposit Machines for catering their own customers, which can be enabled for interoperable transactions.
- ✓ Interoperability will further help to optimised cash handling cost and earn higher fee income leading to enhance Return on Investment.

Some of the key features of this service are:

- ✓ Real time credit to beneficiary account
- ✓ Instant verification of notes by cash recycler/cash deposit machine
- ✓ Optimize cash handling cost and reduce idle cash in machines
- ✓ 24/7 availability of cash deposit facility
- ✓ Limit per Transaction is restricted to less than Rs.50,000/-
- ✓ Paperless Transaction

Mobile Banking Registration (MBR) : The service enables cardholders of participating member bank to register for Mobile Banking using any other participating member bank's ATM.

Card-to-Card Fund Transfer (C2C) : The service enables cardholders of participating member bank to use NFS network ATMs of participating member bank for initiating funds transfer to the any other participating member bank's cardholder's account.

Cheque Book Request (CBR) : This service enables cardholder of participating member bank to request for Cheque Book using any other participating member Bank's ATM.

Statement Request (SR) : This service enables cardholder of participating member bank to request for account statement using any other participating member Bank's ATM.

Aadhaar Number Seeding (ANS) : This service enables cardholder of participating member bank to request for seeding of Aadhaar number in the account linked to the card using any other participating member Bank's ATM.

RuPay

Rupay is card payment scheme launched by the National Payments Corporation of India (NPCI), has been conceived to fulfil RBI's vision to offer a domestic, open-loop, multilateral system which will allow all Indian banks and financial institutions in India to participate in electronic payments.

"RuPay", the word itself has a sense of nationality in it. "RuPay" is the coinage of two terms Rupee and Payment. The RuPay Visual Identity is a modern and dynamic unit. The orange and green arrows indicate a nation on the move and a service that matches its pace. The color blue stands for the feeling of tranquillity which is the people must get while owning a card of the brand 'RuPay'. The bold and unique typeface grants solidity to the whole unit and symbolizes a stable entity.

Advantages of RuPay Card

The Indian market offers huge potential for cards penetration despite the challenges. RuPay Cards will address the needs of Indian consumers, merchants, and banks. The benefits of RuPay debit card are the flexibility of the product platform, high levels of acceptance and the strength of the RuPay brand-all of which will contribute to an increased product experience.

- o **Lower cost and affordability**: Since the transaction processing will happen domestically, it would lead to lower cost of clearing and settlement for each transaction. This will make the transaction cost affordable and will drive usage of cards in the industry.
- o **Customized product offering**: RuPay, being a domestic scheme is committed towards development of customized product and service offerings for Indian consumers.
- o **Protection of information related to Indian consumers**: Transaction and customer data related to RuPay card transactions will reside in India.
- o **Provide electronic product options to untapped/unexplored consumer segment**: There are under-penetrated/untapped consumers segments in rural areas that do not have access to banking and financial services. Right pricing of RuPay products would make the RuPay cards more economically feasible for banks to offer to their customers. In addition, relevant product variants would ensure that banks can target the hitherto untapped consumer segments.
- o **Inter-operability between payment channels and products**: RuPay card is uniquely positioned to offer complete inter-operability between various payments channels and products. NPCI currently offers varied solutions across platforms including ATMs, mobile technology, cheques etc and is extremely well placed in nurturing RuPay cards across these platforms.

Features and Benefits of RuPay Card

1) Complimentary Lounge Access Program – Domestic & International
2) 24X7 Concierge Services
3) Earn Cashback time after time
4) Comprehensive Insurance Cover
5) Exclusive Merchant Offers

RuPay Contactless

RuPay Contactless is an open loop EMV based payment product from NPCI and aims at providing an efficient and hassle-free experience to the customer. This advanced and secure card can be used for all payment applications, including transport (Metro, Bus etc.), toll, shopping etc. In payments lower than Rs.2,000 the customers can simply tap their card and the transactions are processed with a blink of an eye. No second factor authorization is needed through a PIN.Rupay Contact less cards

RuPay Contactless specifications have been developed to offer vendor agnostic, scalable, inter-operable, secured, user friendly and cost effective ecosystem of low value payments to facilitate building a cashless transaction environment. The specifications will allow member banks and any other RuPay service provider/issuer to bring out open loop RuPay products while providing them the option of offering inbuilt stored value and stored data functionalities.

The objective of RuPay Contactless specification is the first of its kind in the country on many counts.

a) To provide a mechanism for including Low Value Payments (LVPs) within the gambit of electronic payments.
b) To deliver a product that addresses the concerns of Indian customers taking into consideration the Indian Banks & Merchants.
c) To motivate Indian customers to switch from cash to electronic payments.

RuPay Contactless Use Cases

RuPay Contactless offers the unique proposition of One Card for all Payments. This card can be used for transit payments (Bus, Metro, Cab etc.), toll, parking, small value offline retail payments as well as normal day to day retail payments.

Key Functionalities/Particulars	RuPay Contactless Proposition
Transaction Type	Supports online (contact & contactless) & off-line (contactless) transactions
Provision for multiple service areas	Multiple service areas (optional to use with mutual concurrence) to support acquirer/operator specific programs e.g. Passes/Season Tickets/Smart City Specific application/ Loyalty points etc.
Card usage	Same card to be used at ATMs, Merchant establishments & online (e-commerce) payments in addition

	to other areas of contactless payments viz., Toll, parking & other small value merchant payments.
Card issuance	· Can be issued by any member authorized by RBI
	· On the platform of Debit/Prepaid/Credit Cards as per the option of issuing entity
Information storage	Requisite information required by acquirer/operators & Banks can be stored on the card or the back-end as per the preference and mutual concurrence of participating entities.
Multilevel Wallets	Provision of 2 types of wallets to store balance on card – Issuer controlled Global Wallet and operator/acquirer controlled local balance.
up the stored value	Provision of Topping up the stored value through any mode of payment viz., Online using card, Internet Banking, IVR, ATM, Cash at customer service point at the option of the issuing entity.
Offline Transaction Risk	Since the offline transaction is permitted against available balance, there is minimal risk of any loss either to the bank or the merchant.
Security	Underlying technology i.e. EMV is best available globally and has been adopted to safeguard against frauds.
Cost of providing contactless card to the customer	RBI has mandated that effective Feb 01, 2016, all cards issued by banks in India would be EMV. Therefore, cost of providing contactless card to the customer will be only marginal as against steep increase in territories where mag-stripe ecosystem exists.
Synergy with existing technology	RuPay Contactless specifications can co-exist with the existing technology being used by acquirer/operator and migration to common standards may be achieved gradually to suit the convenience of PTO.

This would provide seamless connectivity to passengers across all transit systems in the country bringing convenience and ease of payment for them. Moreover, this card can be used for day to day retail payments as well. This will also lead to huge economies of scale for the Acquirer/Operators due to removal of duplicity of efforts as well as standardization across issuance, acceptance, networking interfaces, clearing, settlement and dispute management systems.

