

## **Response to TRAI Consultation Paper for Mobile Payments (IMPS):**

National Payments Corporation of India (NPCI) is set up to build a central payment system infrastructure which would be used by all the banks/financial institutions/intermediaries in India in a cost effective manner and would help the banks provide superior payment services to their customers. Vision and formation of NPCI is backed by Reserve Bank of India (RBI) and Indian banking association (IBA).

NPCI already have the platform for remitting funds called Interbank Mobile Payments System (IMPS) through which customers can transfer funds (account to account) from one bank to another bank using mobile phone.

The pre-requisite for this service is as follows.

1. Bank should have Mobile Banking Service licence from Reserve Bank of India.
2. Bank should be member of National Financial Switch (NFS).

This service is currently live with the following seven banks

1. State Bank of India
2. Bank of India
3. Union Bank of India
4. ICICI Bank
5. Yes Bank
6. Axis Bank
7. HDFC Bank

The service is gone live on 10<sup>th</sup> August and was in pilot till 21<sup>st</sup> November 2010 with Close User Group (CUG) members of the banks. The public launch took place for IMPS on 22<sup>nd</sup> November 2010 by Smt. Shyamala Gopinath, Deputy Governor Reserve Bank of India.

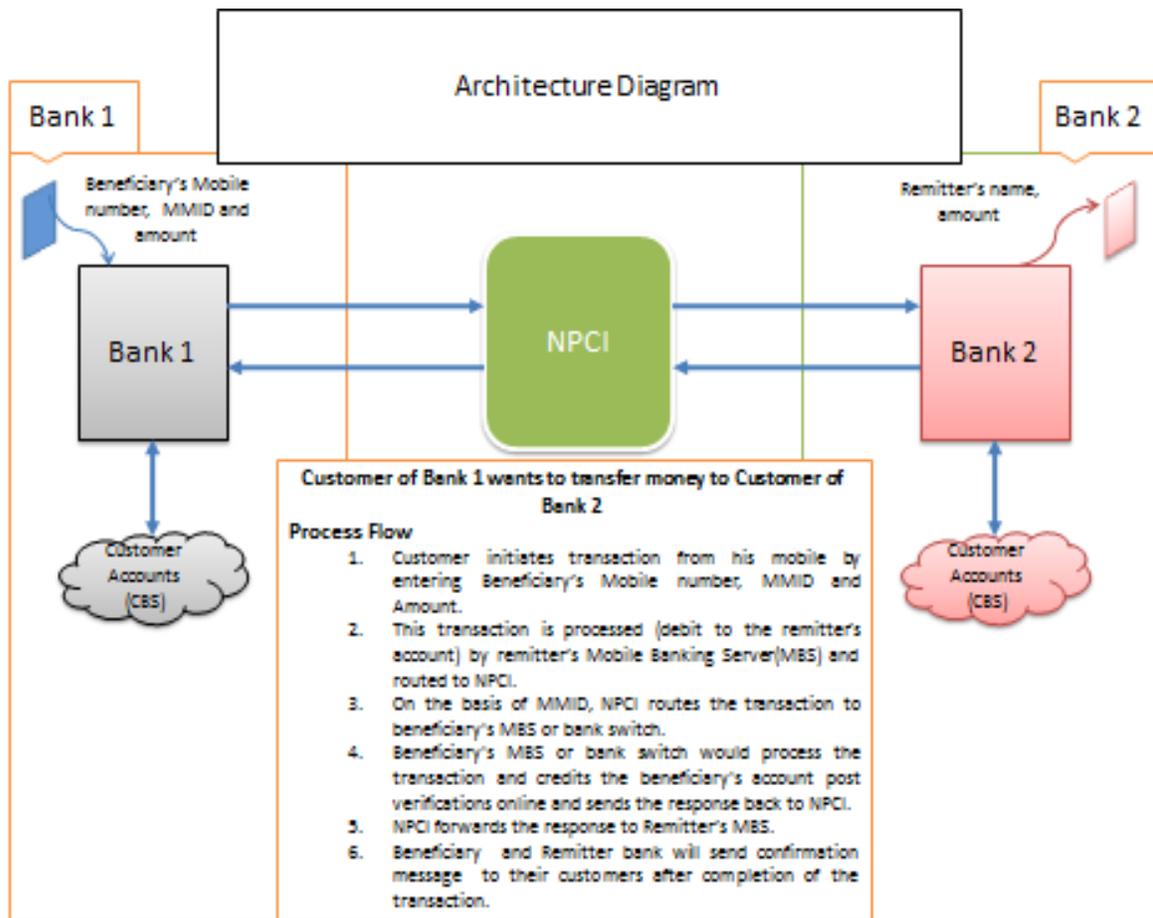
There are 51 banks connected under NFS for ATM transactions and these banks can join IMPS provided having Mobile Banking approval from RBI.

In the current set-up both Remitter and Beneficiary has to have accounts in the banks providing IMPS service and they should have mobile number linked to their accounts. The remitter of Bank A can be able to transfer funds using Mobile Phone to beneficiary of Bank B in real time.

IMPS platform can be easily adopted for getting FI accounts for Funds Transfer, Balance Inquiry, Deposit, Withdrawal transaction on micro ATM. NPCI is already in talks with many banks like SBI, UBI, ICICI, Bank of India, etc. for getting No Frills Account holder under IMPS.

The above mentioned module will make sure the money remains only with banks and there is no need to bring any third party in this arena of remittance of funds. We strongly recommend that **only banks** should be involved in the Peer to Peer money transfers so that money remains with banks only.

Please find below the current architecture diagram of IMPS.



