

India Unified Payment Interface (UPI) User Guide
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India Unified Payment Interface (UPI) User Guide
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1. About this Manual

1.1 Introduction

This manual is designed to help you to quickly get familiar with the India Unified Payments Interface (UPI) functionality of Oracle Banking Payments. It takes you through the various stages in processing a UPI payment transaction.

You can further obtain information specific to a particular field by placing the cursor on the relevant field and striking <F1> on the keyboard.

1.2 Audience

This manual is intended for the following User/User Roles:

Role	Function
Payment Department Operators	Payments Transaction Input functions except Authorization.
Back Office Payment Department Operators	Payments related maintenances/Payment Transaction Input functions except Authorization
Payment Department Officers	Payments Maintenance/ Transaction Authorization
Bank's Financial Controller/ Payment Department Manager	Host level processing related setup for Payments and PM Dashboard/Query functions

1.3 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.





1.4 Organization

This manual is organized into the following chapters:

Chapter	Description
Chapter 1	<i>About this Manual</i> gives information on the intended audience. It also lists the various chapters covered in this User Manual.
Chapter 2	<i>Unified Payments Interface</i> provides a snapshot of the local payments or payments limited to a specific region.
Chapter 3	<i>Function ID Glossary</i> has alphabetical listing of Function/Screen ID's used in the module with page references for quick navigation.

1.5 Glossary of Icons

This User Manual may refer to all or some of the following icons:

Icons	Function
	Exit
	Add row
	Delete row
	Option List

2. India Unified Payments Interface-UPI

This chapter contains the following sections

- [Section 2.1, "Overview of UPI – Pay Request"](#)
- [Section 2.2, "UPI Maintenances"](#)
- [Section 2.3, "UPI Pay Request – Remitter Bank – Request for Debit Processing"](#)
- [Section 2.4, "UPI Pay Request – Beneficiary Bank – Request for Credit Processing"](#)
- [Section 2.5, "UPI Non-Financial API – List of accounts linked to Mobile Number"](#)
- [Section 2.6, "UPI Payments Message Browser"](#)

2.1 Overview of UPI – Pay Request

2.1.1 Financial API:

- OBPM on receiving 'Pay Request to Debit (ReqPay_Debit API)' on behalf of Remitter Bank in an xml format over HTTPS, it is able to process the debit request by debiting the Payer Account and send back response xml along with success/failure response codes to NPCI UPI.
- OBPM upon receiving 'Pay Request to Credit (ReqPay_Credit API)' on behalf of Beneficiary Bank in an xml format over HTTPS, it is able to process the credit request by crediting the Payee Account and send back response xml along with success/failure response codes to NPCI UPI.
- OBPM generates Debit/Credit Notifications to Payer/Payee upon completion of accounting.

2.1.2 Non-Financial API:

- OBPM upon receiving 'List Accounts API' request in an xml format on behalf of Remitter bank, it is able to identify account numbers and account branch IFSC Codes that are linked for the given customer mobile number and send back response xml to NPCI UPI.

2.1.3 UPI System Connectivity:

- NPCI UPI system connectivity. For all request messages received from NPCI UPI, OBPM generates an acknowledgment message

2.1.4 Supported APIs

Following are Financial APIs:

ReqPay

The API is used by Payment Service Providers (PSPs) to initiate both Direct Pay and Collect Pay transactions and process them through various channels, such as IMPS and AEPS.

RespPay

The API is used to send responses for transactions (Direct Pay and Collect Pay) initiated through the ReqPay API back to the PSPs.

ReqAuthDetails

The API is used to authorize a payment and convert PSP-specific payment addresses into common global addresses (such as Aadhaar number, mobile number, or account and

provider ID) that NPCI can recognize. This API is called to translate the PSP address and obtain the necessary authorization details.

RespAuthDetails

The API serves as the callback interface for returning details. After processing the ReqAuthDetails API, the PSP should send the authorization response to NPCI by calling the RespAuthDetails API.