RuPay Contactless specification creates the synergy with the vision of MoUD and offers the solution for NCMC program.

What is RuPay Contactless?

What are the objectives of RuPay Contactless?

One Card for all Purpose - To provide single payment platform for making payments across end to end everyday needs of customer aimed at value proposition for all involved stakeholders. Standard Payment: Standard EMV based retail payments through contact and contactless interfaces at merchant POS terminals.

What are the key features of RuPay Contactless?

Service Compartments: It comes with a unique feature that enables acquirer to create and use their own space on the card, referred to as 'Service Compartment'. There may be multiple independent service compartments on the same card catering to different business implementations. Acquirers/merchants may build their own specific programs such as transit,loyalty, etc. on these areas as per their business agreements with the card Issuer. Multi-level Wallets: qSPARC specification supports creation of wallets in the card at two different levels – Global i.e. at card level and Local i.e. at service level. Global balance is maintained by issuers and local balance is maintained by acquirers/operators. While the local balance may be utilized for transactions only at service provider specific outlets, the global balance may be utilized for payments at all outlets where RuPay chip cards are accepted. Shorter transaction processing time – Transactions amounting less than Rs.2000 can be approved offline without additional factor authentication. Interoperability.

Benefits of contact less Cards?

- ➢ It's like having exact change wherever you go, so you don't have to worry about
- ➢ carrying around cash or fishing for coins.
- ➢ You are in control because your contactless-enabled card never leaves your hand at
- ➢ checkout.
- ➢ You get better record keeping of all your purchases than you do when using cash.
- ➢ It's fast and ideal at places where speed is essential, like stadiums, fast food
- ➢ restaurants, gas stations and more.

Some FAQs on contact less cards

What is contact, contactless and dual interface?

Contact Interface: A card based on contact interface can interact with terminal only when the card is in contact (dipped or swiped) with the terminal.

Contactless Interface: A card based on contactless interface can interact with terminal when the card is in the range of the terminal. The card does not need to be in contact with the terminal to initiate a transaction.

Dual Interface: These cards support the properties of both the contact as well as contactless interface. A transaction can be initiated by either interface depending upon the capabilities of terminal.

What is the difference between qSPARC & existing RuPay specifications?

The existing RuPay specification only caters to solution for contact RuPay chip cards. Whereas qSPARC specification addresses both contact and contactless RuPay chip cards. qSPARC also has provision for service compartments so that a common card can be used for various purposes.

What are the benefits to Banks?

Customer loyalty & stickiness. Additional revenue opportunities with large customer base. Savings on cost of servicing customers and cash handling. Increased usability of bank issued cards due to transit/toll/utility payments related use case. Improved brand image to offer value added products/services. Rich data insights with valuable customer data for data analytics.

How can a bank implement RuPay Contactless in its switch?

Banks should abide by the Issuer host implementation Guide/Acquirer Implementation guide which enlist all the changes that need to be made at Bank Switch in order to successfully process a RuPay Contactless transaction.

What is service compartment/area?

Service compartment is a unique feature that enables acquirers to create and use their own space on the card, referred to as 'Service Compartment'. There may be multiple independent service compartments on the same card catering to different business implementations. Acquirers/Merchants may build their own specific programs such as transit, loyalty, etc. on these areas as per their business agreements with the card Issuer.

What are the transaction types supported by RuPay Contactless?

Transaction types supported for contact only.

Sr. No	Transaction Mode	Transaction Mode
1	PoS	Purchase
2	PoS	Purchase with Cash Back
3	PoS	Cash @ PoS
4	PoS	Decline Advise
5	PoS	Reversal Advise
6	ATM	Cash Withdrawal
7	ATM	Balance Inquiry
8	ATM	Reversal Advise
9	ATM	Mini Statement
10	ATM	Decline Advice
11	ATM	PIN Change

Transactions supported for contactless interface.

Sr. No	Transaction Mode (Retail & Transit)	Transaction Type (Online & Offline)
1	PoS	Purchase
2	PoS	Service Creation*
3	PoS	Money Add*
4	PoS	Balance Inquiry*

*These transaction types are specific to qSPARC & can be enabled on contact interface also.

What type of balance is in the RuPay Contactless card?

Balance Type	Description
Host Balance	Limit and rules to maintain this balance will be as per the bank policy applicable for Debit/Credit/Prepaid card. This balance signifies Balance amount present at Issuer Host. This balance will be utilized during online transactions e.g. retail purchase, ATM (cash withdrawal) and ECOM.
Global Balance (Card Balance)	The global balance is maintained at the card level.

	There is only one global balance stored on the card. Issuer is responsible for management of this balance.
Local Balance (Service Balance)	This is service level balance. Operator/Acquirer may use its own balance (local balance) as defined in Service area. Management of Operator created balance in service area is operator's discretion and outside the scope of this document. Service Balance may be linked to card balance i.e. global balance.

Is there a standard RuPay Contactless identification mark?

> EMV co. has published the contactless indicator to be used for contactless payment cards. This contactless indicator is globally recognised and provides an immediate and consistent mechanism to merchants and customers to recognize payment cards supporting contactless technology.

Are there any differences when personalizing contactless payment cards versus magnetic-stripe-only cards?

> Yes. There are additional personalization processes for contactless payment cards since payment data and security keys are loaded onto the contactless smart card chip. Most major personalization bureaus support the contactless process. Issuers should contact their personalization vendor for changes and additions to their existing process for embossing and encoding.

Could customers unknowingly make a purchase if they walk past the reader?

> No, you have to activate the terminal first and the cashier must enter the payment amount to activate the contactless terminal. In addition, the card or device has to be held within 2 cm (1 inch) of the terminal.

Is it possible to make refunds to a contactless card?

Yes, it's possible to issue a refund to customers by tapping the contactless payment device in the same manner as making a purchase. Please follow your store's refund policy.

NUUP (*99# Service on USSD platform)

NPCI launched Unified Payments Interface (UPI) with member banks on 25th August, 2016. UPI allows account holders across banks to send and receive money using a unique id known as UPI id or payment address. UPI allows users the facility to generate their own UPI ID. Besides UPI ID, user can also send money using the conventional financial address i.e. Account number + IFSC and also, through emerging option of AADHAAR number. Conceptualized as a mobile application based solution primarily catering to internet compatible phones (smart-phone users) , UPI is now available for non-internet based mobile devices (smartphone as well as basic phones) in the form of dialling option (*99#) and is known as USSD 2.0 .This functionality i.e. USSD 2.0 is launched along with BHIM on 30th December 2016.

