MF Utility

Transaction Response – API based Push Notification

JSON API Specification

| Version | 2.0 |
| --- | --- |
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# Document Control

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## Document Information

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| SoW Reference |  |

## Revision History

| **Date** | **Version** | **Description** |
| --- | --- | --- |
| 28-Jan-2020 | 1.0 | Initial Version. |
| 14-Aug-2020 | 2.0 | There are 7 additional fields added to transaction status change notification structure. These 7 fields are for those entities who implement this version 2 & above. Sample file updated in appendix |

## Open Issues

| # | Description | Date | Owner | Status |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

## 

## Circulation

|  |  |
| --- | --- |
| **MF Utilities India Ltd. And MFU’s Transaction Entities** | Entities partnering with MFU for transaction routing will implement this specification for receiving transaction status change response notification |
| **Intellect Design Arena Ltd** |  |
|  |  |

## References

N/A

## Definitions, Acronyms and Abbreviations

|  |  |
| --- | --- |
| **MFU** | Mutual Funds Utility (MF Utility) |
| **API** | Application Programming Interface |
| **AMC** | Asset Management Company |
| **POS** | Point of Service |
| **RTA** | Registrar & Transfer Agency |
| **CAN** | Common Account Number. This is a unique number allotted by MFU system for an “Investor combination” which can be used for investments across various Mutual Funds in the industry, when transacted through MFU |
| **ARN** | AMFI Registration Number assigned to Distributors |
| **RIA** | SEBI Registered Investment Advisors |

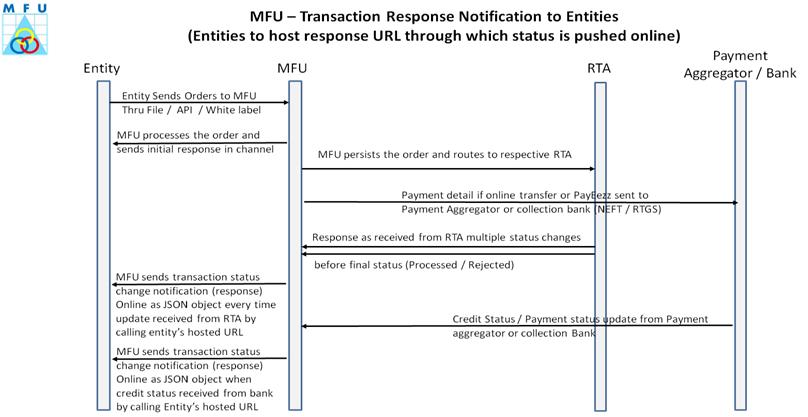
# Overview

This document outlines the JSON data structure through which MFU will share the transaction response status with entities by calling their hosted URL for response notification.

This transaction acknowledgement and response status is currently provided as a full dump on daily basis for the previous day transaction. This is shared periodically through email. As MFU is committed for continuous improvements in bringing operational efficiency, it is decided to provide the transaction response status as and when MFU receives the status update from RTAs / internal status change / credit status change. This will provide fastest possible status update to entities that placed transactions with MFU through File upload / White Labeling / API.

1. When MFU integrated entities submit their transactions to MFU, MFU system will provide initial acknowledgement. After successful validations of transaction data, the transactions get routed to respective RTA(s). RTAs share response status of the transaction at various times (RTA Accepted, RTA Processed, Payment Processed and so on).
2. Whenever the status of the transaction changes from one state to another, MFU system will intimate the concerned transaction entities about the transaction response status change by calling the URL hosted by the entities with transaction status detail provided as JSON
3. For Switch transactions, both IN & OUT transaction detail will be shared always even if there is a change in only IN or OUT transaction status,

# dependent requirements

1. Interfacing Entity to develop a service to subscribe to (as a URL call) and process the MFU transaction response data. The URL should be an HTTPS URL listening on port 443.
2. Interfacing Entity to provide all required inputs for setting up this feature. That includes URL for calling the entities system to pass on the transaction response data along with the user id and password (to be encrypted and used by MFU while sending the notification)

# MFU – Transaction response notification flow

# Transaction response notification structure

1. Whenever there is a change in the transaction status, notification will be pushed to the respective entities through the URL call.
2. Entity URL (HTTPS URL listening on 443) will be invoked with parameters in POST method with which entity should authenticate and validate the data shared from MFU. These parameters are provided below:

## URL - POST Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Post Parameter Details** | | | | |
| **S.No** | **Parameter Name** | **Data Type** | **Mandatory** | **Description** |
| 1 | msgType | Char (20) | Mandatory | Currently only transaction response is pushed through this notification. Later this may be extended. Entity system should reject the message if the message type is not listed here.  Valid Message Types:   1. TXNRESP – Transaction Response |
| 2 | userId | Char (12) | Mandatory | This is the user id that will be provided by entity system at the time of setting up the service. This user id will be used by MFU in all the URL call for sharing the transaction response. Entity system needs to validate this user id and password to authenticate MFU system |
| 3 | encryptPass | Char (50) | Mandatory | The password as provided by the entity will be encrypted with the key shared by MFU. The password should be encrypted using AES/ECB/PKCS5Padding algorithm. The entity system should decrypt the password and validate. if the validation fails, the transaction response notification message should be rejected. |

## Transaction Response Data Structure

Following table provides the data structure for transaction response that will be pushed by MFU to respective entities. There is a column called JSON tag name, that will be used by entities to process the field level values. Column titled M / O / CM refers to whether the field is Mandatory / Optional or Conditionally Mandatory.

| **S No** | **Field Name** | **JSON Key** | **Data Type** | **M / O / CM** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | Entity Order Reference Number | entRefNo | Char(50) | O | Unique Order Reference Number as provided by the entity when the transaction is submitted. Ideally this number expected to be unique at scheme transaction level within the Entity System. This field will be blank if no such reference number was provided while submitting the transaction. |
| 2 | Group Order Ref.Number | gorn | Char(16) | M | Unique reference number generated by MFU for each set of transactions (Group Order). In case of RTA triggered installment order (SWP / STP), this will contain the parent GORN |
| 3 | Order Sequence Number | seqNo | Char(2) | M | Individual Transaction Reference Number shall start with 01, 02 and so on up to 12 as currently configured at MFU for each Order Number. This is a unique number generated by MFU to identify each individual transaction in a Group Order. Please note this number is padded with zero upto 9 (01-09) |
| 4 | Is Installment Order | isInstOrd | Char(1) | M | Flag to indicate whether the given order is a Systematic Installment order. Valid values are Y or N |
| 5 | Transaction Type | txnType | Char(1) | M | The codes for transaction types are as enumerated below:   |  |  | | --- | --- | | **Normal** | **Systematic** | | A–Additional Purchase  B – Purchase  N – NFO  R – Redeem  I – Switch-In (\*)  O – Switch-Out (\*) | **Registrations**  V – SIP  J – SWP  X – STP – In (\*)  Y – STP – Out (\*) | | **Cancellations**  C-SIP Cancel  W-SWP Cancel  K-STP-In Cancel  L-STP-Out Cancel | |
| 6 | UTRN | utrn | Number(15) | M | Unique Transaction Reference Number generated by MFU and maintained by RTAs for every order generated by MFU system. |
| 7 | CAN | can | Char(10) | CM | The Common Account Number as allotted by MFU system based on the “Investor combination” |
| 8 | Order Timestamp | ordTS | Date Time | M | The Order Timestamp by MFU system. The data will be provided in YYYY-MM-DD hh:mm:ss format. |
| 9 | Fund code | fndCode | Char(6) | M | This is the Fund Code as assigned by the RTAs for the Mutual Fund. |
| 10 | RTA Scheme code | rtaSchCode | Char(15) | M | The code assigned by the RTA for the given Scheme Plan and Option. This code combined with fund code will be identified as product. |
| 11 | Re-Investment Tag | reInvFlg | Char(1) | O | This is the flag to indicate the option chosen by the investor for the Investment. Allowed values are  ‘Y’ for Dividend Reinvestment,  ‘N’ for Dividend Payout,  ‘Z’ for Non-Dividend Schemes.  Applicable only for Purchase, Switch-in, SIP  and STP-IN. |
| 12 | Withdrawal Option | witdrwOpt | Char(1) | M | Allowed values are as follows for  inflow/outflow transactions.  A – Amount based outflows and all type of  inflows (Units will be zeros)  U – Unit Based. (Amount will be zeros)  E – All Units (both Amount & Unit will be  zeros)  F – Fixed (Amount based and Units will be  zeros)  V – Variable (Both Amount and Units will be  Zeros) |
