MF Utility

API Interface – Facilitating Scheduled Transactions

JSON API Specification

| Version | 1.1 |
| --- | --- |
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# Document Control

## Table of Contents

[1 Document Control 2](#_Toc91576714)

[Table of Contents 2](#_Toc91576715)

[1.1 Document Information 3](#_Toc91576716)

[1.2 Revision History 3](#_Toc91576717)

[1.3 Open Issues 3](#_Toc91576718)

[1.4 Circulation 3](#_Toc91576719)

[1.5 References 3](#_Toc91576720)

[1.6 Definitions, Acronyms and Abbreviations 4](#_Toc91576721)

[2 Overview 5](#_Toc91576722)

[3 dependent requirements & Workflow 5](#_Toc91576723)

[4 Interfacing Areas 6](#_Toc91576724)

[4.1 Scheduled Transaction Entry 6](#_Toc91576725)

[4.2 Scheduled Transaction Status 7](#_Toc91576726)

[4.3 Scheduled Transaction Cancel 7](#_Toc91576727)

[4.4 Scheduled Transaction Push Notification Service 7](#_Toc91576728)

[5 Model implementation activity & Checklist 8](#_Toc91576729)

[5.1 API Integration Model Checklist Template – UAT 8](#_Toc91576730)

[5.2 API Integration Model Checklist Template - Production 9](#_Toc91576731)

[6 GENERAL SECURITY 10](#_Toc91576732)

[6.1 Restricted Access 10](#_Toc91576733)

[6.2 Online Interfaces 10](#_Toc91576734)

[7 Appendix 10](#_Toc91576735)

[7.1 APPENDIX A - JSON\_MFU\_SCHD\_TXN\_API\_SPECIFICATION 10](#_Toc91576736)

## Document Information

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| SoW Reference |  |

## Revision History

| **Date** | **Version** | **Description** |
| --- | --- | --- |
| 27-Dec-2021 | 1.0 | Baseline Version – MFU API – Scheduled Transactions |
| 20-Oct-2023 | 1.1 | 220812b - Extend Scheduled Transactions through APIs including pending CANs –handling of 2FA at Entity’s end.  Scheduled transaction entry page added the extra fields to handle the 2FA at Entity’s end. |

## Open Issues

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

## Circulation

|  |  |
| --- | --- |
| **MF Utilities India Ltd. And API Entities** | Entities partnering with MFU for API can also have access to this document |
| **Intellect Design Arena Ltd** |  |
|  |  |

## References

N/A

## Definitions, Acronyms and Abbreviations

|  |  |
| --- | --- |
| **AMC** | Asset Management Company |
| **API** | Application Programming Interface |
| **ARN** | AMFI Registration Number |
| **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 |
| **CaST** | Create and Schedule Transaction (Commercial Transaction). – Scheduled Transactions |
| **CT** | Commercial Transactions |
| **Distributors** | Distributors are entities who act as intermediaries between the investors and the Mutual Funds. They are empanelled by AMCs to mobilize funds for their schemes. Distributors can also use MFU system to route transactions of investors |
| **DP** | Depository Participant Account. |
| **FATCA** | Foreign Account Tax Compliance Act. Refers to Foreign Tax detail of the investor (CAN Holder) in case he / she pays taxable remuneration abroad. |
| **MFU** | Mutual Funds Utility (MF Utility) |
| **NCT** | Non Commercial Transactions |
| **PAN** | Permanent Account Number |
| **Partnering Entities** | In this document, Partnering Entities refer to those entities (Distributor / RIA / Neutral Entity) who subscribes to API Model for CT, NCTs and Scheduled Transactions |
| **POS** | Point Of Services |
| **RIA** | SEBI Registered Investment Advisors |
| **RTA** | Registrar & Transfer Agents |