*99# service has been launched to take the banking services to every common man across the country. Banking customers can avail this service by dialling *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. Key services offered under *99# service include, Sending and Receiving interbank account to account funds, balance enquiry, setting / changing UPI PIN besides host of other services. *99# service is currently offered by 41 leading banks & all GSM service providers and can be accessed in 13 different languages including Hindi & English. *99# service is a unique interoperable direct to consumer service that brings together the diverse ecosystem partners such as Banks & TSPs (Telecom Service Providers).

It is a common technology platform developed by NPCI which allows the Banks and TSPs to seamlessly integrate with each other to provide banking services to the customers at large over the mobile phones (basic as well as smartphone).

Currently, following Financial, Non-financial and Value Added Services (VAS) are offered through *99# service.

Financial Services	Sending Money using Mobile No
	Sending Money using UPI ID
	Sending Money using Aadhaar No.
	Sending Money using Account No. + IFSC
	Requesting Money using UPI ID / Mobile No.
Non-Financial Services	Account Balance
	Set UPI PIN
	Change UPI PIN
	Last 5 transactions
Value Added Services(*99*99#)	Aadhaar linking Status
	PMJDY A/C Overdraft Status

The maximum limit of fund transfer per customer on NUUP is ₹5,000 per day.

Convenience of *99*99# Service

It is a value added service from NPCI that facilitates the customers to check the status of his/her Aadhaar number seeding/linking in the bank account. The service works across all GSM service providers and brings together the diverse ecosystem partners such as Banks & TSPs (Telecom Service Providers).

Considering that various subsides and benefits of the State and Central Government schemes under the Direct Benefit Transfer (DBT) programme are being doled out basis the Aadhaar number of the beneficiary; this service has proved to be a convenient mechanism for the users to ascertain his/her Aadhaar seeding/ linking status in the bank account.

Currently, following Financial, Non-financial and Value Added Services (VAS) are offered through *99# service:

    A. Send Money
    B. Request Money
    C. Check Balance
    D. My Profile
    E. Pending request
    F. Transactions
    G. UPI PIN

Financial Services

A. Send Money : **Users can send money to the beneficiary using one of the following**

    1. Mobile Number ,
    2. Aadhar Number ,
    3. Payment address,
    4. saved beneficiary,
    5. IFSC code and Account Number

B. Request Money : Users can request money from another account holder using beneficiary's

    1. Registered mobile number or
    2. Virtual Payment address.

C. Check Balance: View available balance of the bank account linked to user's mobile number.

D. My Profile : User can mange the following settings in his profile

    1. Change Bank Account
    2. Change Language
    3. My details
    4. Payment Address
    5. Manage Beneficiary

6. Merchant

7. De register

E. **Pending request** : pending requests for payments can be seen

F. **Transactions** : Previous Transactions can be checked

G. **UPI PIN** : UPIN can be set or changed

Value Added Services:

It is a value added service from NPCI that facilitates the customers to check the status of his/her Aadhaar number seeding/linking in the bank account.

Main Features of *99# Service
- ➤ Works without Internet – Uses voice connectivity
- ➤ Round the clock availability (works even on holidays)
- ➤ Accessible through a common code *99# across all TSPs
- ➤ Works across all GSM service providers and mobile handsets
- ➤ Additional channel for banking and key catalyst for financial inclusion
- ➤ Service also offered through BC Micro ATMs to serve the rural populace
- ➤ No additional charges while roaming for using the service
- ➤ Round the clock availability to customers (works even on holidays)
- ➤ No need to install any application on mobile handset to use the service

AEPS

In order to further speed track Financial Inclusion in the country, Two Working Group were constituted by RBI on MicroATM standards and Central Infrastructure & Connectivity for Aadhaar based financial inclusion transactions with members representing RBI, Unique Identification Authority of India, NPCI, Institute for Development and Research in Banking Technology and some special invitees representing banks and research institutions.

The working group on MicroATM standards & Central Infrastructure & Connectivity has submitted its report to RBI. As a part of the working group it was proposed to conduct a Lab level Proof of concept (POC), integrating the authentication & encryption standards of UIDAI, to test the efficacy of MicroATM standards and transactions using Aadhaar before they are put to actual use. The POC was successfully demonstrated at various venues.

AEPS is a new payment service offered by the National Payments Corporation of India to banks, financial institutions using 'Aadhaar'. This shall be known as 'Aadhaar Enabled Payment System' and may also be referred to as "AEPS". AEPS is a bank led model which allows online interoperable financial inclusion transaction at PoS (MicroATM) through the Business correspondent of any bank using the Aadhaar authentication. Any resident of India holding an Aadhaar number and having a bank account may be a part of the Aadhaar Enabled Payment System.

The customer conducting an AEPS transaction may visit a BC Customer Access Point. The BC using the Point of Sale (MicroATM) device will be able to process transactions like Cash Withdrawal, Cash Deposit, Balance Enquiry and Fund Transfer by selecting the transaction of their choice. The Customer needs to provide their Aadhaar Number and their bank name or bank IIN number.

IIN number identifies the bank to which the customer has mapped his/her Aadhaar number. Each bank would be issued a unique Issuer Identification Number (IIN) NPCI. This is a six digit number. The customer service point will have the IIN number represented on the terminal by various bank logos/ bank names or the Business Correspondent (BC) agent will have a chart displayed of various banks IIN in the customer service centre. Therefore the customer need not necessarily remember the IIN. It is however recommended that the customer be aware of their bank IIN to completely ensure an AEPS transaction.

The four Aadhaar enabled basic types of banking transactions are as follows:-

- o Balance Enquiry
- o Cash Withdrawal
- o Cash Deposit

o Aadhaar to Aadhaar Funds Transfer

The only inputs required for a customer to do a transaction under this scenario are:-

- o IIN (Identifying the Bank to which the customer is associated)
- o Aadhaar Number
- o Fingerprint captured during their enrolment

Objectives

- ➢ To empower a bank customer to use Aadhaar as his/her identity to access his/ her respective Aadhaar enabled bank account and perform basic banking transactions like balance enquiry, Cash deposit, cash withdrawal, remittances that are intra bank or interbank in nature, through a Business Correspondent.
- ➢ To sub-serve the goal of Government of India (GoI) and Reserve Bank of India (RBI) in furthering Financial Inclusion.
- ➢ To sub-serve the goal of RBI in electronification of retail payments.
- ➢ To enable banks to route the Aadhaar initiated interbank transactions through a central switching and clearing agency.
- ➢ To facilitate disbursements of Government entitlements like NREGA, Social Security pension, Handicapped Old Age Pension etc. of any Central or State Government bodies, using Aadhaar and authentication thereof as supported by UIDAI.
- ➢ To facilitate inter-operability across banks in a safe and secured manner.
- ➢ To build the foundation for a full range of Aadhaar enabled Banking services.

Services Offered by AEPS

- ➢ Balance Enquiry
- ➢ Cash Withdrawal
- ➢ Cash Deposit
- ➢ Aadhaar to Aadhaar Fund Transfer
- ➢ Gateway Authentication Services

BHIM

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

The following are the features of BHIM:

1. **Send Money**: User can send money using a Virtual Payment Address (VPA), Account Number & IFSC, Aadhaar Number or QR code.