Following are Non-Financial APIs:

List Account

This API allows PSPs to retrieve a list of accounts linked to a mobile number by an account provider.

Validate Address

This API is used by PSPs when their customers want to add a beneficiary within the PSP application for sending and receiving money.

Set Credentials

This API is required to provide a unified channel for setting and changing UPI PINs across various account providers.

Reg Mob

This API allows customers to register for mobile banking.

Check Txn Status

This API allows PSPs to request the transaction status. PSPs should request the status only after the specified timeout period.

OTP-Request

This API allows PSPs to request an OTP for a specific customer from an issuer.

Balance-Enquiry

This API allows PSP to enquire balance of a user.

Heart Beat Messages

This API is a mechanism for monitoring the UPI system, including tracking connections with PSPs and sending End-of-Day (EOD) reports to PSPs).

Request Pending Messages

This API allows PSPs to request pending messages for a given mobile number or Aadhaar number.

Request Txn Confirmation

This API provides transaction status confirmation from UPI to PSPs. At the end of each transaction, this API will be initiated to the second PSP for status confirmation.

ReqMandate

This API allows the corporate/customer to create a mandate request via UPI.

RespMandate

The API is used for sending back the response of mandate to the initiated PSPs.

ReqAuthMandate

This API is used to authorize a payment and translate PSP-specific payment addresses into common global addresses (such as Aadhaar number, mobile number, or account number

with IFSC) that NPCI can understand. This API translates the PSP address and provides the necessary authorization details.

RespAuthMandate

This API is the callback interface used to return details. After processing the “ReqAuthMandate” API, the Payment Service Provider (PSP) should send a response to NPCI by calling the “RespAuthMandate” API with the authorization details.

ReqMandateConfirmation

This API provides the response for the confirmation message received from UPI.

RespMandateConfirmation

This API provides the confirmation message from the PSP to UPI.

Validate Customer API

This API is used to validate unique identifier [PAN] of customer maintained at the customer bank.

Request Mandate API

This API is used to create / modify / revoke the mandate on a customer account.

Request Mandate Confirmation API

This API provide the response confirmation message from NPCI to Remitter Bank or PSP.

Request Pay Service API

This API is used by PSP to send the Debit or Credit transactions to NPCI.

Check Transaction Service API

This API is used to request the transaction status from NPCI.

AuthDetails Service API

This API is sent from NPCI to PSP to validate the virtual payment address.

ValCust Service API

This API is sent from PSP to NPCI to get the PAN number validated against the customer account.

AuthValCustService API

NPCI UPI switch will trigger this API to Payer PSP UPI switch if the VPA address translation is required.

Complaint Service API

The payer PSP UPI switch uses this API to initiate a complaint for a transaction.

LISTPSP Service API

NPCI maintains a list of all registered PSPs and their details. PSPs use this API to retrieve the list for local caching. Use this data to validate the payment address before initiating a transaction.

LISTACCPVD Service API

NPCI maintains a list of all account providers connected through the Unified Interface. This list is made available to the PSP UPI switch and should be provided to the PSP app to verify registered account providers before registering a customer account.

The PSP UPI switch uses the “ReqListAccPvd” API to retrieve the list of account providers connected through the Unified Interface and stores it in the database. The TPAP (Third-Party Application Provider) app-also referred to as the PSP app-retrieves this data from the PSP UPI switch.

LISTKEYS Service API

The PSP UPI switch uses the “ReqListKeys” API to retrieve the list of public keys for account providers and other entities in the UPI ecosystem, and stores the data in a database table. PSPs use trusted and certified libraries provided by NPCI for credential capture and PKI-based public key encryption at the time of capture. The TPAP (Third-Party Application Provider) app, also referred to as the PSP app, retrieves the list of keys from the PSP UPI switch for processing.

