



Transforming India's ATM enabled banking services

National Financial Switch (NFS)



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1. Background

India's modern, technology-driven ATM network

The Institute for Development and Research in Banking Technology (IDRBT), established by the Reserve Bank of India in 1996, launched the National Financial Switch (NFS), to provide a congenial platform for growth and development of the ATM delivery channel. National Payments Corporation of India (NPCI), on authorization by the Reserve Bank of India, took over the operations of National Financial Switch (NFS) from IDRBT in December 2009.

2. Introduction

Centralised switch to make ATM transactions interoperable and economical.

NFS is a shared ATM network that interconnects NFS members and ATM switches. The main objective in creating NFS was to make ATM deployments economical and viable for members by pooling resources and thereby enhancing the use of ATM technology across the country.

The NFS ATM network facilitates ATM transaction services among all members participating in the network. The transactions include card transactions at ATMs including on Cash Deposit Machines (CDM)/Cash Recyclers of members and routed through NPCI. The NFS ATM network also supports Card plus PIN transactions done on Micro-ATMs and card less cash withdrawal transactions.



3. Business Uses

Business uses of the NFS solution.

Basic four transaction types: cash withdrawal, balance enquiry, pin change and mini statement are supported by NFS members on their ATMs / cash Recyclers for usage by their own customers and by customers of other NFS members (Banks/PPIs) Apart from this, cash withdrawal and balance Inquiry transactions are also supported by NFS members on MicroATMs using card plus PIN for their own and other NFS members' customers.

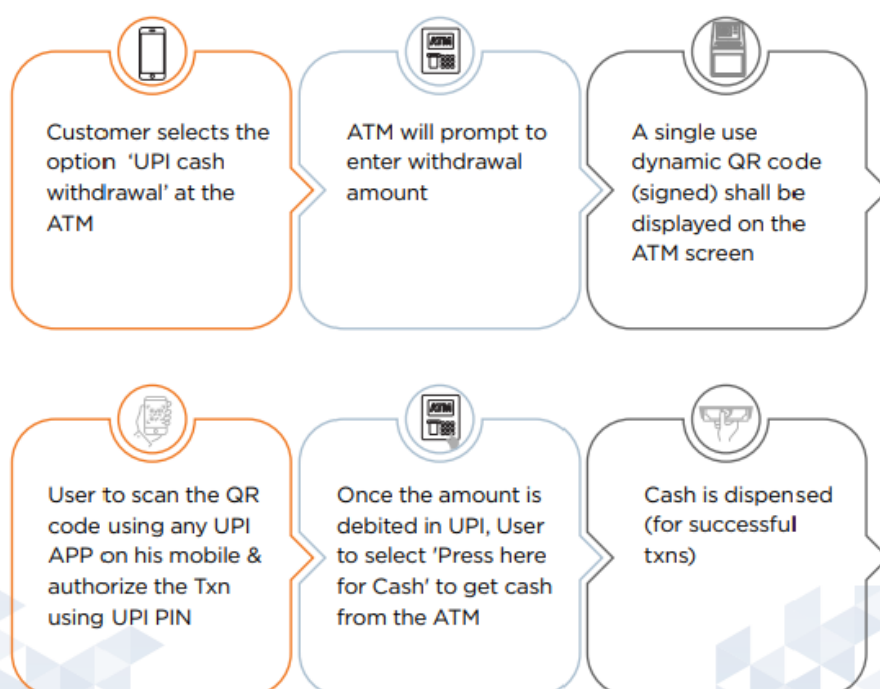
Interoperable Card-less Cash Withdrawal (ICCW):

This service allows customers of participating banks to use UPI enabled applications on their mobile phone to withdraw cash from any participating banks' ATM without using their card.

Once the customer selects the option 'UPI cash Withdrawal' at the ATM, customer shall be prompted to enter the withdrawal amount. After entering the amount, a QR code shall be displayed on the ATM screen. Customer needs to scan the QR code using any ICCW enabled UPI APP on his mobile and authorize the transaction with UPI PIN to get cash from the ATM.