2. **Request Money**: User can collect money by entering Virtual Payment Address (VPA). Additionally through BHIM App, one can also transfer money using Mobile No. (Mobile No should be registered with BHIM or *99# and account should be linked)

3. **Scan & Pay**: User can pay by scanning the QR code through Scan & Pay & generate your QR option is also present.

4. **Transactions**: User can check transaction history and also pending UPI collect requests (if any) and approve or reject. User can also raise complaint for the declined transactions by clicking on Report issue in transactions.

5. **Profile**: User can view the static QR code and Payment addresses created or also share the QR code through various messenger applications like WhatsApp, Email etc. available on phone and download the QR code.

6. **Bank Account**: User can see the bank account linked with his/her BHIM App and set/change the UPI PIN. User can also change the bank account linked with BHIM App by clicking Change account provided in Menu and can also check Balance of his/her linked Bank Account by clicking "REQUEST BALANCE"

7. **Language:** Up to 8 regional languages (Tamil, Telugu, Bengali, Malayalam, Oriya, Gujarati, Kannada ,Hindi) available on BHIM to improve user experience.

8. **Block User:** Block/Spam users who are sending you collect requests from illicit sources.

9. Privacy: Allow a user to disable and enable mobilenumber@upi in the profile if a secondary VPA is created (QR for the disabled VPA is also disabled).
10. **Payment Reminders**: Schedule payments as per your convenience.
11. **Split Bill**: Splitting bills with multiple UPI users at a click of a button.

Unique features of BHIM:

- QR code based scan & pay option available, Generate your own QR code option is also available
- Option to save your beneficiaries for future references
- Access transaction history and Request Balance anytime
- Create, reset or change UPI PIN
- Report Issue and call Bank facilities are given to lodge complaints
- FAQ section is created in the app to answer all the queries reg. BHIM
- Available in 2 languages English and Hindi

Benefits of BHIM:

- Single App for sending and receiving money and making merchant payments
- Go cashless anywhere anytime
- Added security of Single click 2 factor authentication
- Seamless money collection through single identifiers, reduced risks, real time
- Mobile no. or Name used to create VIRTUAL PAYMENT ADDRESS (VPA)
- Best answer to Cash on Delivery hassle
- Send and collect using VIRTUAL PAYMENT ADDRESS (VPA) or A/c no & IFSC.
- Payments through single app in your favourite language.
- 24X7, 365 days instantaneous money transfer

Transfer Limits:

- Maximum limit per transaction is Rs. 10,000 per transaction
- Maximum limit per day is Rs. 20,000
- There is limit of 20 transactions per account per bank.

Charges for using BHIM:

For Smart Phones with Internet option BHIM can be executed via the app (available in Play store and coming soon for iPhone app store), whereas for feature phones, BHIM can be executed via phone dialler using *99# option.

The charges for BHIM is one time hard binding SMS charges depending on the mobile operator (Standard SMS charges of your operator).For *99# the charges are Rs.0.50/- for one transaction.

HOW TO USE BHIM APP:

First Time User:
Step 1: Download and Install BHIM app from Google Play store/Apple App Store.

Step 2: Select your preferred language.

Step 3: Select SIM card which has the mobile number registered with your respective bank.

Step 4: Set the application passcode required to enter the app.

Step 5: Link your bank accounts using bank account option.

Step 6: Set your UPI PIN by providing last 6 digits of debit card and expiry date of debit card.

Step 7 (Optional): Create another virtual payment address (VPA) in the profile section. Automatically mobilenumber@upi will be your default virtual payment address (VPA) (eg. 9876543210@upi)

Note: 2 virtual payment address (VPA)s are allowed per user 1. mobilenumber@upi and 2. name@upi)

Step 8: Set one virtual payment address (VPA) as a primary (default) virtual payment address (VPA) (Eg. name@upi can be primary virtual payment address (VPA) making it easy to share with others).

Step 9: Click on send and enter the virtual payment address (VPA)/Account number+ IFSC/Aadhaar number and Scan or Pay option of the person to whom you want to send money.

Step 10: Enter the UPI Pin you set earlier to authenticate the transaction.

Step 11: Check transaction history to see the status of the transaction.

Customer Referral Scheme –
The scheme is intended to incentivize an existing user of BHIM to bring new users on the BHIM platform and encourage the new user to do transaction using BHIM with other users or by referring new users on BHIM. Hence, the bonus will be paid to both the referrer and the new user of BHIM (referee) and the referral will be considered successful only after 3 successful financial transactions (to any valid UPI user – "valid receiver") performed by the referee.
The Scheme construct as -
1. An existing BHIM user (Referrer) to refer BHIM application to new user (Referee)

2. New BHIM user (Referee) initiates access to BHIM app or by dialling *99# from his/her mobile number registered with bank and complete on-boarding process on BHIM i.e. downloading, registering and fetching the bank account

3. New BHIM user (Referee) completes his/her first eligible financial transaction with any unique user

To establish the referral relationship between referrer and referee –

1. Referee needs to enter the referral code (mobile number) of the referrer at the time doing the first financial transaction with any unique user (to any valid UPI user including BHIM)

2. The referral code field (as an option) will appear on the transaction page and will be visible only to the new BHIM user (referee) at the time of their first financial transaction process

3. In case of *99#, the referee will choose the option of entering the referral code (as an option) at the time of on-boarding

4. System shall validate that if the referrer mobile number is valid BHIM registered

5. On completion of minimum 3 unique successful transactions totaling to Rs. 50 to any 3 unique users (either P2P or P2M), the referrer and the referee will be notified about the bonus amount via notification in BHIM app. In this the referrer and referee has to be on BHIM user, however he can perform financial transaction with any valid UPI user / merchant.

6. The bonus will be credited to the bank accounts of the referrer and the referee after meeting the eligibility criteria (as stated below)

Merchant Incentive Scheme –

1. Merchant can download and install the BHIM App or *99# in his phone and will have an option to self-declare himself/herself as merchant by clicking on "I Am A Merchant' tab in BHIM App.

2. Once the user clicks on the "I AM A MERCHANT" tab, he/she has to fill in appropriate details asked by the BHIM App - business name, contact number (auto populated), merchant category (drop-down), merchant address, city, pin-code, account type

3. The scheme applies to all merchants who receive payments on BHIM App or *99#

4. Reward section in BHIM app would display the cashback received to the merchant.

5. Merchant can use any mode available on BHIM [QR Code, VPA, Mobile number, or Aadhaar number] to collect the payments from their customers. Both push and pull based payments shall qualify for this payments.

6. On achieving the cashback incentive slab as defined for the merchants, NPCI initiates the cashback process using NACH platform and the merchant is notified of the cashback via notification in BHIM app

UPI

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.

