MF Utility

API Interface – Facilitating Non Commercial Transactions

JSON API Specification

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

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## Document Information

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| Client Sources | - |
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| SoW Reference |  |

## Revision History

| **Date** | **Version** | **Description** |
| --- | --- | --- |
| 29-Aug-2021 | 1.0 | Baseline Version – MFU NCT API |
| 08-Aug-2021 | 1.1 | For this CR#220812 - Events to be handled at entity's end the NCT API is changed. |

## 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 |
| **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 NCTs |
| **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. This document lists interaction areas, data points and forms a basis for Technical Interface between MFU and Partnering Entities for collecting & routing Non Commercial Transactions (NCTs). For commercial transactions, there is a separate specification available from MFU.

# dependent requirements& Workflow

1. Interfacing Entity to complete all the formalities with MFU like agreements process to make use of API Facilities.
2. Interfacing Entity to provide all required inputs for setting up this feature.
3. Interfacing Entity has their own arrangement to collect the MF Non Commercial 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. NCT Workflow involves the following steps:
   * Entities raising the request through API
   * If any validation fails, NCT 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
   * If proof image to be uploaded, then request will be in initiated status
   * If proof image is not required or proof image is uploaded, request will be in pending status
   * Image Generation - System will generate a data filled form as a image
   * If the Partner Entity is setup with Auto-Approval configuration (Auto approval = Y)
     + NCT Request will be marked as approved and will be shared with RTAs in the next step
   * If the Partner Entity is setup with No Auto Approval (Auto approval = N)
     + NCT Request will be marked as Submitted to MFU
     + NCT Request will be checked by MFU BO and marked as Approved / Rejected
   * NCT Requests that are in approved state will be shared with RTAs
   * There is a push notification for informing the Entities about their NCT request status.
   * Entities may also query the status of successfully submitted orders to get the detail
   * Entities may cancel the NCT request prior to approval state
   * There is a provision to enable / disable Emails to CAN Holders being sent by MFU when NCT is approved or rejected. Entity may choose to set it up accordingly.

# Interfacing Areas

Following areas have been identified for JSON API based NCT 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 | Non Commercial Transaction (NCT) Services | * NCT DP * NCT Nominee * NCT Contact * NCT Bank * NCT FATCA |
| 4.2 | NCT Status | * To get the status of the NCT request raised with MFU |
| 4.3 | NCT Cancel | * Service to cancel the raised NCT request. Applicable only when the NCT is pending to get approved. Post approval, NCT can not be cancelled. |
| 4.4 | NCT Image Upload | * Service to upload the image proof supporting the NCT request wherever applicable (e.g. NCT Bank) |
| 4.5 | NCT Push Notification | * Periodic Notification service – This will automatically fetch the status of NCTs requested by partnering entities and share. * There will be multiple records (one record per NCT request) in the same message |

## Non Commercial Transaction Services (NCT Service)

* NCT Services are applicable for all Interfacing Entities empanelled with MFU
* For each type of NCT, there is separate API structure provided in the Appendix A.
* These NCTs are applicable for only Retail investors having valid CAN registered with MFU
* In case of NCT FATCA, there is a provision to send multiple country wise tax detail in a single request
* There is a common response structure for both Successful and Failure response. Refer to **NCT-Transaction Response** worksheet of MFU\_NCT\_API\_Specification provided in Appendix A.

| Spec. Points | **Transaction** | **Remarks** | **Reference** |
| --- | --- | --- | --- |
|  | NCT DP | API Structure for DP account addition / deletion for the given CAN Holder | **NCT DP**worksheet of JSON\_NCT\_API\_Specification in Appendix A.  DP Proof document image will have to separately shared using Image upload service |
|  | NCT Nominee | API Structure for replacing (Overwriting) the Nominee detail for the CAN Holder | **NCT Nominee**worksheet of JSON\_NCT\_API\_Specification in Appendix A.  Nominee detail given here will replace the current nominees for the CAN Holder. More than one nominee is allowed. Nomination % should be 100% |
|  | NCT Contact | API Structure for changing the Mobile / Email Contact for a given CAN Holder | **NCT-Contact** worksheet of JSON\_NCT\_API\_Specification in Appendix A. |
|  | NCT Bank | API Structure for adding / deleting a bank account for the CAN or for making one bank account as a default account | **NCT-Bank** worksheet of JSON\_NCT\_API\_Specification in Appendix A. |
|  | NCT FATCA | API Structure for changing Additional KYC Detail and FATCA Detail. | **NCT-FATCA** worksheet of JSON\_NCT\_API\_Specification in Appendix A. |

* For Transaction response there is a single structure for both Successful and Failure response. Please refer to **NCT-Transaction Response** worksheet of JSON\_NCT\_API\_Specification in Appendix A.

## NCT Status

* For all the NCT transactions that are successfully accepted by MFU system, partnering entities may query the status of their particular NCT request.
* If the original NCT 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 NCT Status request and the same is provided in the Appendix A

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for getting the status of a particular NCT successfully submitted by the Entity | **NCT Status** worksheet of JSON\_NCT\_API\_Specification in Appendix A. |

# 

## NCT Cancel Service

* For all the NCT transactions that are successfully accepted by MFU system, partnering entities may seek to cancel the NCT request if the same is not yet approved.
* There is separate API structure for NCT Cancel request and the same is provided in the Appendix A

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for cancelling a particular NCT request successfully submitted by the Entity. | **NCT Cancel** worksheet of JSON\_NCT\_API\_Specification in Appendix A. |

## Image Proof Upload Service

* If the NCT Request require proof documents to be uploaded, post successful submission of NCT request, Partnering Entities may choose the upload the proof images using this service
* Supported Image types are: **jpg / jpeg / png / bmp**
* Image size should be less than 500 KB
* This service is available to upload one image at a time. So, if there are multiple proof images to be uploaded for the given NCT, this service needs to be called that many times to upload all the images.
* There is separate API structure for Image Proof Upload service and the same is provided in the Appendix A

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for uploading the proof images mapped to the particular NCT as applicable | **Image Proof Upload** worksheet of JSON\_NCT\_API\_Specification in Appendix A. |

## NCT Push Notification Service

* For all the NCT transactions that are successfully accepted by MFU system, MFU will notify the partnering entities if there is any status update for that NCT.
* If the original NCT 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 NCT requests that are changed since last notification.
* There is separate API structure for NCT Push Notification and the same is provided in the Appendix A

| Spec. Points | **Remarks** | **Reference** |
| --- | --- | --- |
|  | API Structure for NCT Push Notification | **NCT Push Notification** worksheet of JSON\_NCT\_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 |
| Entity Auto Approval Flag | To be set up as agreed. Y / N | Entity |
| Entity Email Flag | To be setup as agreed Y / N | 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 |
| Entity Auto Approval Flag | To be set up as agreed. Y / N | Entity |
| Entity Email Flag | To be setup as agreed Y / N | 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\_NCT\_API\_SPECIFICATION

* JSON NCT 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)