| 13 | Payment Mode | payMod | Char(2) | CM | This field contains the mode of payment for inflow transaction. The possible values are:  a. NE – NEFT  b. RT – RTGS  c. OT – Online Transfer  d. DM – Debit Mandate (PayEezz) |
| 14 | Payment Reference number | payRefNo | Char(30) | CM | Inflows: Payment reference number as received from bank / Payment Gateway |
| 15 | Payment Status | payStatus | Char(2) | CM | This field contains the current payment status of the inflow transaction. Record will get qualified when the payment status also changes.   |  |  |  | | --- | --- | --- | |  | **Type** | **Description** | | TZ | PQ | Payment Requested | | Electronic | PI | Payment Initiated | | PN | Payment Not Done | | PC | Payment Confirmed | | PR | Payment Rejected | | PA | PD | Payment Done | | Bank | CF | Credit Failed | | CR | Credit Received | |
| 16 | Parent order number | prntGorn | Char(16) | CM | The Systematic registration number in MFU  System. This is applicable only for systematic  Transactions |
| 17 | Parent order sequence number | prntSeqNo | Char(2) | CM | The Systematic registration sequence number in MFU  System. This is applicable only for systematic  Transactions. Individual Transaction Reference Number shall start with 01, 02 and so on up to 12 as currently configured at MFU for each Order Number. This is a unique number generated by MFU to identify each individual transaction in a Group Order. Please note this number is padded with zero upto 9 (01-09) |
| 18 | Current Installment number | currInsNo | Number(4) | O | Current installment of the triggered transaction by MFU. Applicable only if field 4 ("Is Installment Order") is 'Y' |
| 19 | Transaction Status | txnStatus | Char(2) | M | This field contains the status at the time of  Feed generation. The possible values are:  OR-Order Rejected (When Order rejected by MFU)  OA – Order Accepted by MFU  OR – Order Rejected by MFU  SA - Sent to RTA for Accept  SR - Sent to RTA as Rejected  RA - RTA Accepted  RP - RTA Processed  RR - RTA Rejected  NA - Not Available (this status may come only for Systematic orders without current dated installment / payment) |
| 20 | Registration Status | regStatus | Char(2) | O | Applicable only for Systematic Registration. This field contains the Systematic registration status at the time of feed generation. The possible values are:  OR-Order Rejected (When Order rejected by MFU)  AC – Registration Accepted (by MFU)  RJ – Registration Rejected (by MFU)  SA - Sent to RTA for Accept  SR - Sent to RTA as Rejected  RA - RTA Accepted  RP - RTA Processed  RR - RTA Rejected  RC – Registration Cancelled  CR – Registration Cancelled by RTA  CE - Registration Ceased |
| 21 | Response Folio with check digit | rspFolio | Char(21) | CM | Folio Number received (if any) from RTA for the transaction |
| 22 | Price | price | Number(12,4) | CM | Price with which the transaction was processed by respective RTAs (NAV) |
| 23 | Response Amount | rspAmt | Number(18,2) | CM | Actual Amount of the transaction post processing by RTAs |
| 24 | Response Units | rspUnit | Number(18,2) | CM | Actual Units of the transaction post processing by RTAs |
| 25 | Response Value date | rspValDt | Date | CM | Date of NAV with which the transaction was processed by the RTA, provided in YYYY-MM-DD format |
| 26 | RTA Remarks | rtaRemark | Char(1000) | O | Remarks (if any) as provided by RTA |
| **Version 2.0 Transaction Status Feed Additional Fields are given below. These fields from #27 to #33 will come for those entities who are implementing version 2.0 and above** | | | | | |
| 27 | Original order number | orgOrdNo | Char(18) | CM | For Systematic Cancellation Response , the ITRN of systematic Registration Original Order Number will be provided. |
| 28 | Payment Bank Name | payBnkName | Char(120) | CM | Payment Bank name |
| 29 | Payment Account Number | payAccNo | Char(20) | CM | Customer Payment Account Number. The Account number should be in Mask format |
| 30 | SubSequent Payment Reference Number | subPayRefNo | Char(30) | CM | For SIP Registration, the subsequent payment Reference number (PRN) will be populated. Only for SIP transactions. |
| 31 | Subsequent Payment Bank name | subPayBnkName | Char(120) | CM | Subsequent Payment Bank name. Only for SIP transactions. |
| 32 | Subsequent Payment Account Number | subPayAccNo | Char(20) | CM | Subsequent Payment Account Number. Only for SIP transactions. |
| 33 | Stamp Duty Amount | stampAmt | Number(18,2) | CM | RTA Stamp duty amount for In-flow transaction. |

# APPENDIX – Sample json structure