How is it unique?

1. Immediate money transfer through mobile device round the clock 24*7 and 365 days.
2. Single mobile application for accessing different bank accounts.
3. Single Click 2 Factor Authentication – Aligned with the Regulatory guidelines, yet provides for a very strong feature of seamless single click payment.
4. Virtual address of the customer for Pull & Push provides for incremental security with the customer not required to enter the details such as Card no, Account number; IFSC etc.
5. Bill Sharing with friends.
6. Best answer to Cash on Delivery hassle, running to an ATM or rendering exact amount.
7. Merchant Payment with Single Application or In-App Payments.
8. Utility Bill Payments, Over the Counter Payments, Barcode (Scan and Pay) based payments.
9. Donations, Collections, Disbursements Scalable.
10. Raising Complaint from Mobile App directly.

Participants in UPI

1) Payer PSP
2) Payee PSP
3) Remitter Bank
4) Beneficiary Bank
5) NPCI
6) Bank Account holders
7) Merchants

UPI - Benefits to the Ecosystem participants

Benefits for banks:

1) Single click Two Factor authentication
2) Universal Application for transaction
3) Leveraging existing infrastructure
4) Safer, Secured and Innovative
5) Payment basis Single/ Unique Identifier
6) Enable seamless merchant transactions

Benefits for end Customers:

1) Round the clock availability
2) Single Application for accessing different bank accounts
3) Use of Virtual ID is more secure, no credential sharing
4) Single click authentication
5) Raise Complaint from Mobile App directly

Benefits for Merchants:

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

Registration in UPI enabled application

Steps for Registration:

➢ User downloads the UPI application from the App Store/Banks website
➢ User creates his/her profile by entering details like name, virtual id (payment address), password etc.
➢ User goes to "Add/Link/Manage Bank Account" option and links the bank and account number with the virtual id
➢ Generating UPI – PIN:
➢ User selects the bank account from which he/she wants to initiate the transaction
➢ User clicks one of the option -

a. Generate M-PIN

- User receives OTP from the Issuer bank on his/her registered mobile number
- User now enters last 6 digits of Debit card number and expiry date
- User enters OTP and enters his preferred numeric UPI PIN(UPI PIN that he would like to set) and clicks on Submit
- After clicking submit, customer gets notification (successful or decline)

b. Change MPIN

- User enters his old UPI PIN and preferred new UPI PIN (UPI PIN that he would like to set) and clicks on Submit
- After clicking submit, customer gets notification (successful or failure)

Performing a UPI Transaction:

PUSH – sending money using virtual address

- User logs in to UPI application
- After successful login, user selects the option of Send Money/Payment
- User enters beneficiary's/Payee virtual id, amount and selects account to be debited
- User gets confirmation screen to review the payment details and clicks on Confirm
- User now enters UPI PIN
- User gets successful or failure message

PULL – Requesting money:

- User logs in to his bank's UPI application
- After successful login, user selects the option of collect money (request for payment)
- User enters remitters/payers virtual id, amount and account to be credited
- User gets confirmation screen to review the payment details and clicks on confirm
- The payer will get the notification on his mobile for request money
- Payer now clicks on the notification and opens his banks UPI app where he reviews payment request
- Payer then decides to click on accept or decline
- In case of accept payment, payer will enter UPI PINto authorize the transaction
- Transaction complete, payer gets successful or decline transaction notification

> Payee/requester gets notification and SMS from bank for credit of his bank account

A. **Financial Transactions**: UPI supports the following financial transactions.

Pay Request: A Pay Request is a transaction where the initiating customer is pushing funds to the intended beneficiary. Payment Addresses include Mobile Number & MMID, Account Number & IFSC and Virtual ID

Collect Request: A Collect Request is a transaction where the customer is pulling funds from the intended remitter by using Virtual ID.

B. **Non-Financial Trans**actions: UPI will support following types of non-financial transactions on any PSP App viz.

> Mobile Banking Registration*
> Generate One Time Password (OTP)
> Set/Change PIN
> Check Transaction Status
> Raise Dispute/Raise query

* Mobile Banking Registration is possible only if the mobile number (which is to be registered) is registered with the Issuer Bank for SMS Alerts/mobile alerts.

UPI can be accessed on all platforms viz. Android / iOS – The Apps have been developed by members on Android 4.2.2 and above/iOS 8.1 and above platforms.

Some FAQs on UPI

What is an UPI-PIN?

> PI-PIN (UPI Personal Identification Number) is a 4-6 digit pass code you create/set during first time registration with this App. You have to enter this UPI-PIN to authorize all bank transactions. If you have already set up an UPI-PIN with other UPI Apps you can use the same on BHIM. (Note: Banks issued MPIN is different from the UPI UPI-PIN, please generate a new UPI-PIN in the BHIM app) Note: Please do not share your UPI-PIN with anyone. BHIM does not store or read your UPI-PIN details and your bank's customer support will never ask for it.

What happens if I enter wrong UPI-PIN during a transaction?

> The transaction will fail if you enter the wrong UPI pin.

I have selected the Bank name to link with UPI but it does not find my bank A/C

In such a case, please ensure that the mobile number linked to your bank account is same as the one verified in any UPI App. If it is not the same, your bank accounts will not be How do I pay an online merchant through UPI?

How do I pay an online merchant through UPI?

When you shop-online, you can pay through UPI when you see UPI as a payment option. On clicking that, you will need to enter your Payment Address (eg - xyz@upi). Once entered, you will receive a collect request on your BHIM app. Enter your UPI-PIN here and your payment will be complete. As easy as this!fetched by the UPI platform.

Do money transfers happen on UPI only during banking hours?

All payments are instant and 24/7, regardless of your bank's working hours.

I have paid for my transaction but not received anything. Why is that?

Once you complete a transaction, you should see a success status on the BHIM screen and receive an SMS from your bank. In some cases due to operator issues it can take longer time. In case you have not received your confirmation within an hour please contact the customer support at your bank.

How can I view my transaction history?

Go to Home Screen ->Transaction History, to view all your past and pending transactions.

How is UPI different from IMPS?

UPI is providing additional benefits to IMPS in the following ways:

1.Provides for a P2P Pull functionality

2.Simplifies Merchant Payments

3.Single APP for money transfer

4.Single click two factor authentication

Does a customer need to register before remitting funds using UPI?

Yes, a customer needs to register with his/her PSP before remitting funds using UPI and link his accounts.

Does the customer need to register a beneficiary before transferring funds through UPI? What details of beneficiary will be required?

No, registration of Beneficiary is not required for transferring funds through UPI as the fund would be transferred on the basis of Virtual ID/Account+IFSC/Aadhaar Number. (Please check with your PSP and Issuing bank with regard to the services enabled on the App).

Does customer need to have a bank account or this can be linked to a card or wallet?