Some of the main benefits of card less ATM access is that customer does not have to worry about carrying the card or forgetting the ATM PIN. Customer need not have to carry multiple cards for withdrawing cash from different accounts, once they are linked and enabled the customer's UPI APP.

Customer Journey



Card based Interoperable Cash Deposit (ICD):

Through this service, cardholders of participating member banks can use NFS networked Cash Deposit Machines/Cash Recyclers of participating member banks to deposit cash in their own account or third-party account.

This 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 the customers by allowing them to use any participating Bank's CDM/Cash Recyclers to deposit cash. This shall benefit retailers and corporate customers of participating banks to get the cash deposited any time as per their convenience.

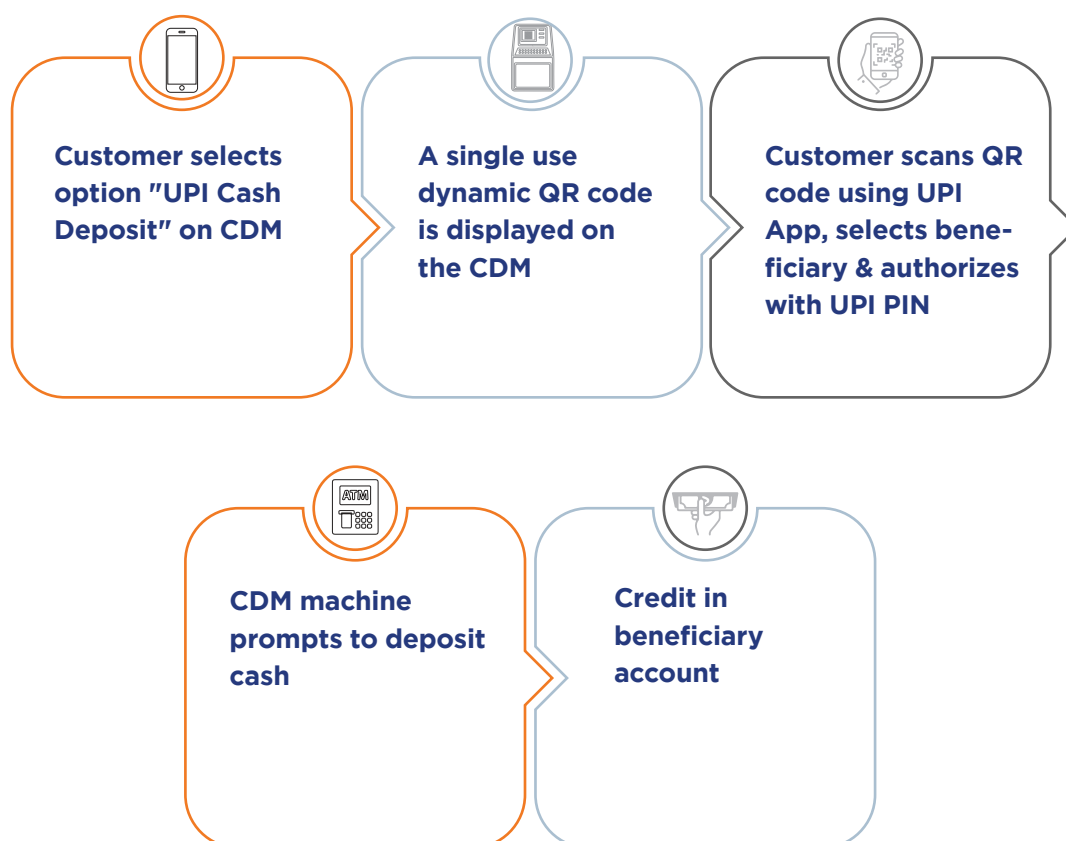
Customer Journey



Interoperable Cash Deposit using UPI (UPI-ICD):

This service facilitates (participating) bank's customers who are live on UPI, to deposit cash in any participating banks' / WLAOs' CDMs (enabled for UPI-ICD) without using their card. It facilitates own account deposit as well as third-party deposit.