MANAGEVAE Service API

NPCI provides a mechanism to protect customers from spoofing attempts involving well-known merchants such as LIC, Indian Railways, e-commerce platforms, telecom providers, and bill payment entities. This mechanism is implemented through an API that enables PSPs to manage and access a shared collection of verified address entries.

NPCI, in collaboration with PSPs, defines the process for managing these entries

LISTVAE Service API

- NPCI provides a mechanism to protect customers from spoofing attempts involving well-known merchants such as LIC, Indian Railways, e-commerce platforms, telecom providers, and bill payment entities.
- The PSP UPI switch uses the “ReqListVae” API to retrieve the list of verified address entries from NPCI and stores the data in a database table. The TPAP (Third-Party Application Provider) app also referred to as the PSP app retrieves the verified address entry data from the PSP UPI switch for processing.
- NPCI provides a mechanism to protect customers from spoofing attempts that target well-known merchants such as LIC, Indian Railways, e-commerce platforms, telecom providers, and bill payment entities.
- The PSP UPI switch uses the “ReqListVae” API to retrieve the list of verified address entries from NPCI and store them in the database table. The TPAP (Third Party Application Provider) app (i.e., PSP app) should retrieve the data for the list of verified address entries from the PSP UPI switch.

PAN Validation / Validate Customer Service API

To validate PAN [Permanent Account Number issued by Income Tax Department of India] of customer maintained at the customer bank i.e., validates customer's government issued ID against KYC (Know Your Customer) details stored by the bank for that customer. The API request contains the following information:

- ID type and ID value that needs to be validated
- Account type and account number of the customer

Bank UPI switch API's -

ReqValCust (Validate Customer) API

This API is used to validate unique customer identifiers maintained by the customer's bank. It verifies the customer's government-issued ID against the KYC (Know Your Customer) details stored by the bank.

ReqMandate (Mandate Maintenance) API

This API is used to add / modify / revoke the mandate functionality wherein a customer authorizes future debit from his/her bank account.

ReqMandateConfirmation (Mandate Confirmation) API

If the RespMandate is not received by the NPCI UPI switch, the NPCI UPI switch sends a ReqMandateConfirmation to the bank's UPI switch. The bank will then remove the mandate (if already created) and unblock the amount (if previously blocked).

PSP UPI switch API's -

ReqPay (Request Pay) API

This API is used to initiate a Pay/Collect transaction from the PSP UPI switch to the NPCI UPI switch. If the Payer PSP and Remitter Bank are the same entity, the request from the Payer PSP UPI switch to the NPCI UPI switch will be pre-approved, meaning the customer's account is debited before the request is sent to the NPCI UPI switch.

ReqChkTxn (Check Transaction) API

This API is used to check the status of a financial transaction by sending request to NPCI.

ReqAuthDetails (AuthDetails) API

This API is used to authorize a payment and translate a VPA (Virtual Payment Address) into a common global address format recognized by NPCI. It is called to translate the PSP address and retrieve the necessary authorization details.

ReqValCust (Validate Customer) API

The Payee PSP UPI switch triggers this API to the NPCI UPI switch. This API includes the PAN number that gets validated against a VPA or an account.

ReqAuthValCust (Auth Validate Customer) API

The NPCI UPI switch triggers this API to the Payer PSP UPI switch when VPA address translation is needed. For the ReqAuthValCust API request from the NPCI UPI switch, the PSP validates the VPA and returns the account details in the RespAuthValCust API to the NPCI UPI switch.

RespChkTxn API

ReqChkTxn response from NPCI UPI switch to PSP UPI switch.

ReqComplaint API

To raise a complaint for a financial transaction from Payer PSP UPI switch to NPCI UPI switch.

RespComplaint API

Complaint response from NPCI UPI switch to Payer PSP UPI switch.

ReqTxnConfirmation API

From NPCI UPI switch to Bank UPI switch to notify the transaction status update of UDIR AUTOUPDATE Processing.

RespTxnConfirmation API

Response of ReqTxnConfirmation from Bank UPI switch to NPCI UPI switch.

3. Function ID Glossary