No, customer cannot link a wallet to UPI, only bank accounts can be added

Does the beneficiary also have to register for UPI for receiving funds?

In case of Virtual ID transaction, the beneficiary needs to have a Virtual ID and in turn be registered with UPI but in case of Account + IFSC or Aadhaar number, the beneficiary need not be registered for UPI. (Please check with your PSP and Issuing bank with regard to the services enabled on the App).

What happens if my mobile phone is lost?

In case of mobile loss, one needs to simply block his mobile number thus no transaction can be initiated from the same mobile number which is a part of device tracking and at the same time UPI pin would be required for any transaction which is not to be shared with anyone.

Can I link more than one bank account to the same virtual address?

Yes, several bank accounts can be linked to the same virtual address depending on the functionalities being made available by the respective PSPs.

What are the different channels for transferring funds using UPI?

The different channels for transferring funds using UPI are:

a. Send/Collect through Virtual ID
b. Account Number + IFSC
c. Aadhaar Number

What if my account is debited but the transaction does not go through?

UPI provides for real time reversals for declines and amount would be transferred back to the payer account immediately. In case if it does not reverse the amount immediately, you can contact your bank for the same.

Can I put a stop payment request for funds transferred by UPI?

No, once the payment is initiated, it cannot be stopped.

Where do I register a complaint with reference to the UPI transaction?

You can also raise your grievance or check status of UPI transaction through the UPI App of the participating banks.

What is the limit of fund transfer using UPI?

At present, the upper limit per UPI transaction is Rs. 2 Lakh.

If I change my UPI app will I be required to register again or I can carry the same virtual address?

In case of change in UPI App, a person needs to re-register and it needs to create a new VPA with the handle of the PSP.

Will I be able to use UPI after I change my sim or mobile?

In case of change in sim/mobile/application of the PSP, customer would require to re-register themselves for UPI.

What if I change my handset?

If you change your handset, you will need to:

1.Download the PSP app again

2.Register through mobile verification

Can I use more than one UPI application on the same mobile if they are linked to different bank accounts?

Yes, one can use more than one UPI application on the same mobile and link both same as well as different accounts.

UPI 2.0

The National Payments Corporation of India (NPCI) on Thursday launched Unified Payments Interface (UPI) 2.0, which among others allows customers to link their overdraft account to UPI, creation of one-time mandates and pre-authorisation of transactions for payment at a later date, and checking the invoice sent by merchant prior to making payment.

New features of UPI 2.0

1) One time mandate with block functionality:

With this feature, consumer can pre-authorise a transaction and block the funds in his account for a c debit to be initiated later. UPI Mandate can be used in scenarios where money is to be paid later after obtaining the service; however the money in the account gets blocked instantaneously. The customer's account shall get debited when the UPI Mandate is executed by the merchant or payee .The mandate is digitally signed and stored at customer's account holding bank and also with customer's PSP bank (app providing bank). During the debit, the customer's account holding bank and customer's PSP bank need to validate the digital signature and verify the parameters.

Details:

- The mandate shall have key parameters such as "purpose code", "from & to date", "amount" & "frequency" (set to 'One time').
- Customer can authorize one time use mandates to different or same payee's at the same time.
- UPI mandate can be created by push or pull transactions i.e. QR, Intent, Collect or by create mandate option in UPI App. The mandate cannot be initiated by Payee for Person to Person

(P2P) transaction.

- A UPI Mandate creation is fully authorized by the consumer by two factor authentication using 'what you know' (UPI Pin) and 'what you have' (Device binding).

- User/Merchant can Create, Modify or revoke the UPI Mandate as per defined rules. For some use cases the modification may not be allowed or allowed only up to specific date.

- UPI mandate can be executed up to the amount authorized by the consumer. Once executed and if partial, the remaining amount is returned to the customer's account. The customer's bank shall remove the block after expiry of the mandate.

- Till the time mandate is executed, the funds remain in blocked condition in customer's account and he/she continues to earn an interest depending on the type of underlying account.

- All existing UPI dispute management rules shall apply for the transactions.

- The notification to customer on both stages, i.e. block and mandate execution (debit) is mandatory.
- In case of revocation (wherever permissible), the block on the money should be released immediately reinstating the money to the customer's account The revocation date should be prior to the execution date/ expiry date.
- The bank providing mandate with block functionality shall return 2 amounts on balance inquiry i.e. available and actual/usable balance or Sanctioned Limit and Drawing Power. All UPI Apps need to display the same [1].

2) Over-Draft (OD) account as an underlying account in UPI

Currently savings and Current account addition is permissible in UPI. Now, with this additional feature, the user can also link an overdraft account provided he/she is found eligible to avail an OD c by his/her bank.

For any OD accounts, whenever a customer needs to check balance of his OD account, customer's bank shall return 2 balances i.e. available & actual/usable balance. All UPI Apps need to display the same.

- Details:
- UPI acts as a digital channel for accessing the OD account. On-boarding and registration processes for OD account remains same as the existing CASA accounts.
- Customer discovers/fetches the existing OD account and links to UPI for transaction.
- Customer has a choice to set new UPI ID/UPI Pin or use existing UPI ID/UPI Pin (used for current linked UPI account), as decided by his/her bank.
- A transaction to OD linked UPI ID would mean a repayment of OD by the customer.
- P2P & P2M transactions are allowed from a secured OD account. However for unsecured OD accounts, only P2M transactions are permissible (excluding the categories prohibited by any regulator).
- Bank is responsible to get agreement on terms and conditions agreed with the customer. All existing UPI dispute management rules shall apply for the transactions.
- The OD providing bank must take the required consumer consent and make him aware about the terms and conditions of taking OD from the bank.
- The OD providing banks must communicate to the customer the due dates, outstanding amount, interest charges or any such information required at regular basis.

- The customer account balances cannot be stored or used by PSP Bank or 3rd party app provider for any purpose as

3) Invoice in the Inbox (View attachment & pay)

Using this feature customer can check/verify the invoice or attachment prior to authorizing the payment via a secure link received in the collect/intent message. To start with, the facility can be availed by verified merchants.

- This creates a provision by which the merchants can share Invoices with customers before the transaction is authorized.
- This provision requires all UPI Apps to display an option -'Click on attachment to view details' or equivalent and open the same in a browser or equivalent display with the facility of 'Return' back to the main app, to the user.
- This option is feasible for collect, intent and QR code based transactions.
- Transaction history details should also reflect the link under which the Invoice was presented and the same should be retained for at least 2 months by the merchant.

4) Signed Intent I QR

Signing of Intent / QR provides more security while making payment by the customer. Member banks shall convert software based UPI QR codes (dynamic and static) by December 31 , 2018 and physical UPI QR codes (static) by March 31, 2019.

5) UPI per transaction cap moved to 2 L

User can now use higher amount on transaction for specific use cases as agreed by the steering committee of UPI.