# Overview

1. MF Utility is a transaction aggregation portal for the Mutual Funds Industry in India, setup under the aegis of AMFI through which the investors may place orders either by themselves or through a Distributor, RIA or an AMC branch or a Point of Service (POS), appointed by MFU.
2. This platform can be leveraged by current Mutual Fund Distributors or Advisors by integrating their application for Transaction (CT & NCT) routing and processing direct online transactions from their respective application /portal.
3. There is an increasing demand to make the MFU’s CaST (Create & Schedule Transaction) feature available through API. This document lists interaction areas, data points and forms a basis for Technical Interface between MFU and Partnering Entities for collecting & routing ScheduledTransactions. For normal commercial transactions, there is a separate specification available from MFU. This document is to be treated as a supplementary API document for that main document.
4. This API implementation for Scheduled Transaction follows the latest technology direction of MFU. Hence, the entities may find it different from how the API is implemented for normal transactions. In future (when entities are ready), MFU will implement the same API methodology for both normal transactions and scheduled transactions.

# dependent requirements& Workflow

1. Interfacing Entity to complete all the formalities with MFU like agreements process to make use of API Facilities. The detail of the same may be shared by MFU separately
2. Interfacing Entity to provide all required inputs for setting up this feature.
3. Interfacing Entity has their own arrangement to collect the MF Scheduled Transactions and will route the data to MFU for further processing.
4. Interfacing Entity to have their own / contracted technical team to implement the API Specification shared by MFU
5. Scheduled Transaction Workflow involves the following steps:
   * Entities raising the request through API
   * If any validation fails, transaction request will not be collected and error message will be shared with Entities.
   * If the validation is successful, success response will be shared with Entities
   * Successful scheduled transactions once registered with MFU, will behave same as CaST feature of MFU (Create and Schedule Transaction)
   * There is a push notification for informing the Entities about their transaction status.
   * Entities may also query the status of successfully submitted orders to get the detail
   * Entities may cancel the scheduled transaction

# Interfacing Areas

Following areas have been identified for JSON API based Scheduled Transactions Interface. Each of these requests will have a common request header containing Entity ID, API Type, Version, User id, Encrypted Password, unique request id and Timestamp of the request

| Spec Points | **Interface** | **Description** |
| --- | --- | --- |
| 4.1 | Scheduled Transaction Entry | * Scheduled Transaction Entry service is for submitting the following transaction requests: * Purchase * Redeem * Switch |
| 4.2 | Scheduled Transaction Status | * To get the status of the Scheduled Transaction request raised with MFU |
| 4.3 | Scheduled Transaction Cancel | * Service to cancel the registered Scheduled Transaction |
| 4.4 | Scheduled Transaction Push Notification | * Periodic Notification service – This will automatically fetch the status of scheduled transactions entered by partnering entities and share. * There will be multiple records (one record per request) in the same message |

## Scheduled Transaction Entry

* Scheduled Transaction Entry is applicable for only Retail investors having valid CAN registered with MFU
* Scheduled Purchase transaction is applicable for Pending CAN created via Electronic.
* Scheduled Transaction Entry API may be used to share the transactions (Purchase / Redeem / Switch) by the partnering entities.
* There is a common response structure for both Successful and Failure response.

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for Scheduled Transaction Entry | **SCHD-ENTRY**worksheet of MFU\_Schd\_Txn\_API\_Specification in Appendix A. |

* For Transaction response there is a single structure for both Successful and Failure response.

## Scheduled Transaction Status

* For all the Scheduled Transactions that are successfully accepted by MFU system, partnering entities may query the status of their particular transaction request.
* If the original scheduled transactionentry request is not accepted (failed validations), then the status of that request will not be available in MFU system.
* There is separate API structure for Status request and the same is provided in the Appendix A

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for getting the status of a particular scheduled transaction successfully submitted by the Entity | **SCHD-Status** worksheet of MFU\_Schd\_Txn\_API\_Specification in Appendix A. |

# 

## Scheduled Transaction Cancel

* For all the Scheduled Transactions that are successfully accepted by MFU system, partnering entities may seek to cancel the request subject to successful validations as defined in the MFU system
* There is separate API structure for Scheduled Transaction Cancel request and the same is provided in the Appendix A