Customer Journey



Other transactions supported on NFS ATM Network are (a) Mobile Banking Registration (MBR), (b) Cheque book request (CBR), (c) Statement Request (SR), Aadhaar Number Seeding (ANS) and (e) Card to Card funds transfer which enables cardholders of participating member banks to avail these services other participating member bank's ATMs

4. Business Benefits

What are the business benefits of NFS?

For Banks

ICCW:

- Skimming and other card related frauds can be eliminated
- Single use (signed) dynamic QR code for risk mitigation
- Safety and Security of UPI and NFS Network
- Major system related changes i.e. integrating NFS and UPI is done at NPCI

ICD:

- Opportunity for earning additional revenue
- Achieve better returns on investment
- Better fund management
- Optimizing cash management
- Card based transaction – Depositor is identified
- Third Party account deposits
- Bank's customers can avail cash deposit facility post banking hours
- Banks can charge customers for services availed similar to non-Home branch deposit

For Customers

NFS supported basic ATM transactions:

- Customer of NFS members (banks/PPIs) can avail basic banking service including cash withdraw from any other member bank's ATMs / Cash Recyclers.

ICCW transactions:

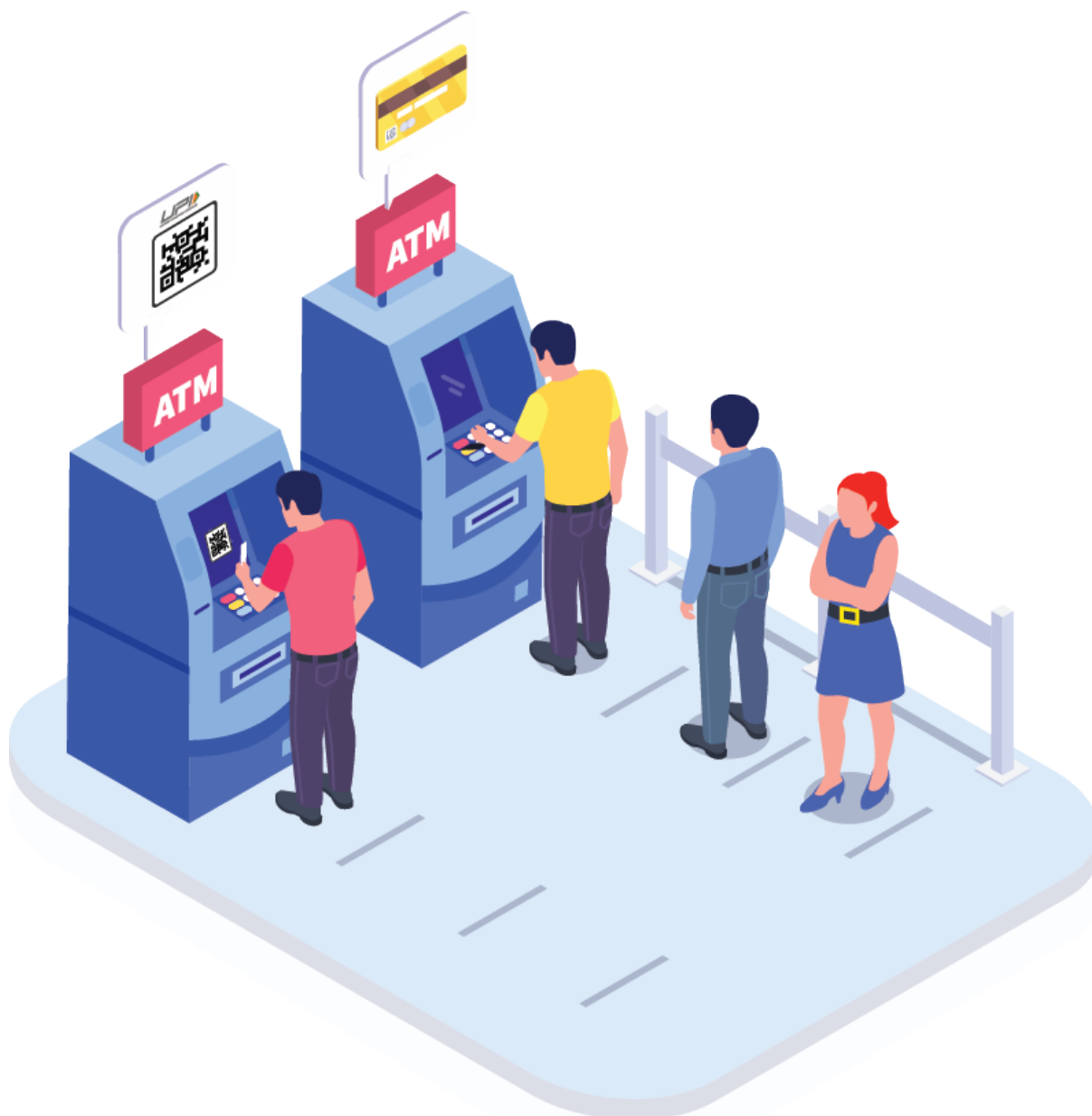
- No Need to carry physical cards
- Lesser interface with ATM Machine
- Convenience - can withdraw cash from multiple accounts linked to UPI
- Bank and Full-KYC PPIs customers who are not issued physical cards can avail of these services