NETC

National Payments Corporation of India (NPCI) has developed the National Electronic Toll Collection (NETC) program to meet the electronic tolling requirements of the Indian market. It offers an interoperable nationwide toll payment solution including clearing house services for settlement and dispute management. Interoperability, as it applies to National Electronic Toll Collection (NETC) system, encompasses a common set of processes, business rules and technical specifications which enable a customer to use their FASTag as payment mode on any of the toll plazas irrespective of who has acquired the toll plaza.

FASTag is a device that employs Radio Frequency Identification (RFID) technology for making toll payments directly while the vehicle is in motion. FASTag (RFID Tag) is affixed on the windscreen of the vehicle and enables a customer to make the toll payments directly from the account which is linked to FASTag.

FASTag offers the convenience of cashless payment along with benefits like - savings on fuel and time as the customer does not has to stop at the toll plaza.

Currently the program is live on over 400 toll plazas across the country.

Objectives of National Electronic Toll Collection system:

To create a composite interoperable ecosystem by providing an interoperable secure framework capable of use across the country.

Simple and robust Framework by increases transparency and efficiency in processing transactions.

To serve the sub goal of Government of India through

- ✓ **Electronification of retail payments.**
- ✓ **Reduction air pollution by reducing the congestion around toll plaza.**
- ✓ **Reduction fuel consumption.**
- ✓ **Reduction of cash handling.**
- ✓ **Enhance audit control by centralizing user account.**

Following are some of the key features and functionalities of National Electronic

Transaction Type.	Off-line; near real time transaction processing as the toll plazas send the transactions within 10 mins interval.
Interoperability.	NETC ecosystem supports multiple issuers and multiple acquirers' i.e. Tag issued by any member bank is accepted at all toll plaza (under NETC program) acquired by any member bank in a safe and secured manner.
Flexibility to choose the underlying payment instruments.	Customers can link their FASTag to their existing savings/current account or to a prepaid account basis the offering from the Issuer member banks. For opening a prepaid account it is not mandatory to have an existing relationship with the issuer bank.
Tag Issuance.	Can be issued by member banks, authorized for NETC Program.
Cashless Payment.	FASTag facilitates electronic payments at the toll plaza while the vehicle is in motion.
Save Time and Fuel.	Customer can travel without stopping at the toll plaza by using the FASTag thus reduce congestion at plazas and , saving fuel and reduce travel time.
Recharge FASTag account online.	Customer can recharge FASTag account online through issuing member banks portal using UPI/ Credit Card/ Debit Card/ NEFT/ RTGS /Net Banking.

Cashback.	Cashback scheme is available to the customers on toll payments using FASTag at National Highways Toll Plazas. The cashback scheme for the current FY is 5%.*

About FASTag

FASTag is a RFID passive tag used for making toll payments directly from the customers linked prepaid or savings/current account.

It is affixed on the windscreen of the vehicle and enables the customer to drive through toll plazas, without stopping for any toll payments.

The toll fare is directly deducted from the linked account of the customer.

FASTag is also vehicle specific and once it is affixed to a vehicle, it cannot be transferred to another vehicle.

FASTag can be purchased from any of the NETC Member Banks.

If a FASTag is linked to the prepaid account, then it needs to be recharged/ topped-up as per the usage of the customer. If adequate balance is not maintained by the customer, the FASTag gets blacklisted at the toll plaza. In such a scenario if the customer travels through a toll plaza without recharging then he won't be able to avail the NETC services and would be required to pay the toll fare through cash.

Benefits of FASTag for customers:

Cashless payment – FASTag users don't need to carry cash for toll transactions, and don't need to worry about collecting the exact change

Promotional cashback – All FASTag users will get a monthly cashback of 5% on toll transactions in FY 2018-19. Currently the cashback scheme is only available on National Highway Toll Plazas as below:

Cashback of 5% on all toll payments using FASTag in FY 2018-19.

Cashback of 2.5% on all toll payments using FASTag in FY 2019-20.

The cash back amount will be credited back in the tag linked account on a monthly basis.

Faster transit – Auto-debit of exact amount through the FASTag enables faster transit through the toll plazas and saves time . Customer will receive an SMS alert in your registered phone number each time a balance is deducted from your FASTag account.

Online recharge – FASTag can be recharged online through Credit Card / Debit Card / NEFT/ RTGS or Net Banking

SMS alerts – Instant SMS alerts on registered mobile number for toll transactions, low balance, etc.

Validity :FASTag has unlimited validity. The same FASTag can be used till the tag can be read by the reader and not tampered with. In case the reading quality depreciates due to wear and tear, customer can reach out to their Issuing Bank for a replacement.

BBPS

The Bharat bill payment system is a Reserve Bank of India (RBI) conceptualised system driven by National Payments Corporation of India (NPCI). It is a one-stop ecosystem for payment of all bills providing an interoperable and accessible "Anytime Anywhere" bill payment service to all customers across India with certainty, reliability and safety of transactions.

Bharat BillPay - The One stop destination for Bill Payment Bharat BillPay has multiple modes of payment and provides instant confirmation of payment via an SMS or receipt. It offers myriad bill collection categories like electricity, telecom, DTH, gas, water bills etc. through a single window. In future biller categories may be expanded to include insurance premium, mutual funds, school fees, institution fees, credit cards, local taxes, invoice payments, etc. An effective mechanism for handling consumer complaints has also been put in place to support consumer regarding any bill related problems in Bharat BillPay.

Different Payment Channels

Bharat BillPay transaction can be initiated through multiple payment channels like Internet, Internet Banking, Mobile, Mobile-Banking, POS (Point of Sale terminal), Mobile Wallets, MPOS (Mobile Point of Sale terminal), Kiosk, ATM, Bank Branch, Agents and Business Correspondents, by just looking at the Bharat BillPay logo

Different Payment Modes

Bharat BillPay facilitates myriad payment modes enabling bill payments. The payment modes options facilitated under the ecosystem are Cards (Credit, Debit and Prepaid), NEFT Internet Banking, UPI, Wallets, Aadhar based Payments and Cash.

Key Features

Interoperable	Bharat BillPay will be an integrated ecosystem connecting banks and non-banks in bills aggregation business, Billers, payment service providers and retail bill outlets.
Accessible	Facilitate seamless payment of bills through any channel : Digital and physical.
Cost-effective	Most cost-effective for entire ecosystem – Flat fee charge vs current ad valorem.
Integration	BBPOUs will have to connect only to BBPCU to get access to all the billers. Utility companies just need to connect to maximum two BBPOUs to enable all customers to pay bills.
Complaint Management	Standardised system to handle customer grievances for both ON-US and OFF-US transactions.
Dispute Management	Facilitate BBPOU's to raise and resolve disputes relating to transactions that have passed through the Bharat BillPay ecosystem.

Clearing & Settlement	Multiple Clearing & Guaranteed Settlements between different parties, standardised TAT.
Standardisation	Standardisation of processes for entire Bharat BillPay ecosystem.
Brand Connect	Single and trusted brand connect and Bharat BillPay Assurance.