Process Flow:

- Customer enters the Beneficiary mobile number along with MMID (Mobile Money ID, which is 7 digits containing routing information and account identifier) and the amount which needs to be transferred to the beneficiary.
- Customer's BankMobile Banking Server receives the request for remittance from customer and it sends the request to Customer's Bank for debiting the account.
- Customer's Bank on receiving the request from Mobile Banking server, debits the customer's account and sends confirmation to the Mobile Banking server.
- Mobile Banking server/Switch on receiving the confirmation sends the transaction to NPCI to be forwarded to the respective institution of Beneficiary.
- After resolution of destination (mapping of MMID with Bank would be kept on Switch), NPCI sends the transaction to Beneficiary's Mobile Banking server/Switch.

- Beneficiary's Mobile Banking server will send the transaction to Beneficiary's Bank for crediting the account.
- After crediting Beneficiary's account, Beneficiary Bank sends a confirmation to Beneficiary's Mobile Banking server.
- After receiving the confirmation, Mobile Banking server/Switch sends the confirmation to NPCI.
- NPCI sends the confirmation to Mobile Banking server/Switch of the Customer.
- Customer's Mobile Banking server sends the confirmation message to Customer's Bank.
- Customer Mobile Banking server sends a confirmatory SMS to customer stating completion of transaction.
- Beneficiary's Mobile Banking server sends the confirmation SMS to customer stating account being credited with certain amount.

NPCI's Response to TRAI's (Telecom Authority of India) Consultation Paper No. 13/2010 on Quality of Service requirements for delivery of basic financial services using mobile phones.

Point 2.23 Issues for consultation:

- What method of communication on mobile network would be most suitable for enabling financial transactions using mobile?

NPCI: Following ways would be beneficial provided these services are available to banks and service providers and they are fast and reliable.

1. SMS
2. USSD
3. GPRS

**Following are the issues seen on above 3 channels,**

SMS Services - The major issue which is seen on SMS is delivery time issue

USSD Services - Service availability to the banking system. This needs to be addressed on priority level. Currently even if bank wants, they have to provide USSD services to telco premises (or utilize gateway providers) for availing USSD services. This is a very complicated and expensive procedure.) The Telco's should be also enforced to provide the USSD session timeout values as per requirements of the banking systems.

GPRS services – Availability and reach to rural areas. (Strength of the signal seems to be a concern even in the cities in specific pockets)

The other consideration should be used by TRAI is to give free access of SMS, GPRS and USSD services for payment related services. This will help use of mobile phones and will penetrate the financial services to rural areas where in it is not been viable for banks to reach.

- How security of such transactions can be ensured while information travels over mobile network?

NPCI:

Currently on SMS (because it is not encrypted) the transaction limit of 1000 Rs is applied by RBI. Other channels such as GPRS the end to end encryption is possible and hence transaction limit is up to 50,000 Rs.

If TRAI can enforce telecom service providers to provide encrypted SMS services to the consumers the similar transaction limits can be applied to SMS.

- What parameters need to be defined to ensure timely delivery of information to support financial transaction using mobile?

NPCI: IMPS is in production with six pilot banks since August 10, 2010. We have noticed SMS delivery has lot of dependencies for remitting funds. Most of the time these SMS reaches after 2-3 minutes or sometime after 5-10 minutes as well. Debit/Credit to the accounts of Remitter/Beneficiary happens in 5-10 seconds only.

This is very important if we need to take this IMPS platform for paying money to Taxiwalas, Autowalas or Vegetables-walas. SMS delivery is the key to the success of our Mobile Payments program. TRAI needs to enforce service providers to provider SLA (within 5 sec) for SMS services to banking system.

- Can SMS used for financial transaction be sent on priority on mobile network?  
NPCI: Yes, as mentioned above these SMS should reach on top priority to both remitter as well as beneficiary

- What would be measurable QoS parameters of such networks?

NPCI:

Following Quality of Service (QoS) criteria's should be used,

1. Response time for delivery of SMS services
2. Availability of the services GPRS and USSD
3. Speed on GPRS connectivity.

- Please list any other issue that you think is important and your comment thereon to finalise QoS parameters for facilitating financial transactions on mobile network?

NPCI: The QoS parameters should not increase the costs by any which way.

### Issues for consultation:

2.1 What method(s) of communication on mobile network (GSM and CDMA) would be suitable for enabling financial transactions using mobile phones? Please explain your answer

NPCI: Data communication using by either GSM or CDMA connectivity would be suitable provided all the requirements listed above are fulfilled.

2.2 What in your view would be appropriate time frames for delivery of messages and responses with respect to the method(s) suggested by you? What parameters need to be defined to ensure timely delivery of information to support financial transactions using mobile?

NPCI:

Following are required response times,

1. SMS channel – sub 5 sec
2. GPRS and USSD – Sub 1 Sec

2.3 In the method suggested by you would it be possible to prioritize the transaction messages over other messages on the network? If yes what would be the cost implications? Please also reply this with reference to SMS as means for financial transactions.

NPCI: Financial messages (transaction messages) should be prioritize to the highest levels without any additional costs.

2.4 What do you think would be the security requirement using the method proposed by you for the five basic transactions i.e. no-frills account opening, cash in, cash out, checking balance, and money transfer?

NPCI: A common agreed security framework for Mobile transaction data during the transit using industry standard security features.

2.5 What would be measurable QoS parameters for such networks? Please specify both network and customer centric parameters.

NPCI – As mentioned above. The QoS parameters remain standard requirement for any payment transactions.

2.6 Please list any other issue that you think is important and your comment thereon to finalise QoS parameters for facilitating financial transactions on mobile network?