ICD:

- Instant credit to Beneficiary's account
- 24 * 7 availability of CDMs/Recyclers
- Instant Verification of notes
- Paper less transaction
- Third Party account deposits

For the government

- Access points for beneficiaries of government Direct Benefit Transfer (DBT) benefits
- Enables banking services penetration in semi-urban and rural areas for economic development



5. Participants

Who all participate in the NFS ecosystem?

Direct members

Members who route their ATM transactions through centralised ATM switch. Such members hold a valid banking license, RTGS membership, and have a current account with the RBI.

Sub-members

Sub-members in the NFS network come through a sponsor bank (Direct member), and their transaction settlements are done in the books of the sponsor bank.

White label ATM operators

RBI has authorised White Label ATM operators, under the Payment and Settlement Systems Act 2007. White Label ATM operators participate in the NFS network through a sponsor bank (Direct member) with settlement of ATM transactions done in the books of the specified sponsor bank or multiple sponsor banks.

Full-KYC PPIs of non-bank PPI issuers

Non-bank PPI issuers are on-boarded on NFS Network as sub-members under the sponsorship model. RBI permits cash withdrawal from Full-KYC PPIs of non-bank PPI issuers up to the specified transaction limit, authentication conditions and customer redressal mechanisms.

International Alliance network

The NFS network supports ATM acquiring transactions of international networks such as Discover Financial Service (DFS), Japan Credit Bureau International (JCB) and China's

UnionPay International (CUIPI). The NFS network also supports transactions by RuPay card holders of members of Royal Monetary Authority of Bhutan (RMA) on NFS networked ATMs in India and acceptance of RuPay cards at select ATMs in Nepal and Bhutan.

6. Use Cases

How are NFS ATM services used?

1) Banking ATM transactions –Cash Withdrawal

Chandra works in an industrial park where he faces mobile connectivity issues. His nearest bank branch is also more than 20 kilometres away, and it would take a lot of time for him to visit the bank branch. Instead, he visits an ATM located in the industrial park to withdraw cash or Balance inquiry for his needs.

2) Banking ATM transactions – UPI Cash Withdrawal (ICCW)

Sheetal works in a corporate park where she needs cash and has forgotten to carry debit card. She visits any UPI Cash Withdrawal (ICCW) enabled ATM located near to the corporate park to withdraw cash using any UPI APP for her needs.

Virtual card holders shall also be able to withdraw cash from ATM.

2) Cash deposits

Vikas owns a small general store in a mid-sized town near Siliguri. While many of his customers do pay through UPI enabled mobile applications or debit cards, some of his customers pay in cash. Instead of walking home with his daily cash collections, he prefers to deposit the large part of the cash collected in the nearest ICD enabled Cash Deposit Machine of other Bank. This way he feels more secure while he travels home.

7. Acts

Payment and Settlement Systems Act, 2007.