Key Participants

BBCPU : National Payments Corporation of India (NPCI) has been authorized by RBI as the Bharat Bill Payment Central Unit (BBPCU) and is responsible for setting business standards, rules and procedures for technical and business requirements for all participants. The BBPCU undertakes clearing and settlement activities related to transactions routed through Bharat BillPay

BBPOU: **Bharat Bill Payment Operating Unit** is the entity that is authorized by Reserve Bank of India. It can be a Bank or a Non-Bank. BBPOU may choose to integrate either with the customers, (COU: Customer OU) or with the billers (Biller OU) or may wish to participate as both – which means such BBPOU will be integrated with customers as well as billers.

Agent Institutions : Eligible Entities who wish to offer or those who are currently in bill payment, collection and aggregation business, would operate under a COU (Customer BBPOU) on receiving authorisation from RBI.
Customer BBPOU will on-board Agent institutions which may further on-board agents and/ or set up customer service points in various regions and locations.

Agents
Agents are the customer touch points and service points in the Bharat BillPay ecosystem available in the form of agent outlets, Business Correspondent outlets, Bank branches, collection centres, retail outlets

Biller/Utility Company
Service providers, who shall receive payments from customers for services rendered. By participating in the Bharat BillPay scheme, the biller will be able to receive payments from third party channels for the services provided to the customer. A biller may tie up with up to two BBPOUs to access the entire universe of its consumers and all payment channels.

The category of billers eligible to participate in Bharat BillPay will be specified from time to time by Reserve bank of India (RBI).

The following categories of Billers are there in Bharat BillPay:

1. Electricity
2. Telecom (Mobile Post-paid, Landline Post-paid and Broadband)
3. DTH

4. Gas
5. Water

Over a period of time other categories like insurance premium, mutual funds, school fees, institution fees, credit cards, local taxes, invoice payments, etc. may be covered under Bharat BillPay.

The List of live Billers in BBPS can be found in the link http://www.npci.org.in/Live-Billers.aspx

There are 4 simple steps in joining BBPS for Biller:

1. Select up to two default BBPOUs for participating in the BBPS scheme

2. Submit the "Biller Consent Form" and required details to the concerned BBPOUs/NPCI

3. Ensure communication with BBPOUs over secure channel

4. Provide bill information parameters

Making the payment for bill using BBPS?

> I. Connect to any Internet banking/App of your respective bank or Visit bank/branch or

> retail shop

> II. Click on Bill payment or BBPS Tab

> III. Choose the category of biller and Enter the bill details

> IV. Initiate a payment and get instant confirmation

> A consumer will get successful transaction status and BBPS bill receipt in eectronic/email/SMS/Print form.

BHARAT QR

Bharat QR is P2M (Person to Merchant) Mobile payment solution.This solution is mutually derived among NPCI, Visa and Mastercard payment networks. Once the BQR codes are deployed on Merchant locations, user can pay the utility bills using BQR enabled mobile banking apps without sharing any user credentials to the merchant. It is a quick method of payment. A QR code consists of black squares arranged in a square grid on a white background, which can be read by an imaging device such as a camera. It contains information about the item to which it is attached.

Bharat QR works as an alternate channel of payment, where cardholder has to download his/her bank's Bharat QR enabled mobile banking app. User has to scan the Bharat QR code at Merchant store and select card to make payment. Once the payment is successful, both cardholder and merchant receive notification in mobile application for successful transaction.

Payment Using BQR enabled Mobile banking Application/wallet:

Merchants need to display QR codes in their premises. User can scan these QR via BQR enabled mobile banking app and pay using Card linked account / VPA / IFSC + Account / Aadhaar.

.Difference between Bharat QR and POS transaction?

Bharat QR transactions are different from POS transactions. In POS transaction, POS terminal is required whereas in Bharat QR transaction, QR Code is required. Using mobile banking app or wallet user will scan the QR Code placed in merchant outlet and make the payment using the RuPay Card linked to the BQR.

Difference between Bharat QR code and other QR code in market?

Unlike other QR Codes, Bharat QR code has lots of additional data elements like merchant name, address, Merchant Bank information, etc... Bharat QR code is much more widely acceptable and secure than other QR codes. Users can pay using any card scheme such as - RuPay, Visa, MasterCard and Amex.

Basic requirements for enablement on Bharat QR?

a) User should have Mobile banking application of respective bank.

   User can download the same from google play store (Android) / App store (iOS).

b) The same Merchant has to be live on Bharat QR code with user's respective bank.

The card holder has to do one time registration of card in the mobile application and link the card with application to make payments through Bharat QR

In order to enable Bharat QR on the smart phone, the cardholder should follow the below mentioned steps:

a) Download the Bank's Mobile Application, wallet which supports Bharat QR from google play store/app store.

b) Do one time registration for linking the debit/credit/pre-paid card with Bank's application

c) Go to the merchant store where payments through Bharat QR code is accepted

d) Click on Bharat QR icon from app to make payment through Bharat QR code.

Any RuPay card (Debit / Prepaid / Credit / Virtual Card) which is linked to the customer's account / wallet can be used to make payments through Bharat QR.

The 2FA for Bharat QR are:

  1. First factor is MPIN for the mobile application login

  2. Second factor is taken as MPIN/OTP/ATM pin but it is Bank's discretion to apply the second factor.

BHIM QR is UPI Based QR. It is preferably used for P2P or P2M dynamic Transaction using Virtual Payment Address.

Bharat QR is specifically used for P2M transaction wherein payment is done via cards i.e., Debit card/Credit Card/Pre-paid Card.

1. Download & open Bharat QR enabled mobile application.

2. Enter username & password for login.

3. Click on pay by Bharat QR option given on the home screen.

4. Scan merchant Bharat QR code.

5. Enter amount to be paid along with tip/convenience fee (if applicable).

6. Select RuPay or any other card linked to the user, for payment.

7. User will receive payment confirmation message.

8. User will receive digital receipt.

Some Bharat QR: Transaction related queries

Do I need to be customer of particular bank to use Bharat QR to make payments?

Your bank needs to be enabled on Bharat QR solution.

Can I link multiple bank card on same App?

You can only link multiple cards of the same bank in a single app.

There are no additional charges for making transaction through Bharat QR.

How can I access a record of all historical transactions?

Post Transaction completion, all transactions will reflect in the 'Transaction History' Section of the App. Similarly, all transactions will replicate on your bank account statement.

Do I need to enable mobile banking on my bank account to pay using Bharat QR?

Yes, your account needs to be enabled for mobile banking for Bharat QR payments.

Can I make part payment through Bharat QR?

Yes, customer will get an option to enter the amount in the app after scanning the QR code. At the time of entering the amount, customer can enter part of the amount through Bharat QR and remaining as they want.