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for cancelling a particular scheduled transaction request successfully submitted by the Entity. | **SCHD-Cancel** worksheet of MFU\_Schd\_Txn\_API\_Specification in Appendix A. |

## Scheduled Transaction Push Notification Service

* For all the Scheduled transactions that are successfully accepted by MFU system, MFU will notify the partnering entities if there is any status update for that transaction.
* If the original scheduled transaction request is not accepted (failed validations), then the status of that request will not be available in MFU system.
* Periodically MFU system will share the latest status of the scheduled transaction requests that are changed since last notification.
* There is separate API structure for Scheduled Transaction Push Notification and the same is provided in the Appendix A

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for Scheduled Transaction Push Notification | **SCHD Push Notification** worksheet of MFU\_Schd\_Txn\_API\_Specification in Appendix A. |

# Model implementation activity & Checklist

The Model implementation activities include the following:

| **Tasks** | **Action By** |
| --- | --- |
| Brief walk through on the Specifications | MFU & Entity |
| Sign-off Agreement with MFU for API Services | Entity & MFU |
| Entity UAT readiness | Entity |
| Integration Checklist Sharing with UAT URL & UAT Symmetric Key for interfacing | MFU & Intellect |
| MFU UAT environment readiness | MFU |
| Integration testing by customer & Application team | MFU, Intellect & Entity |
| Go Live Planning | MFU & Intellect |
| **GO Live Support**  Support for First week of Live | MFU & Intellect |
| Further support on Live implementation | MFU |

## API Integration Model Checklist Template – UAT

| **Test Environment Details for the Entity API Integration** | | |
| --- | --- | --- |
| **Description** | **Remarks** | **Action By** |
| Entity ID | Will be provided during the UAT | MFU |
| Entity Name | Name of the Entity | Entity |
| Login Id | Will be provided during the UAT | MFU |
| Password | Will be provided during the UAT | MFU & Intellect |
| Public Key &IvKey (for password encryption) | Will be provided during the UAT | MFU & Intellect |
| Test Environment URL | Will be provided during the UAT | MFU |
| Test Environment Port | NA | MFU |
| Cast TxnPayment link flag | To be set up as agreed. Y / N | Entity |
| Push URL | Scheduled Transaction Push URL | Entity |
| Business Flow / Operational queries on JSON-API | You may contact authorized **SPOC from MFU**.  Details will be shared to you in checklist during UAT | MFU |

## API Integration Model Checklist Template - Production

| **Production Environment Details for the Entity API Integration** | | |
| --- | --- | --- |
| **Description** | **Remarks** | **Action By** |
| Entity ID | Will be provided during the Live | MFU |
| Entity Name | Name of the Entity | Entity |
| Login Id | Will be provided during the Live | MFU |
| Password | Will be provided during the Live | MFU & Intellect |
| Public Key &IvKey (for password encryption) | Will be provided during the Live | MFU & Intellect |
| Production Environment URL | Will be provided during the Live | MFU |
| Production Environment Port | NA | MFU |
| Cast TxnPayment link flag | To be set up as agreed. Y / N | Entity |
| Push URL | Scheduled Transaction Push URL | Entity |
| Business Flow / Operational queries on JSON-API | You may contact authorized **SPOC from MFU**.  Details will be shared to you in checklist during Live | MFU |

# GENERAL SECURITY

## Restricted Access

* Once Agreement is signed, their API access is enabled. Not all the transaction entities have access to this feature.

## Online Interfaces

* HTTPS would be used for communicating with the Online Interfaces; It is a network layer encryption and uses SSL
* The password should be encrypted using AES/CBC/PKCS5Padding algorithm. MFU will provide a separate public key and IvKey for password encryption at the time of integration

# Appendix

## APPENDIX A - JSON\_MFU\_SCHD\_TXN\_API\_SPECIFICATION

* JSON MFU Scheduled Transaction API Structure along with guideline is appended herewith for the developer reference.
* Worksheet for each of the services is available in the specification.
* URL given against each of the service should be appended to the base URL received for a particular environment from MFU India (UAT Environment, Testing Environment, Production Environment)

